

CAN WE EXPAND THE RANGE OF OUR RESPONSES TO COVID-19
AND IMPENDING PANDEMICS? (PREFACE TO THE ISSUE)

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Можем ли мы расширить диапазон наших «ответов»
на COVID-19 / другие возможные пандемии?

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The COVID-19 pandemic has already caused individual and societal health, economic consequences worldwide like no other event since the end of WWII. What is still to come to mankind, e.g. as a result of mutants, cannot be seriously predicted. The forecasts, which have been predicting mantra-like for a year that we would live again in three weeks like in 2019, if only we all strictly comply with all conditions, are so unsatisfactory that the demand for a new U.S. facility has been raised — linked with the demand to also question the entire strategy. Are we really prepared for the next — and be it artificially produced — SARS-CoV2-mutants as well as would be possible with the scientifically available means? And how do we prevent the next pandemic with an as yet completely unknown pathogen? These questions are addressed in this article, various articles in this issue, and the planned focus issue.

The approach currently adopted by governments worldwide assumes that any epidemic can be prevented if contact between infected persons and all infectious persons is prevented in an ideal manner. These measures must be enforced by any means necessary until the (world) population has been immunized by vaccination to a sufficient extent and on a permanent basis. From a theoretical point of view, this seems conclusive. But is this feasible in our non-ideal world and with which consequences? In addition, it is questionable to what extent it corresponds to reality if no reference is made to the individual influences of the relationship between the virus and the cells to be infected as well as their influenceability by personal social, cultural, economic, etc. factors. Influencing variables are not referred to. It is possible that these hitherto unconsidered areas provide options for additional protective measures.

Taking into account the classical knowledge of physiology, epidemiology, social medicine and humanitarian science, it seems necessary to assume dynamic and modifiable processes extending over several levels of different «age» from an evolutionary point of view. This needs to be taken into account: This issue therefore presents some contributions for relevant sub-aspects, e. g., on basics of non-specific physiological processes and the different relevance of identical stresses depending on e. g., circadian rhythms, holistic principles of human health preserving, formation of individual ecological culture.

This paper is also intended to introduce the two parts of the planned focus issue on COVID-19: Part one deals with problem-oriented possibilities that open up the different processes from occurrence of the pathogen via transmission in the environment to possible contact between infected and infectable person as a prerequisite for the possible approach of an infection of a cell e.g. of the nasal mucosa and further to a possible disease with different outcome. Major conclusions leading to a fundamental expansion of options in the fight against SARS-CoV-2 (and other pathogens) and COVID-19 are presented. They go beyond the proposals that are now available and that have been put forward as solutions from different approaches, e.g., by the S20 or the Independent Panel Each approach claims to be suitable to end the «Era of Pandemics». None makes reference to other «global solutions». One reason for this is seen in the fact that the different disciplines are not interconnectable for methodological reasons. However, the meaningfulness of these approaches would be greatly enhanced if the different approaches could be understood as subsets of a common basic set. Einstein proved that this can be achieved in practice with the technique of principle theories. The second part of the special issue is devoted to this approach for COVID. There, the relevance of the individual processes is also discussed: it is always a concrete person who falls ill, not society — no matter how important the societal, social, economic, cultural, etc. factors are.

Key words: COVID-19, pandemics, holistic principles of health preservation, ecological culture.

Пандемия COVID-19 вызвала глобальные индивидуальные и общественные медицинские и экономические последствия, как никакое иное событие после окончания Второй мировой войны. Однако то, что еще предстоит человечеству, например, при появлении новых мутаций вирусов, не поддается серьезному прогнозированию. Прогнозы — «мантры» о том, что через три недели мы снова будем жить, как в 2019 году, если только мы все будем строго соблюдать все требуемые условия, настолько неудовлетворительны, что поднимается вопрос о пересмотре всей стратегии действий. Действительно ли мы сейчас готовы к следующей SARS-CoV2-мутации/ иному искусственно созданному вирусу настолько хорошо, насколько это возможно на основе доступных научно обоснованных средств и данных? Как предотвратить следующую пандемию с пока еще совершенно неизвестным возбудителем? Эти вопросы рассматриваются в ряде статей настоящего выпуска журнала, а также в планируемом специальном выпуске.

Подход, принятый в настоящее время правительствами стран мира, предполагает, что любую эпидемию можно предотвратить, если идеальным образом «разорвать» социальные контакты. Эти меры должны осуществляться любыми средствами до тех пор, пока население (всего мира) не будет иммунизировано путем вакцинации в достаточной степени и на постоянной основе. С теоретической точки зрения это кажется убедительным. Но осуществимо ли это в нашем неидеальном мире? Кроме того, сомнительно, насколько это соответствует реальности, если не учитывается индивидуальное влияние взаимоотношений между вирусом и инфицируемыми клетками, а также их подверженность влиянию социальных, культурных, экономических и т.д. факторов. Очевидно, что эти до сих пор не учтенные области предоставляют новые возможности для дополнительных мер защиты.

Принимая во внимание классические знания физиологии, эпидемиологии и социальной медицины, а также гуманитарных наук, представляется необходимым предположить динамические и модифицируемые процессы, распространяющиеся на несколько уровней разного «возраста» с эволюционной точки зрения. В данном выпуске представлены материалы по соответствующим аспектам, например, по основам неспецифических физиологических реакций и различной значимости одинаковых стрессов в зависимости от циркадных ритмов, холистическим принципам сохранения здоровья человека, блок работ относительно принципов и прикладных аспектов формирования экологической культуры личности и экологизации сознания как условий глобальной безопасности.

Данная статья также анонсирует две части запланированного тематического выпуска по COVID-19. В первой части будут рассмотрены проблемно-ориентированные процессы от появления патогена через передачу в окружающей среде до возможного контакта между инфицированным и здоровым человеком как предпосылки инфекции клетки, например, слизистой оболочки носа и далее к общему заболеванию с различным исходом. Представлены основные выводы, ведущие к фундаментальному расширению подходов в борьбе с COVID-19 (и другими патогенами). Они выходят за рамки тех предложений, которые имеются в настоящее время и которые были выдвинуты в качестве основных принципов в борьбе с пандемией, например, S20 или Независимой межправительственной группы экспертов. Каждый из них постулируется в качестве основного для того, чтобы положить конец «эре пандемий». И ни один из них не ссылается на другие «глобальные решения». Причина этого видится в методологической «разобщенности» отдельных дисциплин/областей знаний. Однако значимость и эффективность этих подходов значительно повысилась бы при их системном применении. Эйнштейн доказал, что этого можно достичь на практике с помощью техники теории принципов.

Вторая часть специального выпуска посвящена обсуждению путей организации системной реакции на пандемию COVID-19. В ней также обсуждается актуальность индивидуальных процессов: всегда есть конкретный человек, который заболел (а не общество) — независимо от того, насколько важны общественные, социальные, экономические, культурные и т.д. факторы.

Ключевые слова: COVID-19, пандемия, холистические принципы сохранения здоровья, экологическая культура.

On nonspecificity

More than 800,000 types of viruses could change into human pathogenic forms tomorrow and cause the next epidemic. Therefore, the specific characteristics of the pathogen that will cause the next pandemic cannot be known today. Nevertheless, the possible precautions must be taken worldwide today to keep this threat as low as possible.

Priority must therefore be given to all measures that lead to a reduction in the probability of pathogens passing from animals to humans. This is the goal of IPBES. The necessary measures are non-specific, not only in that they are aimed at reducing the risk of transmission of any pathogen: The measures against species depletion, for biodiversity, the balanced use of ecological spaces, food production, but also the efforts to reduce climate change, also contribute to the reduction of the «era of pandemics». COVID-19 can therefore also be understood as an ecologically driven disease. This is addressed in the IAS-HE position paper for the participants of the 8th IPBES Plenary. However, this alone will not prevent pandemics from continuing to be feared in the near future (paper of W.Kofler in the current issue).

Therefore, everyone must expect to continue to be exposed to infections by as yet unknown pathogens. Only thanks to non-specific physiological processes one can

defend oneself. A generally limiting factor is the available oxygen. The initial situation can be fundamentally improved by appropriate behavior (regular sporting activities), but also by the use of appropriate technical aids, extending principle of adaptive cross effects using hypoxia conditioning or repetitive hyperthermic exposures (paper of O. S. Glazachev & S. Yu. Kryzhanovskaya).

One cannot yet have specific antibodies against a newly emerging pathogen. After all, these only appear a few days after the detection of the disease, e.g., through corresponding symptoms. That means that also here unspecific possibilities are determining to survive already at all so long, until the antibodies can obtain the crucial step to the healing. But situations without specific antibodies are, from a general point of view, by no means unusual in the living world: antibodies have only existed since vertebrates. The threat of infection affects and has affected all living things — from single-celled organisms to highly complex «non-vertebrates». Therefore, one should not be surprised that the cells by which the body differentiates itself from the environment continue to use these capabilities and in special ways. N-chlorotaurine is the extensively studied example of a substance that these cells will produce themselves, e.g., secrete into the microbiome including the virobiome, where it will oxidize and thus inactivate a wide variety of pathogens, including viruses such as SARS-CoV-2 [2].

This is also important because inactivating the viruses before they penetrate the cell barrier also prevents cells in the organism from reproducing viruses, thereby decisively increasing the risk of mutant formation.

The successful fight against tuberculosis, which is also historically the most important infectious disease, proves how effective the non-specific defense is: In 1900, about 500 persons out of 100,000 died of tuberculosis every year in Austria, in 1950 only 50. This radical decrease cannot be attributed to the use of vaccinations or antibiotics in Austria. Because of the special political situation, the (French) vaccine was not used in Austria, as it was in Germany. The use of streptomycin, developed in 1943, can be practically neglected in impoverished post-war Austria until 1950. The reasons for the increase in non-specific defenses were thus the improved housing, working and nutritional conditions, social security, and the increase in the level of education among the population. This led to a radical reduction in the contact index, i.e. the proportion of unvaccinated persons who contracted tuberculosis at first contact. The high mortality in 1900 was thus due to a deficit in nonspecific defenses, particularly in disadvantaged groups. It could therefore be remedied by social measures. Therefore, tuberculosis can be understood not only as a globally spread infectious disease, but also as a syndemic. Deficits of this kind, which can also be compensated for temporarily with NCT or NO, must also be expected today. In the medium and long term, however, this will only succeed if COVID-19 is addressed socially as a syndemy, as Horton has pointed out [5].

These worldwide observed phenomena prove on the one hand that the relevance of an identical stimulus for the biological process of infection including penetration can be influenced extremely effectively by way of different non-specific combination effects. However, they also raise the question to what extent this is a special case of a general physiological principle. That this is so is made clear by the contribution of G. Cornelissen et al. (current issue) on circadian and other rhythms. It is quite decisive for the effect at which time one and the same stimulus is administered to one and the same person.

From theory to practice (Part 1)

Each of the five approaches should prevent death from COVID.

Analyzing the chain of steps necessary for the occurrence of COVID-19 up to death from COVID-19, it can be concluded that the chain should be interrupted at each link and that death from and with COVID-19 should be prevented.

The primary goal is to prevent death from COVID-19. Death is the final step in a sequence of conditions without which death would not have occurred. Therefore, everyone will agree that the goal can be achieved if the substeps can be prevented. The substeps involve processes based on different principles. Suitable techniques can

be used for these. If one succeeds in implementing them in an ideal way, the goal should be achievable. These principles are:

- a. Principle 1: If SARS-CoV-2 did not occur at all or disappeared, then there would be no transmission of SARS-CoV-2;
- b. Principle 2: Without transmission of SARS-CoV 2 — no contact with germ carriers of SARS-CoV-2;
- c. Principle 3: Without successful contact with SARS-CoV-2 — no infection with SARS-CoV-2.
- d. Principle 4: Without infection with SARS-CoV-2, no manifestation with COVID-19 and no need to hospitalize a COVID patient.
- e. Principle 5:
 - a) If all individuals were successfully and permanently immunized, e.g., thanks to an appropriately qualified vaccine, no one would be able to contract COVID-19 and would — hopefully — never be contagious again
 - b) If we had a successful specific therapy, the risk would decrease that a high number of the scarce number of beds in intensive care units would be occupied for COVID-19 for such a long time and would not have the risk of a collapse of the health care system
- f. If 1–5 are successful: no more risk of lockdown because of the threat of health care system failure — no need for repeated lockdowns with their inevitable long-lasting side effects (e.g., risk of «Lost — COVID generation», economic consequences only comparable to the post-war period)

On the decision on the choice of method.

COVID as motivator

Individual advantages dominate «social traps» — crisis opens window for action

The prerequisite for implementing these steps in an ideal way is that the appropriate resources and techniques are available and that there is a willingness to implement them. Especially far-reaching changes often meet with massive resistance from decision-makers and the public. This is often due to short-term personal advantages or expected personal disadvantages. Then serious and lasting social disadvantages are often accepted. Disasters that also lead to serious personal disadvantages therefore open up a window of opportunity — often only for a short time — in which more comprehensive strategic changes can also be made (see paper of W.Kofler, current issue).

Covid 19 as eye opener and cause

Such extreme situations also help to recognize previously underestimated achievements, such as those of so-called system maintainers. They are also suitable for assigning public interest to measures that are significant independently of the problem at hand: For example, modern forms of teaching with appropriate PC support are also useful independently of COVID-19. Such a catastrophe can also be used to present changes as urgent, which

could be used both to combat a pandemic and — theoretically — to strengthen it. In this way, discussion of the forward-looking nature of blockchains and cryptocurrencies can also be sold as a contribution to solving the COVID-related threat to the UN's Sustainable Development Goals [11].

Covid as a pretext

The urgency of solutions can also be used like a «Trojan horse» to make one-sided interests appear as the only available salvation and to prevent potentially competing but problem-oriented necessary approaches.

Path Orientation and the «Australian Swiss Cheese Model».

The current situation also deserves special attention because few changes have been made in strategic approaches worldwide. This is surprising because SARS-CoV-2 was a largely unknown pathogen when the first wave occurred in spring 2020. The willingness of experts and decision makers to consider different positions was initially very high. However, very quickly, there was a focus on a very specific strategy from which there has been no further deviation. This corresponds to the expectations according to the path-determination concept of sociology. Contradictory thoughts are ignored, even if the predicted success fails to materialize. The re-appraisal so crucial in psychosocial stress research is missing [8].

Worldwide, vaccination determines the fight against COVID-19 and the above-described principle 3 — Without successful contact with SARS-CoV-2 — no infection with SARS-CoV-2 — determines the fight against SARS-CoV-2. For this fight, various methods can be used, such as controls on entry, testing of contacts, lockdowns, quarantine, etc. Mackay has illustrated these in a graphic now used worldwide, based on Reason's «Swiss — Cheese Model» [9]. Each of the individual methods is symbolized by an «Emmental cheese slice». If the methods are carried out incorrectly, the viruses will still pass through the protective layer. It is indisputable that all these measures are useful. But they are all aimed only at achieving the same principle: That the infectious does not come into contact with an infectious. Therefore, this approach does not meet Reason's requirement for a risk management concept: This should be structured in such a way that different principles should be used: An error by Principle 1 is then intercepted by the different Principle 2. If errors are not compensated by principle 1 and principle 2, principle 3 prevents the catastrophe and so on. However, someone who has been infected because of a poorly worn protective mask will remain infected even if he conscientiously implements all other protective measures.

Only an apparent advantage: The alleged predictability of the pandemic course.

One reason why policy makers have opted for Principle 2, and thus for the instruments to prevent contact between infectious and infectious persons, may be because this seems to offer the possibility of being able to calculate the course of the epidemic and the effect of mea-

sures taken. But Kermack & McKendrick, whose work is the basis of all these calculation models, have made it clear that the aim of this work was to prove that in addition to the possibilities given at that time (1927) to influence the course of an epidemic, there is another possibility to influence the frequency of contact [6]. Methodically, this is only possible if all other influencing variables are assumed to be constant. However, this does not correspond to the real course of an epidemic. Therefore, Kermack & McKendrick unmistakably point out that the variability of the pathogen and variability of the susceptibility of the individual person must not be neglected in practice: «Thus a small increase in the infectivity rate may cause a very marked epidemic in a population which would otherwise be free from epidemic.» But the models do not take this into account.

Several of the metrics used around the world have only the advantage that they are commonly used and thus a certain legal certainty can be achieved internationally. But the so-called seven-day incidence, for example, does not allow the assumed comparability of the risk of infection between countries. This would require statements based on representative samples [10].

The inconsistency of the models and their poor practical relevance have led Press & Levin, as addressed above, to establish a new U.S. federal facility for these questions.

Each principle offers possibilities that, when combined, would be expected to provide optimal protection.

Part 1 elaborates the possibilities and limitations of all five principles. Reason rightly assumes that people will always make mistakes because they are human and live in a less than ideal world. Therefore, on the one hand, an understanding error culture is needed and, on the other hand, the insight that monocausal thinking is just as inappropriate as the idea that someone has only one intention. Therefore, it is elaborated that the possibilities of all five principles should be used in a balanced way. Since the available resources are limited, they must be used as economically as possible. The Pareto principle helps here: According to it, one can achieve approx. 80% of the attainable effect by using 20% of the resources. If you want 100% effectiveness, you have to use the remaining 80%. However, these will then go elsewhere.

The scientist in his role as expert without a sufficiently secured state of knowledge.

Therefore, clear targets and considerations are needed as to when which action is to be taken, but also which actions are not to be taken. This is a particular challenge in a situation with an unknown pathogen. Scientists are accustomed to making statements only when there is a state of knowledge on the subject. Now decisions have to be made even though there is no confirmed knowledge. The legislator has made provisions for this situation: Then the decision must be made «using the laws of reasoning and the experiences of everyday life.» Medical experts will

attach particular importance to the precautionary principle. However, this applies not only to avoiding the classic COVID-19 consequences, but also to all other indirect health consequences from action and inaction.

The Precautionary Principle and the Possibility of a «Viral DARK Net».

The consequences of a previously unknown virus are unknown, at least at the time of its first appearance. Therefore, from the precautionary principle, it must be expected that all kinds of effects previously observed with viruses could occur. It is known of herpes viruses that they can be present in the body for a long time without symptoms and can lead to symptoms as a result of external stimuli (e.g., disgust, severe physical stress). There are also numerous viruses that can be transmitted by asymptomatic germ carriers. Therefore, it should also be expected that inconspicuous persons can transmit germs to others who themselves also do not become conspicuous as germ carriers or do not do so within the classical incubation period. Thus, it is conceivable that a kind of «viral dark net» develops, which leads to the appearance of symptoms in persons whose carrier can no longer be detected. Findings e.g. from summer 2020 in Carinthia seem to support this phenomenon also for COVID-19.

Assuming a latency phase — comparable to herpes — it would also be understandable that previously inconspicuous and «harmless» family members can become virus excretors under special stress. Thus, without external contact with infectious persons, they could become infected within the family and also become symptomatic themselves.

The underestimated individual case

From an epidemic hygiene perspective, the possibility of asymptomatic or inconspicuous transmission, let alone transmission to another inconspicuous carrier, is of critical importance. At the height of an epidemic, these contagions may play a minor role in the number of new cases [12]. For the resurgence of an epidemic that was thought to have been overcome, these germ carriers are probably of key importance. They are also important for the spread of the epidemic from the previously precisely definable area to previously unaffected areas. Such germ carriers can also only be detected to a limited extent by test methods. What would be helpful, on the other hand, is the systematic preventive and widespread use of a well-tolerated antiseptic.

The legal framework for political decision-makers.

Parliaments have granted special powers to policy-makers, especially the Minister of Health, in the event of epidemics and comparable disasters. For example, companies can be restrained from manufacturing and distributing necessary products. Based on such an emergency order, for example, President Trump has required General Motors to produce respirators. The use of drugs and vaccines can also be, and have been, released for use through emergency orders, bypassing the standard approval process. These special rights also apply to medical devices,

such as substances that have health benefits but are not absorbed into the body. This also includes antiseptics. The Israeli Minister of Health has made use of this legal option and approved the use of nitric oxide sprays as antiseptics even for children over 12 years of age. Restrictions on personal liberties have also been established via emergency decrees.

The policy measures are subject to review in terms of their proportionality when appealed to the Supreme Court. From a medical point of view, it must be assumed that every type of indirect and direct damage to health must be considered equally. It is probably also to be examined whether the restriction taken could not have been achieved more efficiently by another measure, which is granted to the decision-maker by the legal situation. Special rights conferred by Parliament are probably also to be used in the interest of the population.

Unexpected need for action.

In the medical field

These options take on a special significance should unexpected effects become apparent in the course of a pandemic. In the case of COVID-19, numerous effects occurred that probably no one expected in the spring of 2020: Not only was there a risk of triage and thus a collapse of the healthcare system due to the number of patients requiring intensive medical care. There also had to be underserved children in need of psychiatric care due to the high number of suicidal children.

Completely surprisingly, Long COVID and PIMS occurred, to cite just a few of the numerous intermediate and immediate disease-related sequelae. Leading journals such as The Lancet and Science have established their own databases accessible to all [3, 4]. Reference can be made to them. It is now indisputable that COVID-19 classically occurs as a disease of the lungs, but can lead to systemic clinical pictures in the further course. Symptoms of different organs are in the foreground. Therefore, it is questioned to what extent deceased persons are different due to the infection with SARS-CoV-2. To date, a model for understanding the causal linkage of different pathophysiological processes is lacking—not only in terms of attributing «died from COVID-19 and died with CPOVID-19»

In the national extra-medical arena

All governments were probably surprised by the duration and intensity of the pandemic: it led to a collapse of the world economy comparable to the consequences of World War II. Their long-term consequences are not yet foreseeable. However, they will also have an impact on public health. This is also discussed in Part 1 of the special issue.

The pandemic is not over until it is over everywhere

As an infectious disease, the pandemic is not over until it is over globally. At present, it is not possible to reliably estimate when this will be the case: Again, the only solution is to provide vaccines. Commitments to supply to 3rd world countries are scheduled for the end of 2022. No one can estimate to what extent the already

known and new mutants will be sufficient. Even if the COVID-19 pandemic should be stopped worldwide by the end of 2022, protection against a flare-up and new types of pandemics will not be permanently secured until it is also under control as a syndemic and as an ecologically caused challenge.

Global need for action to secure peace

So far, there has been no discussion of the fact that progress in vaccine development is a «double-edged sword»: irreplaceable for the rapid adaptation of vaccines to new mutants of SARS-CoV-2 (which nevertheless still requires months until vaccines are produced and distributed worldwide). But anyone who can produce vaccines using mRNA technology is, in principle, also able to produce mutants artificially. Where what changes would lead to mutants that would be relevant to health and even lead to insensitivity to existing vaccines is now known [13]. Thus, the more widespread the knowledge of this technology, the greater the threat of its misuse by uncontrollable powers. Against this threat, too, the systematic expansion of nonspecific capabilities is one of the few effective weapons.

Anticipatory action (Part 2)

The analyses of the five principles lead to a list of measures that can be set in the fight against SARS-CoV-2 and COVID-19. Therefore, in retrospect, it is easy to point out that the current truly unsatisfactory situation would probably be less unfavorable had we not refrained from using this or that measure, or even from implementing a balanced strategy in which all the principles were taken into account. But it is much more difficult to develop a balanced strategy with foresight. This is not only because the pathogen is new and its effects can therefore not be sufficiently known. Moreover, resources are limited and dealing with the pandemic is not the only challenge. In addition, there are framework requirements, e.g. of a political nature, which limit the scope for action. But purely personal wishes, fears, hopes, etc. also enter into the assessment. Comparable is known as physiological principle: Reinforcement of one area (I.Pavlov) leads to inhibition of other areas (I.Sechenov). Thus, «a mosquito can be turned into an elephant» and vice versa. I. Pavlov and I.Sechenov have thus used the example of physiology to reveal a general principle that must be reckoned with in our real world — i.e. also in dealing with COVID-19.

Determining an appropriate course of action with foresight and adapting it again and again to changing circumstances is thus the second challenge that must be met once important measures have been pragmatically identified. Part 2 of the special issue of the Herald of the International Academy of Sciences — H&E Russian Section is devoted to this topic.

In the meantime, recommendations from high-level panels, staffed by world-renowned, albeit professionally selected experts, are available on how to prevent

COVID-19 and future pandemics. Each gives logical reasons why its own approach is appropriate and would be sufficient. For example, the Independent Panel initiated by the World Health Council concludes that the inappropriate International Health Regulations (IHR) were the reason COVID 19 became a pandemic. Strengthening the WHO and adjusting the IHR would guarantee the prevention of further pandemics. However, IPBES rightly points out that the jumping of human pathogens from animals to humans is the core problem. The presidents of the National Academies of Science of the G20 countries see their limitations in supporting the comprehensive economic efforts primarily in the insufficient strengthening of research and development capabilities, namely in the area of vaccine and drug development, of global Internet deployment. The individual countries, on the other hand, rely primarily on their obvious capabilities: These are based on setting behavioral requirements by regulation and providing bridging funds through the Ministry of Finance. It becomes obvious: Everyone focuses on their own possibilities and the thought models on which they are based, while other logical arguments are practically neglected: Another confirmation of the generalizable principle of inhibition and reinforcement.

Therefore, several sub-steps become obvious if one wants to find a comprehensive strategy for dealing with COVID 19:

- 1) The reasons that lead to the overemphasis or underemphasis of arguments need to be questioned.
- 2) Techniques are needed to overcome these socio-physiological pitfalls.
 - a. The prerequisite is to learn to understand the others and then «learn to think with the others' heads»
 - b. This can be based on a technique developed by Einstein, which proved its worth in the invention of the theory of relativity, but which can also be applied, in a modified form, to the issues of COVID-19 (Einstein's theory of principles) [14].
 - c. In all scientific disciplines relevant to medicine, the evolutionary nature of their research objects is recognized: This can be used as the starting point of the invention of a principle theory, which, like a basic set, encompasses as subsets the different worlds of thought of the various disciplines relevant to medicine. The metaphor of the invention and spread of chess helps to achieve a comprehensive understanding of evolution, which makes it understandable that and how, despite limited resources and an increasing number of wishes, fears, but also specifications, ever more complex forms of life have come about.
- 3) These limitations have led to techniques on how to address the different demands in a problem-ori-

ented, place- and time-dependent manner. Contamination with SARS-CoV-2 interferes with these process dynamics: it determines whether infection, pathogen transmission, mild disease, transition to systemic disease, or, in combination with specified limitations, death from or with COVID-19 will occur.

4) COVID-19 is not the only challenge facing policy makers and «ordinary people.» Their decisions on action and on justified non-action inevitably — depending on the position and role — connect more or less strongly the field of tension e.g. with climate change, the respect of other cultures and the obligation and necessity of global solutions: «Think global — act local», but also «Think local and act with respect to others». Darwin already demanded this respect towards the representatives of all races, of disadvantaged people of all kinds, even towards the simplest living beings, or classified it as a characteristic for the further development of Homo Sapiens as a primate to the modern eco-socio-cultural person [1].

5) Thus the conditions are given so that the individual decision maker — whether politician of whatever level or «a common person» wherever in the world — could better classify his situation.

6) Decisions are always uncertain. At the evolutionary level reached today, wrong decisions should not lead to death, but this cannot be excluded in the context of COVID-19. They should also not question the position in the community, the peaceful coexistence. In order to minimize these dangers, which are unfortunately obviously present at the moment, we offer a game, in which one can test variants of action for their usefulness without risk, to what extent they would lead or would have led to the desired «New Normality».

Building blocks for the «New Normality game».

In the following, a selection of the concrete measures derived in Part 1 is placed additively next to each other. Whether and to what extent they should be incorporated into a concrete strategy and what the medium-term and immediate consequences will be depend on many framework conditions and objectives. Their effect and the expected interactions can be determined using the «the crosshair», which is also included in the special issue «A Guide through the COVID Jungle» [7]. This can be used to estimate playfully in the «Game for the New Normal». Therefore, it is omitted here.

Measures in preparation for the next pandemic: they can only be of a non-specific nature

- ☒ Implementation of the IPBES requirements

- ☒ Adjustment of the IHR — Strengthening of the WHO, especially its financing through compulsory contributions in relation to the real economic performance

- ☒ Expansion of research funding to include ways to improve nonspecific defenses — in addition to the measures called for by the S20

- ☒ Distribution of compatible antiseptics as raw products to local PHC supply centers, especially LMICs, so that they can be produced and distributed ready for consumption at short notice to reduce risk during the phase without vaccines

- ☒ Release of patent rights to LMIC for production of easy-to-manufacture antiseptics in particular.

- ☒ Promotion of air disinfection in schools, kindergartens, in any case — the hotels that will be designated to receive suspected cases or those entering the country, etc.

- ☒ Development of calculation procedures, which must also necessarily take into account the modifications of the characteristics of the «pathogen» as well as the «infectious person».

- ☒ Optimization of the statistical collection of data on the course of the pandemic, so that representative statements are possible.

- ☒ Establishment of prevention facilities, especially to increase the oxygen uptake capacity of seniors and at-risk groups.

- ☒ Studies on the approval of antiseptics as medical devices and as drugs, so that emergency prescriptions do not have to be resorted to in the event of an emergency.

- ☒ Adjustment of rehabilitation facilities to meet increased needs (Long COVID, etc.) and of studies to increase the efficiency of rehabilitation, e.g., by using technologies that increase oxygen uptake.

Measures in case of initial occurrence of the next pandemic with a novel pathogen: they may also be of a non-specific nature only (by way of example)

- ☒ Classical quarantine measures, fight against the spatial spread of the unknown pathogen;

- ☒ Therefore, also expect a «viral dark net»;

- ☒ Large-scale use of compatible antiseptics (e.g. as nasal spray) in parallel with all other preventive measures: Whether in test series, prescription of self-quarantine, return from a «conspicuous» foreign country, ... with guidance for consistent personal continued use;

- ☒ Optimization of regular teaching through a combination of tests and antiseptic prevention;

- ☒ Implementation of the measures of the «Swiss cheese model», e.g. «testing, testing, testing» — combined with non-specific prevention;

- ☒ Systematic fight against the occurrence of new mutants by inactivating the air, if possible, in localities where people spend more and longer time;

- ☒ Support of the therapy of patients in home care and in normal wards by systematic application of antiseptics via inhalation;

- ☒ Precautionary protection of system users, especially in clinics, nursing homes, etc., through the use of compatible antiseptics;

- ☒ Expert information — motivation for voluntary participation in current and future measures;

☒ Also publicize individual opportunities to reduce risk of infection by influencing nonspecific defenses (open window effect....);

☒ Fight syndemic disease: improve nonspecific defenses through societal action (model: fight against TB 1900 — 1950);

☒ Face up to global responsibility in the fight against pandemics.

Measures when vaccines are available:

☒ Depending on available quantities, vaccinate at-risk groups first;

☒ This leads — should lockdowns become necessary — to the discussion about the unequal treatment of

persons who have not yet received a vaccination and who are also not among the recovered. Equalization through (antigen) testing may be legally acceptable, but does not reduce the risk of transmission to the same extent. The risk would be reduced if, for example, a person who has only been tested were required to apply antiseptic before entering a restaurant where preventive measures are in place.

Indirect measures — non-medical measures

This can only be referred to on a need basis. It is currently not possible to foresee the extent of the epidemic if the mix of measures selected in accordance with the conclusions of the «New Sustainability Game» were to be applied.

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