04.02.2021

Koyaanisqatsi Ultimatum

Special Edition Covid-19

Table of contents

Introduction

"Koyaanisqatsi" is the title of an experimental film by the American director Godfrey Reggio from 1982. The film is about the devastating interventions of man in nature, without using dialogues and acting characters. It is effective solely through its disturbing images and powerful music. The term "Koyaanisqatsi" comes from the language of the North American Hopi Indians and can be translated as "life in imbalance".

As the film makes clear, the problems that would face mankind were already quite visible in 1982 and were not only accessible in scientific publications. About the finiteness of resources, the consequences of population growth, the deforestation of the rainforests, the disturbance of the ecological balance and also about the greenhouse effect one could read even at that time already in the school books.

I argue, based on the overshoot-collapse theory, that there is a time ultimatum by which humanity must resolve imbalances to avoid decline. There is a global trend of exponential or similar growth in environmental and economic over-indebtedness. At the same time, there is an unchecked expansion of technological infrastructures. The implosion of the biosphere is accelerating. This is visible in the alarmingly rapidly declining biodiversity, in the irreversible loss of tropical rainforest and other forested areas, in the unchecked increase of climate-altering CO2 and methane gases in the atmosphere, the increase of oxygen-free oceanic areas (so-called death zones), the contamination of the atmosphere and oceans with nanoparticles, etc.... These problems will finally also lead to a death spiral of the global financial system.

I consider the human immune system to be a component of the biosphere. Like other ecosystems, it is already in overshoot, i.e. above the long-term stress limit. But also the political decision makers are overwhelmed with the decline of the financial sphere and the biosphere. This is particularly evident in the example of the Corona pandemic.

This article therefore addresses the issue of COVID-19, providing much background information, highlighting both actions taken and those that received no or insufficient attention, and placing the issue in the context of the Koyaanisqatsi Ultimatum.

Political debates and decisions are increasingly characterized by the declaration "TINA" ("There Is No Alternative"), i.e. the decision has no alternative. COVID-19 is propagated as the most severe crisis since the Second World War, which can only be overcome by "hard lockdowns" and vaccination campaigns implemented as quickly as possible. What criteria are used to make such an assessment remains unclear. Is it the mortality with or by COVID-19, is it the economic collapse due to the adopted measures, or perhaps the restriction of liberties, similar to war? In my opinion, it would be important to define the criteria applied and to make them transparent in the form of key figures so that measures adopted can be evaluated and a broad social consensus can be found.
However, this is not happening sufficiently. In the analysis of the political debate, one finds recurring "killer arguments" that are intended to end any further discussion. Instead of finding the best approaches in open debates, there is often exclusion, defamation and polemicization. A plurality of opinions is increasingly suppressed publicly, including by muting alternative media and networks. The mechanisms that lead to the overloading of social and political systems come to light. The ability of these systems to react is not up to the speed of the development of the challenges. In this environment, the state is positioning itself as a hard-line regulatory force with a special severity against dissenters. This polarizes and divides society into right and wrong, good and evil, fake news and good news, left and right, and so on.

A proverb of the Hopi Indians says "Those who tell the stories rule the people". By the way, almost the same statement is also attributed to Plato. However, it is the stories that we are not told that reveal the intentions of those with the most influence. After extensive research, I provide in the following information, which could possibly give you new insights and food for thought and which is not easy to find. In doing so, I have made the claim to myself to use only reliable and predominantly scientifically sound sources. However, if any misinformation has crept in here, I apologize and assure you that it was unintentional.

Background information

Previous pandemics and predictions

A noteworthy comparison with previous influenza pandemics, part of a publication from the University of Minnesota's Center for Infectious Disease Research and Policy, adds to the understanding about the COVID pandemic [1]. Here, the possibility is considered that previously unknown, natural factors may be responsible for the observed decline in transmission rates for COVID-19 in the first wave. Analysis of eight influenza pandemics since the early 17th century concludes the following. I recommend studying this outstanding publication, from which I quote here, in detail:

- "Of eight major pandemics that have occurred since the early 1700s, no clear seasonal pattern emerged for most. Two started in winter in the Northern Hemisphere, three in the spring, one in the summer, and two in the fall";

- "Seven had an early peak that disappeared over the course of a few months without significant human intervention. Subsequently, each of those seven had a second substantial peak approximately 6 months afterfirst peak. Some pandemics showed smaller waves of cases over the course of 2 years after the initial wave";

- "Key points from observing the epidemiology of past influenza pandemics that may provide insight into the COVID-19 pandemic include the following. First, the length of the pandemic will likely be 18 to 24 months, as herd immunity gradually develops in the human population. This will take time, since limited serosurveillance data available to date suggest that a relatively small fraction of the population has been infected and infection rates likely vary substantially by geographic area. Given the transmissibility of SARS-CoV-2, 60% to 70% of the population may need to be immune to reach a critical threshold of herd immunity to halt the pandemic";

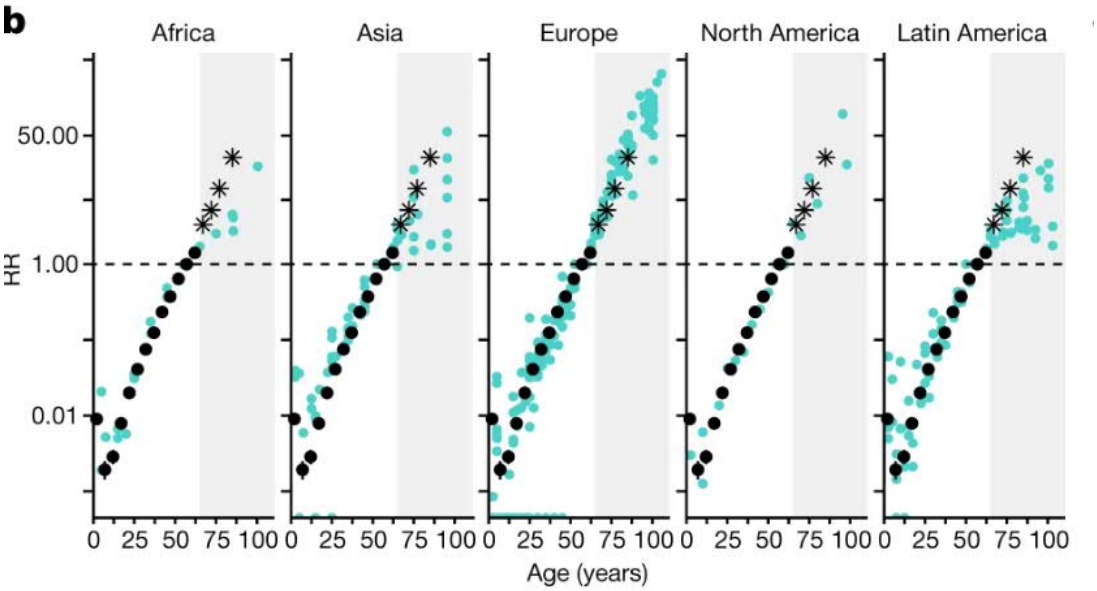
- "Scenario 2: The first wave of COVID-19 in spring 2020 is followed by a larger wave in the fall or winter of 2020 and one or more smaller subsequent waves in 2021. This pattern will require the reinstitution of mitigation measures in the fall in an attempt to drive down spread of infection and prevent healthcare systems from being overwhelmed. This pattern is similar to what was seen with the 1918-19 pandemic (CDC 2018). During that pandemic, a small wave began in March 1918 and subsided during the summer months. A much larger peak then occurred in the fall of 1918. A third peak occurred during the winter and spring of 1919; that wave subsided in the summer of 1919, signaling the end of the pandemic. The 1957-58 pandemic followed a similar pattern, with a smaller spring wave followed by a much larger fall wave (Saunders-Hastings 2016). Successive smaller waves continued to occur for several years (Miller 2009). The 2009-10 pandemic also followed a pattern of a spring wave followed by a larger fall wave".

Chart of scenario 2 from [1]

The influence of the immune system and age

COVID-19 is predominantly a fatal disease for people with weakened immune systems due to pre-existing conditions or age.

A multinational study analyzing age-specific COVID-19-associated mortality data from 45 countries and the results of 22 seroprevalence studies concluded that there is a consistent pattern of relative mortality risk across countries and continents in the form of a strong log-linear relationship between age and mortality risk [2]. Relative mortality risk is lowest in the 5-9 year age group. The 55-59 age group has a mortality risk that is about 100 times greater, and the mortality risk then increases up to about 5000 times in the 65+ age group.



Comparison of relative mortality to the 55-59 age group from [2]

This basic relationship is similar in all countries, despite the previously mentioned country-specific inherent factors that lead to very different absolute COVID-19 mortality rates. This shows that the aging and increasingly poorly functioning immune system, has an outstanding impact on the risk of dying from COVID-19. There are a number of medical studies that analyze these changes in detail and derive therapeutic options from them. For example, a study from the Stanford University shows that

in severely ill COVID-19 patients, the "first responder" immune cells, instead of reacting immediately to signs of viruses or bacteria in the body, are instead very sluggish [3]. A recently published study by scientists at Yale University [4] found that severely infected individuals had numerous, aberrant autoantibodies that blocked antiviral defenses, wiped out helpful immune cells and attacked the body on multiple fronts. These autoantibodies, were even present in greater numbers than, for example, in the autoimmune disease lupus".

An autoantibody is an antibody (a type of protein) produced by the immune system that is directed against one or more of the individual's own proteins. Many autoimmune diseases (notably lupus erythematosus) are caused by such autoantibodies " [5]. Diseases such as rheumatoid arthritis, lupus and multiple sclerosis are triggered by a malfunction of the immune system and attacks on the body. But less is known about viral infections and their ability to trigger autoimmune responses.

According to the current Epidemiological Fact Sheet on SARS-CoV-2 and COVID-19 from the Robert Koch Institute (Germany's highest health authority for infectious and non-communicable diseases), risk groups for severe courses include, as of Jan. 8, 2021. [6]:

- "elderly individuals (with steadily increasing risk of severe progression from about 50-60 years of age; 86% of those who died of COVID-19 in Germany were 70 years of age or older [median age: 82 years])."';
- "obese (BMI>30) and severely obese (BMI>35) individuals (177, 178).";
- "Individuals with certain preexisting conditions, unranked (116, 181, 182):
    - of the cardiovascular system (e.g. coronary heart disease and hypertension);
    - chronic lung diseases (e.g. COPD);
    - chronic kidney and liver diseases;
    - Patients with diabetes mellitus (diabetes);
    - Patients with cancer;
    - Patients with a weakened immune system (e.g., due to a disease associated with immunodeficiency or due to regular use of medications that can influence and lower the immune response, such as cortisone)."[t]

As the immune system becomes less effective with age, it is no longer able to distinguish "self" from "non-self", among other things. As a result, autoimmune diseases occur more frequently with age, increasing the likelihood of severe or even fatal COVID-19 disease progression.
In addition, besides the general deterioration of immunity, chronic, low-grade inflammation often occurs in the elderly in the absence of an infection. This smoldering state of increased inflammation can exacerbate many age-related diseases and further inhibit the response of an already declining immune system, favoring severe COVID courses.
In a perspective published in the July 17 issue of Science, Professor Arne Akbar of the Institute of Inflammation and Ageing, University of Birmingham and Derek Gilroy, Head of the Centre for Clinical Pharmacology and Professor of Immunology at UCL (University College London) discuss the impact of inflammation on immunity in aging individuals. They suggest that reducing inflammation with anti-inflammatory drugs, in conjunction with vaccination, could be a therapeutic strategy to improve immunity broadly and potentially improve COVID-19 outcomes in older patients [7].
A scientific article from the University of Suceava, Romania, concludes ... " We think that the 'cytokine storm' term extensively used to refer to COVID-19-induced hypercytokinemia may be better suited for conditions like toxic shock or sepsis. In the case of SARS-Cov-2 infection, a 'normal' anti-viral immune response combined with LGI [Low-Grade Inflammation] may trigger deleterious..." [8].

Non-pharmaceutical measures

So now let's first look at the need for and consequences of hard lockdowns and compare their effectiveness to social distancing measures:

A large number of renowned studies come to comparable conclusions:

- A recent study from the Stanford University [9] concludes, "While small benefits cannot be excluded, we do not find significant benefits on case growth of more restrictive NPIs [NonPharmaceutical Interventions]. Similar reductions in case growth may be achievable with less-restrictive interventions.";
- A 50-country, country-level exploratory study by researchers at the University in Toronto, the University of Ioannina, and the University of Texas Health Science Center concluded that low national preparedness for screening and reporting, limited health capacity, and population characteristics such as advanced age, obesity, and higher unemployment rates were key factors associated with increased viral spread and all-cause mortality [10];
- A study by Aarhus University and the Industrial Economics Research Institute in Stockholm to examine the relationship between the severity of lockdown measures in the first half of 2020 and the mortality rate of 24 European countries in the first halves of 2017-2020 concluded that stricter lockdown measures are not associated with lower mortality and lockdowns have not worked as intended [11];
- Another European study by researchers from the University of East Anglia, the London School of Hygiene & Tropical Medicine and the Newcastle University summarized the results as follows: "we found that closure of education facilities, prohibiting mass gatherings and closure of some non-essential businesses were associated with reduced incidence whereas stay at home orders and closure of all non-businesses was not associated with any independent additional impact." [12];
- A study, by scientists at the University of Côte d'Azur, the University of Lausanne, and the School of Economics in Prague, which considered all countries that reported more than 10 deaths, shows ..."that higher Covid-19 mortality rates are mostly found in countries experiencing higher life expectancies and showing a recent slowdown of this progression. Most of these developed and aging societies are latitudinally located over the 25° parallel. They also have higher GDP and chronic diseases levels (e.g., CVD and cancer) associated with major metabolic risk factors (e.g., inactive lifestyle, sedentarity, and obesity). High temperature and UV levels are associated with low death rates such that northern and western countries pay the most severe toll to Covid-19."... and ..." This is reinforced by our findings regarding the lack of any association with the government's actions taken during the pandemic. In that sense, the determining demographic, health, development, and environment factors seem much more important to anticipate the lethal consequences of the Covid-19 than government's actions"... [13] .

If I summarize these study results, the following picture emerges:

- There are country-specific, inherent factors that have substantial influence on COVID-19 mortality rates that have not been influenced by previous interventions and are incompletely understood;
- Measures to contain the spread of COVID through social distancing and avoidance of crowds generally show success. In this context, voluntary behavior change has a significant positive impact [13];

- However, there is no significant benefit of so-called "hard lockdowns," which are characterized by curfew restrictions up to and including complete curfews and business closures [14].

In general, the success of the containment measures taken is currently measured solely by the number of COVID ill persons and deaths. A discourse on the increased mortality due to mental illness, untreated or undiagnosed, otherwise serious diseases such as cancer, autoimmune diseases as well as food shortages in poorer countries does not take place publicly.

However, the literature and expert assessment show that the consequences of lockdowns are likely to be more severe than the direct consequences of the disease. As published in May 2020 by the medical science journal “the bmj”, only one-third of excess deaths in England and Wales could be explained by COVID-19. In response to these figures, Jennifer Dixon, executive director of the Health Foundation think tank, said, "Today’s data show that action to tackle the coronavirus pandemic in social care has been late and inadequate, and has highlighted significant weaknesses in the social care system due to decades of neglect and lack of reform. Covid-19 has ultimately magnified the human impact of decades of underfunding in the sector and policy neglect" [15].

The significant increase in mental illness has been documented in various publications:

- " Modelling by the Centre for Mental Health forecasts that as many as 10 million people will need new or additional mental health support as a direct result of the coronavirus epidemic. About 1.3 million people who have not had mental health problems before are expected to need treatment for moderate to severe anxiety, and 1.8 million treatment for moderate to severe depression, it found." [16];
- U.S. “Government figures show the proportion of children who arrived in emergency departments with mental health issues increased 24% from mid-March through mid-October, compared with the same period in 2019. Among preteens and adolescents, it rose by 31%. Anecdotally, some hospitals said they are seeing more cases of severe depression and suicidal thoughts among children, particularly attempts to overdose...." ..." Now, some hospitals report running at full capacity and having more children “boarding,” or sleeping in emergency departments before being admitted to the psychiatric unit. Among them is the Pediatric Mental Health Institute at Children’s Hospital Colorado. Williams said the inpatient unit has been full since March. Some children now wait nearly two days for a bed, up from the eight to 10 hours common before the pandemic”...
  " Cincinnati Children’s Hospital Medical Center in Ohio is also running at full capacity, said clinicians, and had several days in which the unit was above capacity and placed kids instead in the emergency department waiting to be admitted. In Florida, Andrews said, up to 25 children have been held on surgical floors at Wolfson Children’s while waiting for a spot to open in the inpatient psychiatric unit. Their wait could last as long as five days, she said " [17];
- " During the UK lockdown, children’s depression symptoms have increased substantially, relative to before lockdown. The scale of this effect has direct relevance for the continuation of different elements of lockdown policy, such as complete or partial school closures." [18];
- "However, with the Corona pandemic, alcohol and medication use, domestic violence, stigma, social isolation, and loneliness are also increasing. These factors can also increase self-harm. In addition, massive media coverage of the crisis may increase suicidality" [19].

Researchers from Duke, Harvard, and Johns Hopkins Universities published an NBER working paper in late December 2020 titled "The Long-Term Impact Of The COVID-19 Unemployment Shock On life Expectancy And Mortality Rates" and concluded the following [20]:

- the magnitude of COVID-19-related unemployment is between 2 and 5 times greater than the typical unemployment shock, depending on ethnicity/gender, resulting in a 3.0% increase in mortality rates and a 0.5% decrease in life expectancy over the next 15 years for the entire U.S. population;
- For the U.S. population as a whole, this implies that a figure of 0.89 and 1.37 million additional deaths will occur over the next 15 and 20 years, respectively, because of the increase in mortality rates following the COVID-19 pandemic.

This does not even take into account the impact of additional effects, e.g. a further intensification of economic problems due to insolvencies of companies in particularly affected sectors.

According to current statistics, approximately 462,000 COVID-19 deaths have currently been reported in the U.S. It should be noted that this number includes those who died clearly from COVID-19 as well as those who died with the virus, i.e., cases in which medical professionals could not determine which of the two categories a death fell into.

The comparison of these figures shows how large the number of human tragedies is due to the so-called secondary effects, i.e. the non-pharmaceutical measures taken and here in particular the hard lockdowns.

This predicament has led to the "Great Barrington" Declaration, signed to date by more than 13,000 medical & health scientists and nearly 41,000 medical professionals [21]. Quoting from this:

- " As infectious disease epidemiologists and public health scientists we have grave concerns about the damaging physical and mental health impacts of the prevailing COVID-19 policies, and recommend an approach we call Focused Protection.";
- " We know that vulnerability to death from COVID-19 is more than a thousand-fold higher in the old and infirm than the young. Indeed, for children, COVID-19 is less dangerous than many other harms, including influenza.".

Pharmaceutical and health promotion measures

After discussing the data situation regarding the "non-pharmaceutical measures", I now come to the pharmaceutical measures from traditional and modern medicine as well as nutritional factors.

Nutritional factors

One can find many nutritional factors and traditional healing methods in anti-aging research that can substantially reduce chronic, age-related, low-grade inflammation. Outlining all of these methods is beyond the scope of this letter. I would like to refer to the blog https://www.anti-agingfirewalls.com/ which summarizes an outstanding summary of this topic in 8 parts and their treatment.

A study - published in the journal "nutrients" by scientists from the University of the Balearic Islands - which examined the influence of dietary and nutrigenetic factors on immunity in the context of the COVID-19 pandemic [22], summarizes :

" it is worth noting that the countries with the worst intake profile for these micronutrients correspond to those that have received the cruelest blow from the COVID-19 pandemic. The results of this ecological study show that the suboptimal consumption of Vitamin D, Vitamin C, Vitamin B12, and iron is correlated with either COVID-19 incidence or mortality indicators. Moreover, the scientific evidence accumulated to date highlights the relevance of the optimal status of the 10 nutrients but, above all, it underlines the importance of Vitamin D and iron for the immune system as well as for the prevention and fight against COVID-19. Thus, the body of evidence suggests conducting epidemiological scientific

studies, intervention studies, and/or in vitro approaches in order to establish and characterize the benefits of Vitamin D and iron (or even their combination) against COVID-19.".

I would like to briefly touch on the traditional healing methods. As I will show later, the two most populous countries are much less affected by the COVID-19 pandemic than the Western nations. In both countries, there is widespread use of traditional healing methods in addition to phamaceutical ones. In China, in response to the COVID-19 outbreak, in addition to strict prevention and control measures, many provinces have issued TCM prevention and treatment plans for COVID-19, which have achieved remarkable results. Traditional Chinese medicine (TCM) is a comprehensive and unique system from disease diagnosis to prognosis, which plays an important role in the prevention and treatment of human infectious diseases in China and has very wide application. Based on Big Data analysis, Yinqiao powder was found to be the basic formulation used to treat the early stages of COVID-19. According to pharmacological studies, Yinqiao powder has antitussive and expectorant effects, relieves acute lung injury, improves lung function, alleviates pulmonary fibrosis, improves the immune response to viruses, and alleviates the side effects of modern drugs [23].

India is the country with the lowest rate of Alzheimer's disease in the world, which may be due to certain ingredients in curry spice blends. According to an Australian study, the reason for this positive effect could be the curcumin contained in curry, which has neuroprotective and cognitive-enhancing properties that can help delay or prevent neurodegenerative diseases [24]. An empirical study - carried out by Iranian scientists - summarizes that research results suggest that curcumin will also be useful in the treatment of COVID-19 patients, especially in cases with high mortality risk. Curcumin has several therapeutic effects, including antiviral, antinociceptive, anti-inflammatory, antipyretic, and anti-fatigue effects. Dietary specifics may also help, in addition to traditionally applied healing methods.

Pharmacological cures

The next level of pharmaceutical measures against COVID-19 are pharmacological cures, which should be used in case of infection or increased risk of infection. Again, there are already a number of drugs that have been used successfully in various countries and whose efficacy has been suggested in medical studies. However, these are usually smaller studies that have not been formally approved by the authorities, but are ongoing, hospital-specific, approved off-label uses of drugs (off-label means the use of a drug outside the area or type of use approved by the regulatory authorization).

Ivermectin, an antiparasitic drug whose development earned U.S. William C. Campbell and Japan's Satoshi Ōmura the 2015 Nobel Prize in Physiology or Medicine, has been on my radar for months. Since then, treatment successes against COVID-19 have been mounting, especially in countries where funding for expensive drugs is scarce. There are now 55 studies, 21 peer reviewed and 36 with results comparing treatment and control groups, suggesting high efficacy of ivermectin in prophylaxis and early use [25].

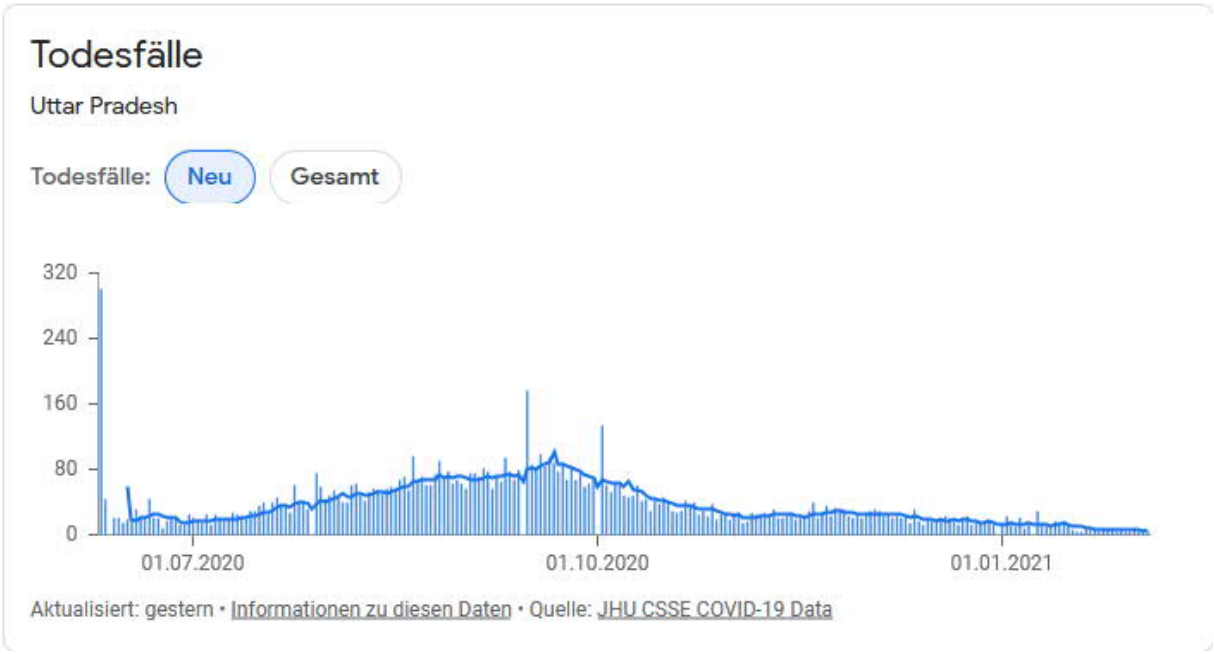
"Significantly, ivermectin received a tentative endorsement recently in research funded by the World Health Organization-hosted program Unitaid. After analyzing 11 randomized control studies, Dr. Andrew Hill concluded: “If we see these same trends consistently across more studies, then this really is going to be a transformational treatment.” [26].
For more information:

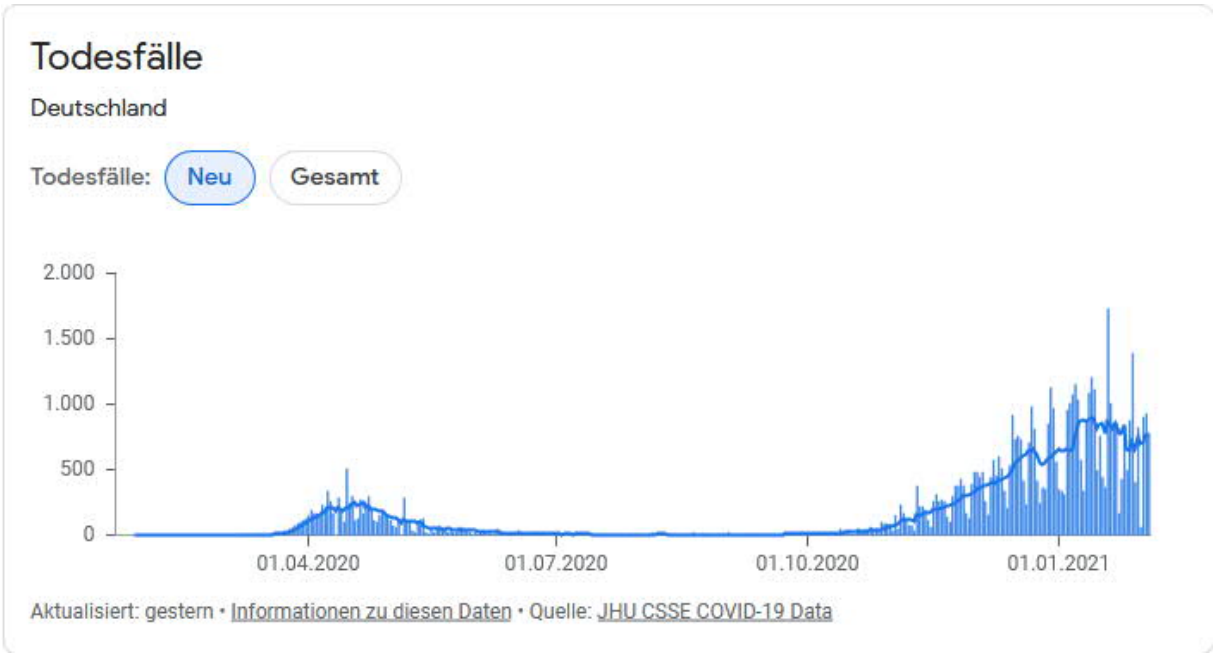
- Uttar Pradesh, an Indian state with a population of 230 million recommends the use of ivermectin and was a pioneer in India. Since May/June 2020, ivermectin was used there, first on a small scale and then widely due to positive results [27]. Although the Indian Council for Medical Research declined to recommend ivermectin nationwide, medical centers have

introduced it anyway. [26]. The current low COVID infection rates and the absence of a second COVID wave seem to account for this decision;

- Also in the German press, the Deutsche Apotheker Zeitung presented ivermectin as a possible treatment on Jan. 11, 2021, referring to the recommendations of the "Front Line COVID-19 Critical Care Alliance" (FLCCC) based in Madison in the US state of Wisconsin. I quote here from the article in the Apotheker-Zeitung :
  "The FLCCC recommendation infers from the totality of the clinical data that ivermectin can significantly reduce viral load. It is also expected to curb transmission and development of COVID-19 in infected individuals and to accelerate recovery and prevent deterioration in patients with mild to moderate disease expression when administered early after symptom onset. In severely ill patients, it is expected to help avoid hospitalization and reduce mortality in critically ill patients with COVID-19 and, in regions with high infection rates, case fatality. The safety profile is also considered favorable and there is extensive experience of use over nearly 40 years. Last, but not least, ivermectin is inexpensive and therefore a viable option for poorer countries everywhere."[t] [28];
- The Bolivian regional government has accepted ivermectin as a treatment for COVID-19 - particularly in the Beni region and its largest city, Trinidad, where government authorities are now dispensing ivermectin - up to 350,000 doses of the drug to combat COVID-19 cases;
- Peru has accepted ivermectin as a COVID-19 treatment. For example, a recent Ministry of Health proclamation in an artifact titled "Prevention, Diagnosis and Treatment of People Affected by COVID-19 in Peru" explains what is an acceptable use of ivermectin in patients with mild COVID-19;
- Health authorities in the southern Brazilian city of Porto Alegre have approved the use of ivermectin to treat early-stage COVID-19;
- During the drafting of this letter, the National Institutes of Health (NIH, German: National Gesundheitsinstitute), as the principal agency for U.S. biomedical and public health research, has now also upgraded the status from "against" to " neither for nor against" for the use of ivermectin, which is the same recommendation as for monoclonal antibodies and convalescent plasma, both of which are commonly used as COVID-19 treatment agents. Thus, physicians should be more open to prescribing ivermectin as another therapeutic option for treating COVID-19, which should pave the way for emergency approval by the FDA.

A recent graphical comparison of COVID-19 deaths in Uttar Pradesh and Germany is shown in the following graphs.





An extensive video documentation on the mode of action of ivermectin in the context of COVID-19, as well as the evident successes, can be found here [29].

Another promising drug is colchicine, which has provided compelling results for the treatment of COVID-19 in the COLCORONA clinical trial. Analysis of 4159 patients diagnosed with COVID-19 by nasopharyngeal PCR testing showed that the use of colchicine was associated with a statistically significant reduction in the risk of death or hospitalization compared with placebo. In patients with a confirmed diagnosis of COVID-19, colchicine reduced hospitalizations by 25%, the need for mechanical ventilation by 50%, and deaths by 44% [30].

There are a variety of nasal spray developments whose use could protect against COVID-19 for at least two days, while others promise immediate relief from infection.

The Canadian company "SaNOtize Research and Development Corp." is pursuing a promising approach based on nitric oxide, a natural nanomolecule produced by the human body with proven antimicrobial properties. The treatment can be administered by nasal spray, throat gargle or nasal irrigation. Laboratory testing of the SaNOtize treatment at Utah State University's Antiviral Research Institute confirmed that the company's nitric oxide-releasing solution inactivated more than 99.9% of SARs-CoV-2 within two minutes. In rodent studies, the use of SaNOtize treatment resulted in an average reduction in SARS-CoV-2 viral load of more than 95% the day after infection, with half of the rodents having no detectable virus at all. Regarding the time horizon, if the current Phase II results in Canada and the ongoing studies at Colorado State University are successful, the company will apply directly for emergency approval.
According to Rob Wilson, who represents SaNOtize in the U.K. and EU, the nasal spray can not only block the virus from entering, but the active ingredient, nitric oxide, actually kills the virus and prevents it from replicating. "If successful, people in Britain and Europe could have an effective, safe and accessible treatment within months that they can use daily to kill the coronavirus and stop it spreading, " [31].

Other developments of spray formulations, already shown to be highly effective in animal studies, are based on ivermectin [32]. A French company, Pharma & Beauty Group, will soon launch a nasal spray capable of eliminating more than 99% of the virus and based on ionized water [33]. Another development based on a nano-ozone formulation in Turkey also shows very high efficacy [34].

In the future, these nasal sprays could protect against infection via the nasal mucosa, which, together with mouth rinses, could form an effective protective barrier and significantly reduce the viral load in the early case of infection.

In addition to these very promising approaches, one can find on the page of the association vfa. “,Die forschenden Pharma-Unternehmen“, an overview of other European projects [35]. Here you will also find a compilation of approved drugs whose repurposing is being tested or considered. In this context, repurposing means that drugs that have been developed and approved for other applications are being tested for use against COVID. This project is supported by the Innovative Medicines Initiative (IMI) under the partnership of the European Commission with 77.7 million Euros, which is small compared to the 750 million Euros of funding from the German government for three vaccine developers [36] and the several billion USD from the United States Department of Health and Human Services according to the breakdown on their page about the "Warp Speed" program [37] and certainly a reason for the slow success.

In addition, I think it is worth mentioning a drug development from Russia [38]. According to Veronika Skvortsova, the head of the FMBA (National Public Health Institute of the Russian Federation), this drug has been shown to be more than 99% effective in the completed preclinical studies. This would make it the first drug to act directly on the virus and be an antidote for coronavirus infection. In the preclinical studies, the drug would also have been shown to be "completely safe and highly effective."

The therapeutic would have the potential of a "game changer" in the treatment of COVID-19 if clinical trials were positive, but unlike ivermectin, it is certainly not yet available this year.

Vaccines

Let us now turn, in the context of pharmaceutical measures, to the newly developed COVID-19 vaccines, which are considered in many places to be the safe and only solution to the pandemic.

In the following, I present information from various sources in order to shed more light on the situation.

On December 01, 2020, ex-Pfizer research director Dr. Michael Yeadon, among others, had filed a request with the EMA, the European Medicine Agency responsible for EU-wide drug approval, for the immediate suspension of all SARS-CoV-2 vaccine studies, specifically the BioNtech/Pfizer study of BNT162b (EudraCT number 2020-002641-42), until the study design is changed to cover verification of efficacy and the safety concerns raised. If you look at the safety concerns raised there, you have an entry point into understanding about potential risks of the new vaccines [39]:

1. The formation of so-called "non-neutralizing antibodies" can lead to an exaggerated immune reaction especially when the subject is confronted with the real, the "wild" virus after vaccination. This so-called antibody-dependent enhancement, ADE, has long been known, for example, from experiments with Corona vaccines in cats. In the course of these studies, all cats that initially tolerated the vaccination well died after they caught the wild virus;
2. The vaccines are expected to elicit humoral antibodies against spike proteins of SARS-CoV-2. However, spike proteins include syncytin-homologous proteins, which are essential for the formation of the placenta in mammals such as humans. It is imperative to exclude the possibility that a vaccine against SARS-CoV-2 induces an immune response against syncytin-1, otherwise infertility of indeterminate duration in vaccinated women could result;
3. BioNTech/Pfizer's mRNA vaccines contain polyethylene glycol (PEG). 70% of people form antibodies against this substance - this means many people can develop allergic, possibly fatal reactions to the vaccination;
4. According to Section 10.4.2 of the BioNTech/Pfizer study protocol, a woman of childbearing potential (WOCBP) is eligible for vaccination if she is not pregnant or breastfeeding and is using an acceptable method of contraception during the intervention period (at least 28 days after the last dose of the study intervention), as described in the study protocol. This means that it could take a relatively long time to observe a significant number of cases of infertility after vaccination. The short duration of the study does not allow a realistic estimation of late effects.

If one looks at so-called fact checks, in similar form spread by many mainstream media, one gets here the following answers e.g. in the Schwäbische Zeitung based on statements of the virologist Thomas Mertens of the University of Ulm. [40]:

1. "According to Mertens, there have indeed been tests on small animals. However, they were related to the MERS-CoV virus, which is closely related to SARS-CoV, but has only occurred sporadically in Europe. 'With the current BioNTech/Pfizer mRNA vaccine, possible immune overreactions have never been observed,' Mertens continues. 'There are also no indications from the people vaccinated so far that such reactions can occur,' he added"[t];
2. "According to other medical experts, the spike protein is far too specific to react with oocyte proteins. Any resulting infertility can therefore be ruled out"[t];
3. "This, too, is mere conjecture, according to Mertens. So far, there is no data to prove a corresponding reaction."[t];
4. "Mertens believes that this is correct 'for generally logical reasons'. However, when a vaccination or a new drug is introduced, there are almost never long-term observations. These would make it almost impossible to act in an emergency situation. Therefore, in the current

crisis, the only choice is to spend two more years with studies on the effect of vaccinations - and thereby accept the further, hardly controllable spread of the virus - or to start a vaccination campaign on the basis of the existing studies, the virologist summarizes.“.

If one now compares the listed reasons for the application for suspension of the vaccine studies and the rejection of the so-called fact check, one recognizes that opinions and not facts are reproduced here:

1. Regarding the exaggerated immune responses associated with earlier vaccine developments, the following information can be found from an interview of Robert F. Kennedy by R. Joseph Mercola, from which I refer here. [41]:
   After the outbreak of three SARS epidemics, beginning in early 2002, Chinese, Americans and Europeans began working on a coronavirus vaccine, and by 2012 there were about 30 promising candidates. The top four vaccine candidates were then administered to ferrets, the closest thing to human lung infections;
   The ferrets had an extraordinarily good antibody response, and that is the metric by which FDA licenses vaccines". . "All four of these vaccines ... worked like a charm. Then something terrible happened. Those ferrets were then exposed to the wild virus, and they all died. [They developed] inflammation in all their organs, their lungs stopped functioning and they died."
   "The same thing had happened in the 1960s when they tried to develop an RSV vaccine, which is an upper respiratory illness very similar to coronavirus. At the time, they did not test it on animals. They went right to human testing. They tested it on I think about 35 children, and the same thing happened. The children developed a champion antibody response — robust, durable. It looked perfect [but when] the children were exposed to the wild virus, they all became sick. Two of them died. They abandoned the vaccine. It was a big embarrassment to FDA and NIH."
   This means that the danger the petition points out would only occur after vaccination and infection with the wild COVID-19 virus has occurred, and this cannot be conclusively assessed in the context of the short study and application period. Ultimately, the arguments in the fact check do not invalidate the concerns raised.
   With regard to the BioNTech/Pfizer study, I would like to add the following: For inclusion in the study, there were, among other things, the following requirements. [42]: "In order to be included in the study you had to be at least 16 years old and you had to be fundamentally healthy. Chronic health conditions were ok if they were deemed to “stable”. You were excluded from the study if you were receiving immunosuppressive therapy or if you had an immune compromised state for any other reason, if you had ever had a severe allergic reaction to a vaccine, if you were pregnant or breastfeeding, or if you had an auto-immune disease"
   Thus, the study says nothing about whether the vaccine is safe and effective for people with autoimmune diseases. And the study says nothing about whether the vaccine is safe and effective for people who are prone to severe allergic reactions;
2. What the fact check describes here is an opinion, not scientific evidence, and thus unsuitable to rebut this objection;
3. This presentation of the fact check contradicts with the COVID-19 report on vaccination reactions in the United Kingdom published by the “Deutsches Ärzteblatt” in January 2021 [43]. It states, "Currently, the excipient polyethylene glycol (PEG) is considered the potential agent for the severe allergic reactions. ‘Should this be confirmed, it would be necessary to exclude patients with known allergic reactions to PEG, PEG analogues and other adjuvants from vaccination with BNT162b2, but not all patients with a history of severe allergic reactions -

which would significantly expand the group of potentially vaccinatable individuals,' author Prof. Ludger Klimek, MD, Allergy Center Wiesbaden, told the German Medical Journal."[t];

4. The third clinical phase of a vaccine trial typically lasts four to seven years [44]. Ultimately, early approval of a vaccine is a risk-benefit trade-off that should also be honestly pointed out.

   The main objectives of a phase III trial are. [45]:
   - "to demonstrate the safety as well as the efficacy of the new drug in the representative patient group;
   - the confirmation of the effective dosage levels;
   - identifying adverse effects or reasons why the treatment should not be used in patients with another condition (this is called "contraindications" or "contraindications");
   - increasing knowledge of the benefits of a drug or vaccine and comparing them with any risks;
   - The comparison of results with those obtained with drugs already available."[t]

With regard to the doubts of points 1., 2. and 3., but also with regard to the very limited experience with the vaccines, I believe that the safety concerns raised have not been sufficiently refuted.
There are extensive gaps for widespread use of the vaccines: for example, the completed BioNTech/Pfizer study says nothing about whether the vaccine is safe and effective for children. It says nothing about whether the vaccine is effective or safe for pregnant and breastfeeding women. It says nothing about whether the vaccine is safe or effective for people with weakened immune systems. It cannot say anything about the duration of vaccine protection. Because of the small number of study participants aged 75 or older (5% of participants), little can be said about the effectiveness of the vaccine on the group that is particularly affected. Also, it should be noted that, for influenza vaccines, reduced efficacy in older, frail individuals may likely be due to immunosenescence-related changes in PBMCs (peripheral blood mononuclear cells) that are not reflected in antibody levels [46]. Basic immunizations in advanced age, according to studies with encephalitis virus (JEV, inactivated vaccine), are often characterized by a low immune response with low antibody levels that cannot be boosted, i.e., raised by further so-called booster vaccinations, and/or rapid antibody decline to the borderline baseline antibody level, which is crucial for infection defense [47].
It is therefore unlikely that this group of people at particular risk will be adequately and reliably protected by vaccination alone.

An even more substantial detailed scientific account of unanswered questions and possible side effects of the mRNA-LNP vaccines (currently from Moderna and BioNTech/Pfizer) can be found in a preliminary publication by scientists at Jefferson University in Philadelphia: they point out the following risks of these vaccines. [48]:

- " However, there is growing number of evidence that PEG can be immunogenic and repeat administration of PEG can induce anaphylactoid, complement activation-related pseudoallergy reaction5.Humans are likely developing PEG antibodies because exposure to everyday products containing PEG. Therefore, some of the immediate allergic reactions observed with the first shot of mRNA-LNP vaccines might be related to pre-existing PEG antibodies. Since these vaccines often require a booster shot, the formation of anti-PEG antibodies is expected after the first shot, and thus, the allergic events are likely to increase upon re-vaccination.";
- "Based on the current mRNA-LNP vaccine design, LNPs can be taken up by almost any cell type, near or far from the injection site, by transfecting them with the antigen-encoding mRNA"....

"Long-term mRNA translation in non-professional APCs [Antigen-Presenting Cells] might lead to unanticipated cell killing "[t]... "Thus, any cell presenting antigenic determinants from vaccine could become a target of T-cell-mediated killing. Furthermore, if vaccine-derived proteins b become inserted into the plasma membrane or secreted and associated with cell membrane, these cells could become targets of antibody-dependent cellular cytotoxicity. Both should be evident after an adaptive immune response has been generated and may be accentuated upon secondary immunization. In line with this, systemic adverse events from the mRNA-LNP-based SARS-CoV-2 vaccines were indeed more common after the second vaccination, particularly with the highest dose."

This December 2020 scientific paper uncovers uncertainties that, under normal conditions, should be resolved prior to widespread marketing as part of vaccine trials.

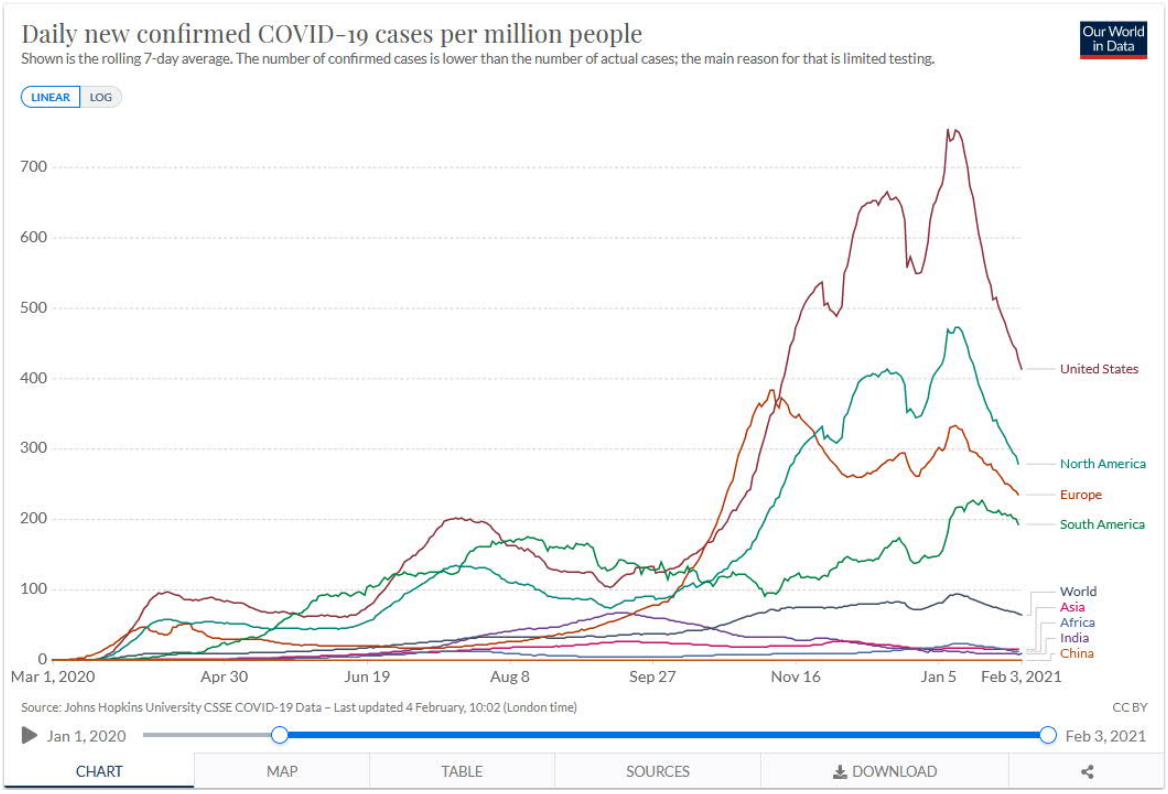
Only in months is a complete overview of risks and benefits available. Nevertheless, it is clear that for the group of fundamentally healthy individuals tested in the vaccine trials, strong antibody responses with protection against symptomatic COVID have been demonstrated.

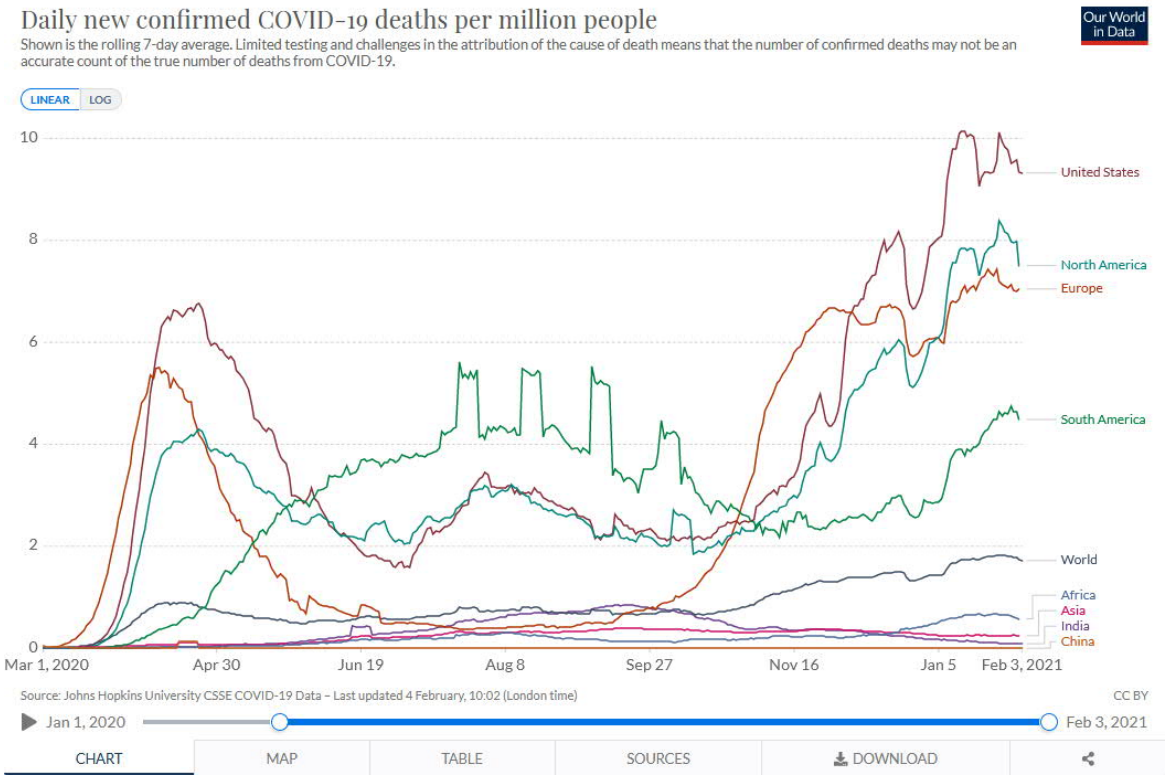
At least 248 vaccine projects have started against Covid-19 since January 2020 [49]. These vaccines use different modes of action and will have different safety and efficacy profiles.

The current COVID 19 Situation

New infections and death rate:

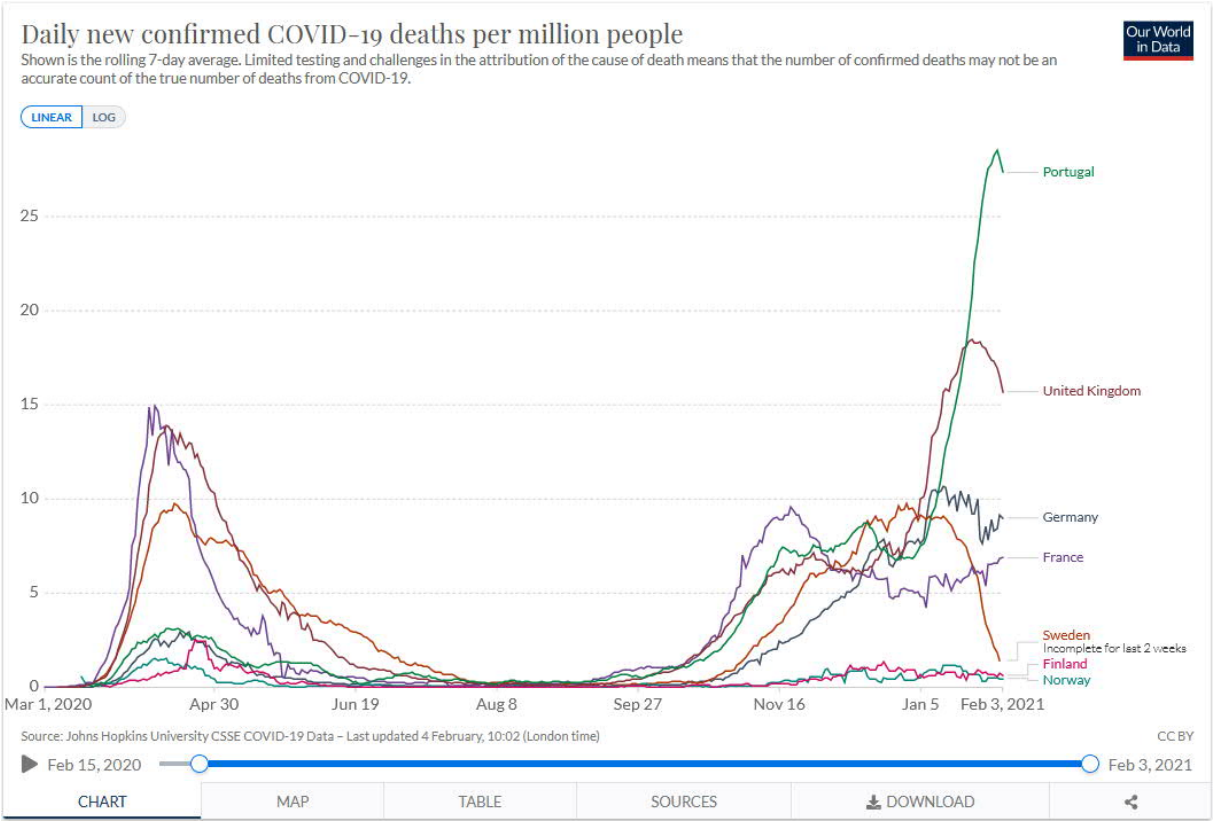
The following is a comparison of daily confirmed new COVID-19 infections and daily confirmed deaths per million people of selected countries and continents from the "Our World in Data" website [50]:



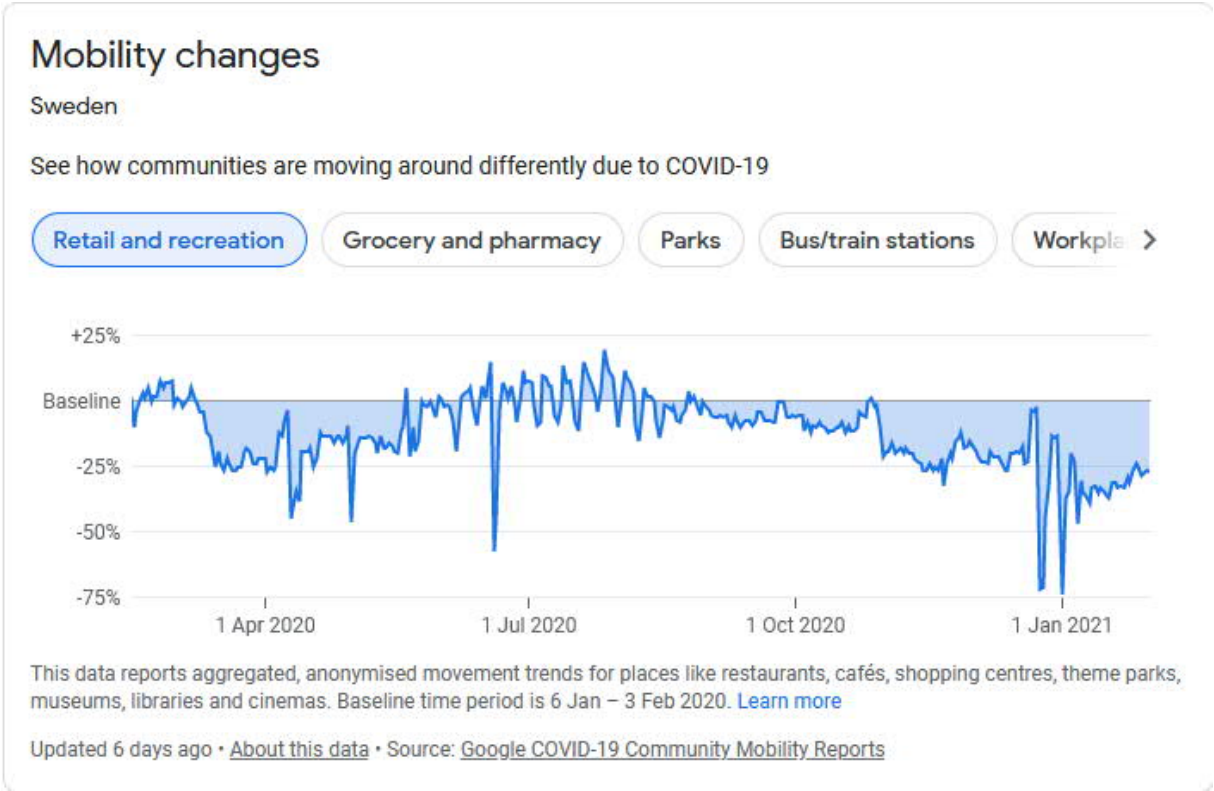


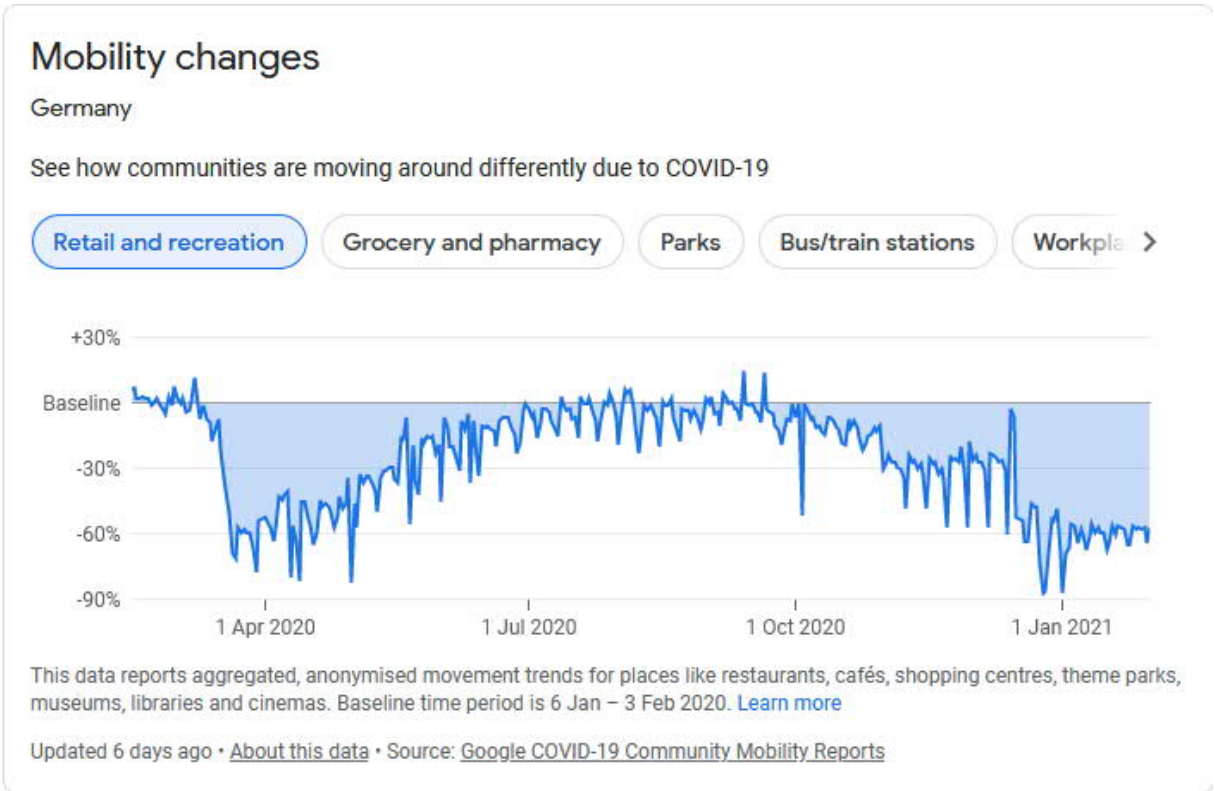
The first thing to recognize is that COVID-19 is predominantly a pandemic of the Americas and Europe, not Asia. The current daily global mortality rate according to these statistics is less than two per million people. The reasons for the very large differences between Asia, Europe and America are, in my opinion, insufficiently explained so far.

However, even in Europe and the Americas, there are nations that, measured against the lower incidence of infection, were significantly less affected overall. In Europe, these include Finland and Norway,



A look at the change in mobility shows how different the extent of restrictions in countries like Sweden and Germany, and thus the interference in daily life, has been during the pandemic:





To date, Sweden has relied on much softer measures and voluntary compliance with recommendations. As much as the country has been criticized for this and the path is seen by many as a failure, a final evaluation will only be possible when secondary effects such as an increase in mental illness and a resulting increase in mortality are taken into account. I have not yet found such an evaluation.

The COVID IFR (Infection Fatality Rate) can only be estimated, since there is a considerable number of asymptomatic or mild, untested infections.
In contrast, the CFR (Case Fatality Rate) indicates the death rate per confirmed COVID infection. Thus, the calculated number depends on the particular detection method of an infection and cannot be determined exactly. If, for example, the detection method of an infection reacts very sensitively, i.e. indicates more infections than are actually present, the CFR would be too low.

Hence, it is the IFR that indicates the personal statistical risk of death.

A meta-analysis has been published in the European Journal of Epidemiology, 12/2020 issue, which has developed an age-dependent estimate of IFR and from which I quote:

"The estimated age-specific IFR is very low in children and younger adults (e.g. 0.002% at age 10 and 0.01% at age 25) but increases progressively to 0.4% at age 55, 1.4% at age 65, 4.6% at age 75, and 15% at age 85." [51]

Reversing these numbers, approximately 99.998% at age 10, 99.99% at age 25, 99.6% at age 55, 95.4% at age 75, and 85% at age 85 survive the COVID-19 disease.

Insights into the infection process

Animal studies provide evidence that viral volume upon infection may influence disease severity. In a study of Syrian hamsters, those infected with a higher dose of SARS-CoV-2 had a worse course than those infected with a lower viral volume [52].

However, without citing a large number of studies here, there is no clear association between a higher viral load and a worse outcome of COVID-19 disease. Asymptomatic patients, according to a study published by Turkish researchers in November 2020 [53] , have a higher SARS-CoV-2 viral load than symptomatic patients. Surprisingly, a significant decrease in viral load was observed with increasing disease severity. In contrast, a study published in The Lancet concluded that a higher viral load is generally associated with a worse outcome [54].

As can be seen from this, it is currently not fully understood why some patients have mild or no symptoms while others suffer from severe symptoms. This is because neither the length of time that SARS-CoV-2 RNA can survive in the upper respiratory tract nor the correlation of viral load and prognosis are well known. In addition to viral load, there are many parameters that influence the course of COVID-19, such as age, gender, comorbid diseases, and genetic factors.

According to a recent, scientific study from Georgia State University in Atlanta [55] infection of the nasal passages of mice with the SARS-CoV-2 virus resulted in a rapid, increasing attack on the brain with inflammatory responses induced there and associated severe neurological disease, even after the lungs had successfully cleared of the virus. The virus was also found to infect cells in the nasal concha, eye, and olfactory bulb, suggesting that SARS-CoV-2 enters the brain via this route.

This finding is confirmed by a scientific study conducted by Charité Berlin, which concludes that the SARS-CoV-2 virus enters the brain via nerve cells in the olfactory mucosa [56].

Alterations in the senses of smell and taste are symptoms of COVID-19 disease in humans. The preliminary publication of a study by scientists at Oxford University [57] provides evidence of significant neurological and psychiatric morbidity in people following COVID-19 infection. According to the study, the risk was greatest among those who had severe COVID-19 infection, but was not limited to those cases alone.

Patients discharged from the hospital after COVID-19 disease, according to a study from China, experienced [58] primarily with fatigue or muscle weakness, sleep difficulties, and anxiety or depression over six months; severe patients were found to have significant impairments in lung diffusion capacity, among other symptoms. A previous publication by researchers at Leicester University and the Office for National Statistics (ONS) [59] on the same topic shows increased rates of multi-organ dysfunction in patients discharged from hospital. Here, 29.4% were readmitted to the hospital within 140 days and 12.3% died after discharge.

Mutations

Since September 2020, different viral mutations have emerged in the United Kingdom, South Africa, and Brazil, among other countries, with an unusually high number of spike protein mutations that cannot yet be explained by a gradual accumulation of mutations based on existing genome sequencing [60].

Such rather erratic changes in the virus could result from prolonged SARS-CoV-2 infections in individual patients, possibly with reduced immunocompetence, or from adaptive processes occurring in another susceptible species and then transmitted from animal hosts back to humans [60].

Viruses are subject to natural selection, the fundamental force that shapes the evolution of organisms, and are subject to strong, diverse selection forces.
These selection forces emerge from an antagonistic interplay between rapidly changing fitness requirements (immune and antiviral responses from hosts, transmission between hosts, or colonization of new host species) and functional imperatives (the ability to infect hosts or host cells and replicate within hosts) " [61].

Pandemic containment measures, from social distancing to hard lockdowns, as well as the use of vaccination, increase and control selection forces and favor the enforcement of mutations that better escape these selection forces.

An essential criterion for success in the fight against the pandemic is therefore also the speed and consistency of the enforcement of the measures, so that mutations do not arise in the first place, which evade the measure. Reducing new infections is the best way to contain viral diversity, said Dr. Adam Lauring, an infectious disease expert at the University of Michigan in Ann Arbor. [62]. The viral variant first found in South Africa on Dec. 18, 2020, under the designation 501Y.V2, is increasingly suspected of escaping the immune responses triggered by vaccines and previous infections [63], which corroborates the previously formulated hypothesis of natural selection. A COVID-19 vaccine developed by Novavax has achieved 89.3% efficacy in the United Kingdom, according to preliminarily published phase III (clinical trial) data. However, in a separate study in South Africa, efficacy was far lower at 49.4%, attributed to the predominant viral mutation there [64].

Summary

Neither a Corona pandemic nor the progression of waves of infection came as a surprise. In October 2019, the Johns Hopkins Center for Health Security, with partners the World Economic Forum and the Bill & Melinda Gates Foundation, hosted a pandemic simulation called Event 201. For the scenario, a fictional novel pandemic was modeled, triggered by a zoonotic coronavirus transmitted from bats to pigs to humans and eventually efficiently from human to human [65]. Why was a coronavirus chosen for this simulation rather than a novel influenza virus? Probably because the two previous epidemics "Sars" in 2002/2003 and "Mers" in 2012 were caused by the same corona virus strain.

As indicated by the April 30, 2020 publication of the University of Minnesota's Center for Infectious Disease Research and Policy, after analyzing eight major pandemics that have occurred since the early 1700s, it could be expected that after the first peak of a pandemic, a second major wave could follow about 6 months later [1].

Since the beginning of the pandemic, I have argued that the success or failure of COVID-19 containment, will provide insight into how the much larger challenges of the implosion of the biosphere and the financial sphere, predicted in the Koyaanisqatsi Ultimatum, will be managed country- and bloc-specific. We are observing the condensing processes of future decision-making mechanisms and power structures. In the section "Outlook" I detail more on this.

The leading Western industrialized nations have presented an unconvincing picture, with changing, poorly coordinated, frequently shifting, sometimes contradictory and delayed measures. Due to the imposed restrictions, life there is still extremely impaired, without the pandemic being pushed back - as in other parts of the world.

There is little information in the public discourse about the strategies and successes of the best and most successful countries, and all the more about countries with problems or worse infection records, which cannot be in the interest of better strategy and policy.

Like the head of the WHO -Emergency Program, Dr. Mike Ryan, I argue that COVID-19 is a serious pandemic, but not necessarily the big one. Relative to the diabetes epidemic, which affects a total of at least seven million citizens in Germany alone (over 500,000 new cases annually), the Corona-19 numbers are smaller, especially because the vast majority of Corona infected individuals survive the disease. A first-of-its-kind study of actual diabetes-related mortality among people with type 2 diabetes (adult-onset diabetes) in Germany showed that already in 2010, approximately 137,000 deaths annually were attributable to type 2 diabetes [66]. The approximately 60,000 COVID-19 deaths registered to date are significantly lower, even though every death is of course painful.

So one would expect that the policy would introduce a "food distancing" to unhealthy and sugary foods or mandatory exercise plans for all those at risk. Also, one would expect that diabetes mortality would be published with similar transparency as COVID-19, daily news would be full of reports about refusers of the adopted measures, or there would be hate comments about people who do not exercise enough.
As demonstrated in the Non pharmaceutical Measures section, social distancing measures are useful and have helped reduce COVID-19 death rates. This also fits with the understanding of the infectious process that a strong, initial viral load is more likely to lead to severe disease progression. However, in my opinion, there is a time bomb ticking here, as measures of social distancing not only cause secondary damage in society, but also trigger selection pressure on the virus to transform into a more infectious, i.e., more easily transmissible, form. If such a variant were to prevail, the only thing left to

do would be to further tighten measures to keep infection numbers under control. It is possible that this antagonistic spiral is currently evident in the United Kingdom and other parts of the world, where lockdown measures have been tightened significantly once again due to the new, more contagious mutations. As elicited in the studies presented, the effectiveness of a hard lockdown is controversial and is likely to be associated with significantly more additional deaths in other "vulnerable" groups. These include children from socially difficult families, the mentally unstable, people with serious pre-existing conditions requiring treatment, and the poorest in the world. Other serious, economic collateral damage is added to this.
I therefore consider Focused Protection, as called for in the Great Barrington Declaration, to be the only sustainable approach. In this context, the detailed implementation must adapt to the constantly changing infection and risk characteristics of the SARS-COV-2 virus. Hard lockdowns are only appropriate and sustainable if they lead to near eradication of the virus - as has been achieved in China - and thus reduce overall societal harm.
Not only the covid-19 disease itself, but also prolonged isolation measures lead to neurological and mental illnesses, for example, depression and anxiety disorders will increase dramatically in addition to clinical findings.

An adequate supply of vitamin D, vitamin C, vitamin B12 and iron would reduce COVID-19 incidence and thus mortality. There should have long been a free program for supplying the population with these and other nutrients to be defined by experts, which would serve to generally strengthen the immune system and thus prevent COVID-19 and other diseases of civilization. Also, as in China, there should be prevention and treatment plans for the application of traditional healing methods. Relying only on the modern pharmaceutical industry and not using millennia-old knowledge is, in my opinion, a historical mistake that has led to unnecessary human tragedies.
Studies on the repurposing of approved medicines should be given the highest priority and at least the same financial resources as vaccine development.

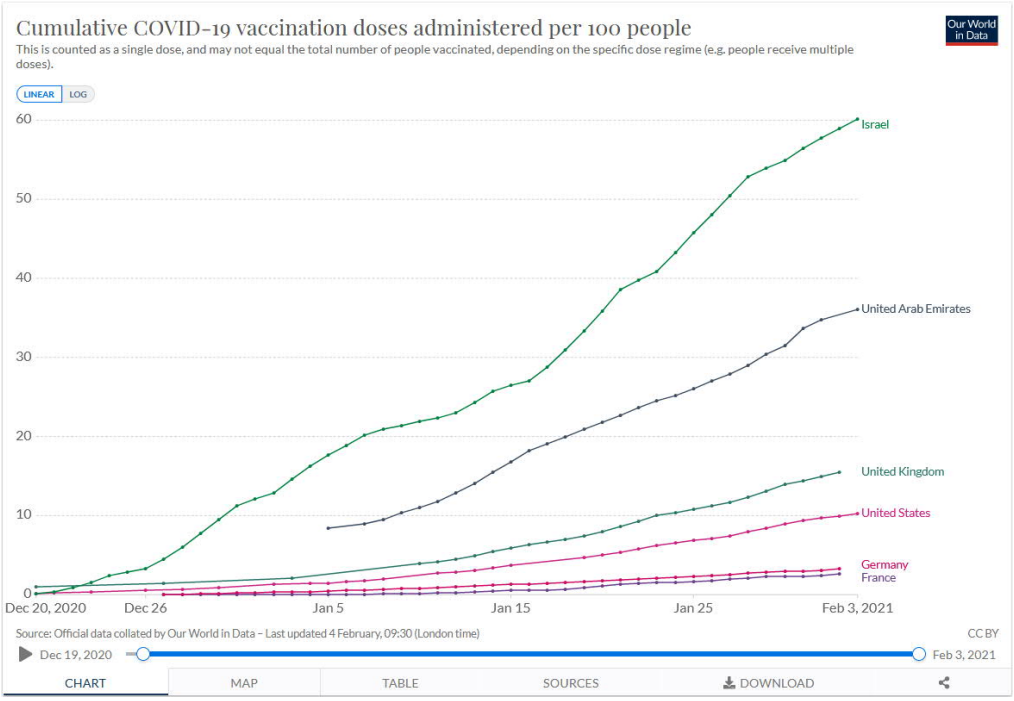
It is irritating that ivermectin, which is currently already being used successfully in various countries, is not being used widely in Europe and the USA. It is a drug that has been known for decades and has an uncritical safety profile. Used under controlled conditions, it would very quickly become apparent whether the efficacy stated in the published studies is confirmed.
The study result for colchicine is new, but again, what was said earlier applies.
Both drugs have the potential to at least halve the death rate.

If one also takes into account that better nutrient supply to the population can reduce the risk of severe Corona-19 disease progression, and if one further considers the potential of the presented new developments of nasal sprays in combination with mouth rinses, then it seems possible to significantly reduce the Corona-19 pandemic in the coming months.

The broad-based vaccination programs that have been launched offer a realistic chance of bringing the pandemic under control. However, we are faced with the dilemma that there are well-founded safety concerns about the already approved vaccines, the final scientific assessment of which is not possible in the short term. In addition, mutated strains of the virus have already evolved, which may reduce viability and require adjustments to the vaccines. Selection pressure on the virus will also favor virus strains that partially or completely circumvent the current vaccine protection. It is also not known how long immunologic protection will last, especially in the elderly or those with preexisting conditions, and it is unclear whether vaccines will prevent vaccinated individuals from becoming infected and potentially transmitting the virus to others. There remains concern that increasing sensitivity to PEG will develop for the mRNA-LNP vaccines, which could jeopardize widespread, repeated use. Due to

production bottlenecks alone, it will not be possible to supply all countries at the same time and before the end of this year, so that the pandemic cannot be defeated by the vaccine set alone, even if it is highly effective.

Israel is leading the way, currently having already vaccinated over 40% of the population with at least the first dose of BioNTech/Pfizer and Moderna vaccines and aiming to have nearly all over 16 year olds vaccinated by the end of March. This will provide additional data that will shed light not only on the reported more than 90 percent efficacy but also on the nature and extent of any side effects of vaccination that occurred directly.
The following overview shows a country-by-country comparison of vaccine doses administered, keeping in mind that current vaccines require two vaccinations per person to achieve full protection.



Overview of vaccine doses administered per 100 people [67]

I am convinced that vaccination against COVID-19 must remain voluntary; any coercion or pressure from politicians is unethical and should be rejected because of the gaps in knowledge. With regard to vaccine approvals, there has been considerable pressure simply because of the approval dates predicted and demanded in advance by politicians. The now fanned demands for mandatory, standardized vaccination cards, which could then possibly be required for certain travel, participation in events, or other social activities, I also believe are misguided.

Outlook

It is my belief that COVID-19 will continue to follow Scenario 2 presented, according to which the first wave in the spring of 2020 will be followed by a larger wave in the fall or winter of 2020 and one or more smaller subsequent waves in 2021 [1]. The high incidence figures of the past months and the accompanying increase in naturally acquired immunity in combination with pharmaceutical measures are gradually bringing us closer to control and containment of the pandemic. And as was the case with SARS-1, positive twists - e.g., a self-destabilizing mutation - are also conceivable at any time.

Graphical progression scenario 2 from [1]

However, the consequences of the containment measures will accompany societies for a long time to come. I see the Corona pandemic as a catalyst of trends that already existed before and are now coming to light clearly and/or accelerated. However, every crisis also creates a potential for unexpected, positive change.

In order to find existing trends and their changes, one must first zoom out of the daily and the small, out of the stories that are told or also kept quiet and look at the events and global data through a telescope like an alien.
In contrast, one discovers new trends by beginning to search in the microcosm like a detective.

In detail this is beyond the scope of this paper and therefore I plan to tell you these "stories" in further publications.
Nevertheless, I would like to give a few hints on macroscopic and microscopic developments which I follow promptly and consider essential:

- The exponential supply of central bank money to Western industrialized countries;
- The exponentially increasing global debt;
- The increasing steering of political decision-making processes by billionaires and large corporations as well as centralized, non-democratically legitimized institutions;
- The increase in state-imposed, authoritarian and freedom-reducing measures and the disintegration of democratic structures;
- The increase in polarization, defamation, and linguistic aberrations;
- The fracturing of society into POOR and RICH, YOUNG and OLD, DEPENDENT and INDEPENDENT, HEALTHY and SICK, BEAUTIFUL and HATEFUL, SUCCESSFUL and UN SUCCESSFUL, VACCINATED and UNVACCINATED, etc...;
- Asia, and in particular China, as the big winners of the crisis;
- States in perpetual rescue mode, driven by exponentially growing change and held in slow, entrenched structures;

- An accelerating implosion of the biospheres - the Earth in "overshoot" as well as human immune systems in "overshoot."

COVID-19 is a challenge, but by no means the greatest of our time. The consequences from the implosion of the biosphere and the financial sphere as described in the Koyaanisqatsi Ultimatum pose unimagined hurdles for our future. The effects of this are already unconcealable today: Human migration, species extinction, devastation, water shortages, resource scarcity, loss of tropical rainforests, over-indebtedness, poverty, etc.
Parallel to these exponentially growing challenges, we are in a phase of exponentially growing knowledge. The world has a network of highly intelligent people who are capable of solving the problems at hand, but only if the decision-making and governance processes allow them to do so.

The crisis management of the pandemic has revealed how incapable the world community is of using this network for the benefit of all people, all of nature, and the future of our planet.

Take a critical look at the influential and powerful as well as their decisions in the crisis and only support projects that are focused on the common good. If you want to get a sense of where our society is drifting, ask yourself and others what information is being withheld from you and who is benefiting. In particular, do not believe those who tell you that measures have no alternative.

I thank you very much for your interest and wish you to get through these crises well.

If you are interested in future publications, please send a short e-mail to the address below. Please feel free to forward this paper to friends and interested parties as well.

Your

Ko-Yaanis Qatsi,
email: Qatsi@ultimatum.world

References

[1] K. A. Moore, M. Lipsitch, J. M. Barry und M. T. Osterholm, „Center for Infectious Disease Research and Policy," 30 04 2020. [Online]. Available: https://www.cidrap.umn.edu/sites/default/files/public/downloads/cidrap-covid19-viewpoint-part1_0.pdf.

[2] M. O'Driscoll, G. R. D. Santos, L. Wang, D. A. T. Cummings, A. S. Azman, J. Paireau, A. Fontanet und S. Cauchemez, „Nature," 02 11 2020. [Online]. Available: https://www.nature.com/articles/s41586-020-2918-0.

[3] B. Pulendran, P. Arnunachalam, F. Wimmers, C. K. P. Mok und M. Perera, 11 08 2020. [Online]. Available: https://med.stanford.edu/news/all-news/2020/08/immune-system-deviations-found-in-severe-covid-19-cases.html.

[4] E. Y. Wang, T. Mao, J. Klein, Y. Dai, J. D. Huck, F. Liu, N. S. Zheng, T. Zhou, B. Israelow, P. Won, C. Lucas, J. Silva und J. E. Oh, 12 12 2020. [Online]. Available: https://www.medrxiv.org/content/10.1101/2020.12.10.20247205v3.

[5] „wikipedia," [Online]. Available: https://en.wikipedia.org/wiki/Autoantibody.

[6] R. K. Institut, „Robert Koch Institut," 08 01 2021. [Online]. Available: https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Steckbrief.html.

[7] W. Beckwith, „AAAS," 16 07 2020. [Online]. Available: https://www.aaas.org/news/age-related-inflammation-may-worsen-covid-19-outcomes-older-individuals.

[8] R. T. Ciornei, 14 07 2020. [Online]. Available: https://www.frontiersin.org/articles/10.3389/fimmu.2020.01762/full.

[9] E. Bendavid, C. Oh, J. Bhattacharya und J. P. Ioannidis, „Wiley Online Library," 05 01 2021. [Online]. Available: https://onlinelibrary.wiley.com/doi/epdf/10.1111/eci.13484.

[10] C. Rabail, G. Dranitsarisb, M. Talha, B. Justyna und R. Sheila, 21 07 2020. [Online]. Available: https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(20)30208-X/fulltext.

[11] C. Bjørnskov. [Online]. Available: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3665588.

[12] P. R. Hunter, F. J. Colón-González, J. Brainard und S. Rushton, „medrxiv," 17 07 2020. [Online]. Available: https://www.medrxiv.org/content/10.1101/2020.05.01.20088260v2.full.

[13] B. J. Cowling, A. T. Sheikh und e. a. Tiffany W Y Ng, „The Lancet," [Online]. Available: https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(20)30090-6/fulltext.

[14] G. Leftheriotis, G. P. Millet und M. Dlouhy, 19 11 2020. [Online]. Available: https://www.frontiersin.org/articles/10.3389/fpubh.2020.604339/full.

[15] S. Griffin, „thebmj," 13 05 2020. [Online]. Available: https://www.bmj.com/content/369/bmj.m1931.

[16] I. Sample, "The Guardian," 27 12 2020. [Online]. Available: https://www.theguardian.com/society/2020/dec/27/covid-poses-greatest-threat-to-mental-health-since-second-world-war.

[17] C. H. Rodriguez, 06 01 2021. [Online]. Available: https://khn.org/news/article/childrens-hospitals-grapple-with-wave-of-mental-illness/.

[18] G. Bignardi, E. S. Dalmaijer, A. L. Anwyl-Irvine, T. A. Smith, R. Siugzdaite, S. Uh und D. E. Astle, 05 11 2020. [Online]. Available: https://adc.bmj.com/content/early/2020/11/26/archdischild-2020-320372.

[19] B. P. K. 17 08 2020. [Online]. Available: https://www.bptk.de/wp-content/uploads/2020/08/2020-08-17_BPtK-Hintergrund_Corona-Pandemie-und-psychische-Erkrankungen.pdf.

[20] F. Bianchi, G. Bianchi und D. Song, „USA, NBER NATIONAL BUREAU of ECONOMIC RESEARCH," 01 12 2020. [Online]. Available: https://www.nber.org/system/files/working_papers/w28304/w28304.pdf.

[21] „Great Barrington Declaration," 24 10 2020. [Online]. Available: https://gbdeclaration.org/.

[22] S. Galmés, „Nutrients," 27 08 2020. [Online]. Available: https://www.mdpi.com/2072-6643/12/9/2738.

[23] H. Lin, X. Wang und e. a. Minyi Liu, „Wiley Online Library," 15 01 2021. [Online]. Available: https://onlinelibrary.wiley.com/doi/10.1002/ptr.7012.

[24] K. G. Goozee, T. M. Shah, H. R. Sohrabi und e. a. S. R. Rainey-Smith, „cambridge.org," 14 12 2015. [Online]. Available: https://www.cambridge.org/core/journals/british-journal-of-nutrition/article/examining-the-potential-clinical-value-of-curcumin-in-the-prevention-and-diagnosis-of-alzheimers-disease/A2DB953BAA57C30E080D030AF0C225D9.

[25] „COVID-19 studies," [Online]. Available: https://c19ivermectin.com/.

[26] Francis, „TrialSite News," 09 01 2021. [Online]. Available: https://trialsitenews.com/an-unlikely-nation-is-kicking-this-pandemic-guess-which-then-why/.

[27] A. M. Prasad, „The Indian Express," 17 12 2020. [Online]. Available: https://indianexpress.com/article/opinion/columns/coronavirus-pandemic-covid-vaccine-tracker-uttar-pradesh-7107756/.

[28] D. H. Blasius, „Deutsche Apotheker Zeitung," 11 01 2021. [Online]. Available: https://www.deutsche-apotheker-zeitung.de/news/artikel/2021/01/11/ivermectin-gluehende-verfechter-und-rationale-skeptiker.

[29] D. M. Gill, „Trial Site News," 08 01 2021. [Online]. Available: https://trialsitenews.com/ivermectin-and-covid-19-discussion-by-dr-martin-gill-video/.

[30] C. Turbide und C. Maginn, 23 01 2021. [Online]. Available: https://www.icm-mhi.org/en/pressroom/news/colchicine-reduces-risk-covid-19-related-complications.

[31] R. Wilson, 10 01 2021. [Online]. Available: https://www.businesswire.com/news/home/20210110005028/en/Covid-busting-Nasal-Spray-Begins-UK-Trials-January-11th.

[32] J. Errecalde, A. Lifschitz und e. a. G. Vecchioli, „biorxiv.org," 24 10 2020. [Online]. Available: https://www.biorxiv.org/content/10.1101/2020.10.23.352831v1.full.pdf.

[33] cnews, „cnews.fr," 26 01 2021. [Online]. Available: https://www.cnews.fr/france/2021-01-26/un-spray-nasal-contre-le-coronavirus-developpe-par-une-entreprise-francaise.

[34] a. „ahvalnews," 26 01 2021. [Online]. Available: https://ahvalnews.com/turkey-coronavirus/turkish-nasal-spray-kills-coronavirus-one-minute-report.

[35] „vfa. Die Forschenden Pharma-Unternehmen," 21 01 2021. [Online]. Available: https://www.vfa.de/de/arzneimittel-forschung/woran-wir-forschen/therapeutische-medikamente-gegen-die-coronavirusinfektion-covid-19.

[36] „Die Bundesregierung," 15 09 2020. [Online]. Available: https://www.bundesregierung.de/breg-de/themen/themenseite-forschung/corona-impfstoff-1787044.

[37] „HHS U.S. Department of Health & Human Services," [Online]. Available: https://www.hhs.gov/coronavirus/explaining-operation-warp-speed/index.html.

[38] „Russia Today," [Online]. Available: https://www.rt.com/russia/511116-world-first-covid19-antidote/.

[39] „New.de," [Online]. Available: https://2020news.de/wp-content/uploads/2020/12/Wodarg_Yeadon_EMA_Petition_Pfizer_Trial_FINAL_01DEC2020_EN_unsigned_with_Exhibits.pdf.

[40] C. Mikalo, „Schwäbische," 08 12 2020. [Online]. Available: https://www.schwaebische.de/portale/gesundheit_artikel,-faktencheck-machen-impfungen-gegen-das-coronavirus-frauen-unfruchtbar-_arid,11303322.html.

[41] J. Mercola, „LewRockwell.com," 23 03 2020. [Online]. Available: https://www.lewrockwell.com/2020/05/joseph-mercola/fast-tracked-covid-19-vaccine-what-could-go-wrong/.

[42] S. Rushworth, „sebastianrushworth.com,“ 10 01 2021. [Online]. Available: https://sebastianrushworth.com/2021/01/10/are-the-covid-vaccines-safe-and-effective/.

[43] V. Zylka-Menhorn, „aerzteblatt.de,“ 1 2021. [Online]. Available: https://www.aerzteblatt.de/archiv/217236/COVID-19-Impfreaktionen-in-Grossbritannien-Anaphylaxie-in-der-Anamnese.

[44] D. C. Heinrich, „apotheken-Umschau,“ 17 06 2020. [Online]. Available: https://www.apotheken-umschau.de/Coronavirus/Coronavirus-Wie-Impfstoffe-entwickelt-werden-559221.html.

[45] G. 2021. [Online]. Available: https://de.gsk.com/de-de/forschung-und-entwicklung/klinische-studien/phasen-der-klinischen-pruefung/#phase-iii.

[46] K. K. Moehling, B. Zhai, W. E. Schwarzmann, U. R. Chandran, M. Ortiz, M. P. Nowalk, D. Nace, C. J. Lin, M. Susick, M. Z. Levine, J. F.Alcorn und R. K. Zimmerman, „aging-us,“ 09 12 2020. [Online]. Available: https://www.aging-us.com/article/202207/text.

[47] D. E. Garner-Spitzer und U. P. D. U. Wiedermann, „trillium.de,“ 03 2019. [Online]. Available: https://www.trillium.de/zeitschriften/trillium-immunologie/archiv/ausgaben-2019/heft-32019/aus-der-klinischen-forschung/impfen-in-den-golden-agers.html.

[48] B. Z. Igyártó, S. Jacobsen und S. Ndeupen, 24 12 2020. [Online]. Available: https://www.preprints.org/manuscript/202012.0493/v2.

[49] 19 01 2021. [Online]. Available: https://www.vfa.de/de/arzneimittel-forschung/woran-wir-forschen/impfstoffe-zum-schutz-vor-coronavirus-2019-ncov.

[50] „ourworldindata.org,“ 24 01 2021. [Online]. Available: https://ourworldindata.org/coronavirus#.

[51] A. T. Levin, W. P. Hanage, N. Owusu-Boaitey, K. B. Cochran, S. P. Walsh und G. Meyerowitz-Katz, „springermedizin.de,“ 08 12 2020. [Online]. Available: https://www.springermedizin.de/covid-19/assessing-the-age-specificity-of-infection-fatality-rates-for-co/18667556.

[52] M. Imaia, K. Iwatsuki-Horimotoa und M. e. a. Hattab, „pnas.org,“ 14 07 2020. [Online]. Available: https://www.pnas.org/content/117/28/16587.

[53] Imran Hasanoglu, Gulay Korukluoglu und e. a. Dilek Asilturk, „springer.com,“ 24 11 2020. [Online]. Available: https://link.springer.com/article/10.1007/s15010-020-01548-8.

[54] H. Han, Q. Luo, F. Mo, L. Long und W. Zhen, „thelancet.com,“ 19 03 2020. [Online]. Available: https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(20)30232-2/fulltext.

[55] P. Kumari, H. A. Rothan, J. P. Natekar, S. Stone, H. Pathak, P. G. Strate, K. Arora, M. A. Brinton und M. Kumar, 19 01 2021. [Online]. Available: https://www.mdpi.com/1999-4915/13/1/132/htm.

[56] J. Meinhardt, J. Radke und F. L. e. a. Heppner, „Charite.de,“ 30 11 2020. [Online]. Available: https://www.charite.de/en/service/press_reports/artikel/detail/how_sars_cov_2_reaches_the_brain/.

[57] M. Taquet, J. Geddes, M. Husain, D.Phil., S. Luciano und P. Harrison, 24 01 2021. [Online]. Available: https://www.medrxiv.org/content/10.1101/2021.01.16.21249950v1.full.pdf.

[58] C. Huang, L. Huang, Y. Wang, X. Li, L. Ren und X. G. e. al., 16 01 2021. [Online]. Available: https://pubmed.ncbi.nlm.nih.gov/33428867/.

[59] D. Ayoubkhani, K. Khunti, V. Nafilyan, T. Maddox, B. Humberstone, S. I. Diamond und A. Banerjee, 15 01 2021. [Online]. Available: https://www.medrxiv.org/content/10.1101/2021.01.15.21249885v1.full.

[60] C. Adlhoch, E. Alm, S. Bacci, K. Johansen, T. Noori, P. Penttinen, A. Pharris, D. Plachouras und S. Rosales-Klintz, „ecdc.europa.eu,“ 20 12 2020. [Online]. Available: https://www.ecdc.europa.eu/sites/default/files/documents/SARS-CoV-2-variant-multiple-spike-protein-mutations-United-Kingdom.pdf.

[61] S. J. Spielman, S. Weaver, S. D. Shank, B. R. Magalis, M. Li und S. L. K. Pond, 06 07 2019. [Online]. Available: https://link.springer.com/protocol/10.1007/978-1-4939-9074-0_14.

[62] M. Marchione, „timesofisrael.com,“ 19 01 2021. [Online]. Available: https://www.timesofisrael.com/a-new-covid-19-challenge-mutations-rise-along-with-cases/.

[63] E. Callaway, „Nature.com,“ 21 01 2021. [Online]. Available: https://www.nature.com/articles/d41586-021-00121-z.

[64] I. Novavax, „novavax.com,“ 28 01 2021. [Online]. Available: https://ir.novavax.com/news-releases/news-release-details/novavax-covid-19-vaccine-demonstrates-893-efficacy-uk-phase-3.

[65] ". H. C. f. H. Security", „Centerforhealthsecurity.org,“ 10 2019. [Online]. Available: https://www.centerforhealthsecurity.org/event201/scenario.html.

[66] deutsche-diabetes-gesellschaft.de, „deutsche-diabetes-gesellschaft.de,“ 14 11 2019. [Online]. Available: https://www.deutsche-diabetes-gesellschaft.de/fileadmin/user_upload/06_Gesundheitspolitik/03_Veroeffentlichungen/05_Gesundheitsbericht/2020_Gesundheitsbericht_2020.pdf.

[67] „ourworldindata.org,“ [Online]. Available: https://ourworldindata.org/covid-vaccinations.

[68] „Israel News,“ 18 01 2021. [Online]. Available: https://www.israelnationalnews.com/News/News.aspx/295154.

[t] Translated by the author of the paper