



Harald Walach

(Kazimieras Simonavicius University Litauen)

Is resilience the magic bullet against this and future pandemics? A book review essay on the book by Roland Benedikter and Karim Fathi, “The Coronavirus Crisis and its Teachings”.

<https://doi.org/1.2/065/000039>

Benedikter, R., & Fathi, K. (2021). *The Coronavirus Crisis and its Teachings. Steps Towards Multi-Resilience*. Leiden: Brill. *Studies in Critical Social Sciences* 204 (Ed. David Fasenfest); ISBN 978-90-04-46952-5, 430 pp, €184.04 <https://brill.com/display/title/60830?rskey=JFZaYn&result=1>

Books on the Covid-crisis already abound. Few, however, deal with concepts for solutions for future scenarios. This is one of them and it should be taken seriously. In essence, it provides good suggestions and ideas. Nevertheless, one does have to think about them critically. First, a few words about my relation to the matter and to the authors.

Conflict of interest and context

I have known Roland Benedikter, the first author, for a long time; he is an old friend and colleague of mine. I was an external reviewer many years ago on his third of three doctoral dissertations, which was extremely clever and complex. He was invited to be a visiting professor with me several times. I talked shop with him many times about God and the world at large. Karim Fathi is a former student of my colleague from the days when I was still teaching at the Viadrina in Frankfurt (Oder). I do not know him well. But I know from my colleague that he is a very good cultural scientist. Roland Benedikter heads the EURAC Research Center in Bolzano (<https://www.eurac.edu/de>), a third-party-funded institute that deals primarily with political issues of globalization and regionalization. Funding comes, as far as I know, from the Province of South Tyrol, the EU and other public funders. I was invited there some time ago, to a very inspiring conference on digitalization and religion (Isetti, Innerhofer, Pechlaner, & de Rachewiltz, 2021; Walach, 2021).

Overview of content and the basic idea

The book reminded me of a letter Goethe is said to have written to Winkelmann: he was sorry that the letter had become so long; he had not had time for a shorter one. That is also true for this book. It is long and heavy. That is because about half of it consists of quotations. The first block, formed by Part 1 (The Coronavirus Crisis, up to p. 90) and Part 2 (The Simultaneousness of Local, National and Global Effects, up to p. 127), rolls out the Covid crisis including all its side-effects, collateral damage and problems, both the direct effects of the virus and the pandemic itself, and the secondary and indirect ones that occurred as a result of trying to

contain it. Part 3 (The Corona Challenge: Multi-Resilience for an Interconnected World Ridden by Crisis Bundles, pp. 129–186) introduces the central concept of multi-resilience as it applies to entire bundles of crises. The following three parts, about 100 pages, Part 4 (Requirements for a Post-Corona World, up to p. 224), Part 5 (Post-Corona Policy Design, up to p. 257), and Part 6 (Recommendations for a Multi-Resilient Post-Corona World, up to p. 290) outline visions for a post-crisis approach, planning, and policy decisions, more specifically for a time when crises become, in a sense, the permanent mode of operation in societies. This is followed by a 7th part (Outlook. The Coronavirus Legacy: A ‘New World’ Ahead – or Back to Business as Usual? pp. 293–353), which sketches a kind of view into the future as proposed by the authors. This is followed by a bibliography of about 60 pages with an estimated 750 titles. An index helps with searching.

Thus, the book formally belongs to the category “solidly researched academic work”. For those short on time, at least the core section is recommended, in which the concept of multi-resilience is elaborated. At its core, the message is simple. It is: The Corona crisis is only one example among many of how our multi-connected, globalized world can slide into crisis. This time it was a virus pandemic. Soon it could be a commodity crisis, a war crisis or another form of political crisis. Our world and our societies are not sufficiently prepared for any of these crises. On the one hand, there are multiple dependencies of an economic and political nature due to an exuberant, but not well-regulated globalization, which, however, can hardly be transferred into democratic political structures due to poor regulations. The current approaches to global governance are inadequate. However, totalitarian approaches would not be suitable either. According to the authors, the observed retreats of a nationalistic nature to regional or national structures, that can be seen in the Brexit, in the anti-European attitudes of some Eastern European governments, or in the domestic opposition, do not offer a good solution either. Thus, this crisis has caught us off-guard during a half-baked globalization with poorly anchored or missing institutions to govern it. The fact that it was a viral pandemic was merely bad luck. It could have been anything. But a crisis stimulus of any kind would always have plunged us into the same dilemma: There are no structures that could master such a situation, that is global in nature, with a sufficiently democratic and efficient mandate. In this respect, the evaluation of this pandemic is actually irrelevant to the main argument, because it applies to any crisis.

Therefore, the recipe that the authors propose is multi-resilience. The concept is introduced on p. 143 as the antithesis of sustainability. While sustainability tries to avoid crises that originate from humans, the concept of resilience assumes that we cannot avoid living with crises at all:

“resilience assumes that (mostly human-made) unpredictable and multi-complex crises will happen anyway in continuously more complex forms[...]. Therefore, existing systems[...] should and must develop capacities to coexist with such crises, to survive, and to adapt to them, not once and for all, but continuously[...] That implies a continuous revision, adaptation, contextualization and innovation of actions and decisions[...] critical self-observation and self-revision must become a basic state of mind” (S. 143).

Then follows one of the classic definitions of resilience: “the capacity of a system[...] to maintain its core purpose and integrity in the face of dramatically changed circumstances”.

Let’s pause here for a moment, because this is the central construct. Resilience evokes the image of a rubber ball. You can throw it anywhere, it bounces back (Lat. re-silire) and stays in

shape. Resilience is thus a kind of inherent resistance to external attacks and inconveniences. Crises, the idea goes, are inevitable in our complex world. Behaving in such a way that they do not arise in the first place is not an option. Therefore, we have to adjust social, economic, political systems as well as our personal state of mind to the fact that there will be crises and make them crisis-proof, that is, resilient. This cannot simply be left to the state; it must be done at all levels. This is an insightful idea that makes the book recommendable.

The matrix for this (p. 158) is a perspective of multi-resilience. It is basically indebted to the thoughts of some integral thinkers like Wilber and others, and distinguishes between subjective (inside) and objective (outside), micro vs. macro dimensions, resulting in a four-field scheme, each with different goals (e.g., personal vs. societal), different methods (qualitative-subjective vs. quantitative-objective). This scheme is then linked to the Panarchy Model of Adaptive Cycles and Viable Systems Model, two models of adaptation from systems and organizational theory, respectively, that lead to changes and adaptations at the respective higher level of development in recurring cycles and in each new cycle to be run.

From this then some basic principles and heuristics are derived, which are presented in 5 principles (p. 169ff.):

1. Individual resilience is a matter of the individual, of his or her psychological frame, which the state and institutions can help with by providing education and skills training, but which remains a matter of individual development.
2. Integration of centralized and decentralized decision-making. Here emerges a motif that I personally take to and that is also fed by the authors' experience. Neither total centralization of decision-making power, nor complete localization are sufficient to cope with crises. The South Tyrolean model, described and praised at various points in the book, is the inspiration for this: an autonomous province with maximum autonomous decision-making power on important issues, up to and including tax distribution, within the framework of a centralized polity like Italy.
3. Problem-solving practices. A new ordering scheme is offered here. It assumes four fundamentally different problem situations. In the first, we know that we know. Second, we know that we do not know. Third: we do not know that we know. Fourth: we do not know that we do not know. From this scheme heuristics are derived which are documented in the Cynefin-model. It distinguishes situations according to simple situations, in which one categorizes and acts, according to complicated situations, in which one analyzes and acts, according to chaotic situations, in which one first acts, then considers what happens and finally acts purposefully. And finally, complex situations in which one first carefully tries things out, waits for feedback, and then acts in a targeted manner. The Corona crisis was an example of a situation in which we didn't know that we didn't know anything, i.e. a complex situation. Here, cautious trial action with simultaneous evaluation would have been appropriate. Instead, policy plunged into brash action. Did the book contain any criticism of the prevailing political approach? Tentatively, and between the lines.
4. Benefit of collective intelligence through participation. Here, very different sectors of society would have to be brought together to achieve maximum use of different perspectives, from which a higher social and collective intelligence would actually

emerge. Did we see this in the current crisis? Rudimentarily at best, but actually not to any efficient degree. Or perhaps it would be better to say that we did see it, but rather as an evocation of a union of the gullible and the well-intentioned, from which all spoilsports, critics and troublemakers were eliminated by *ordre de mufti*, in this case by published opinion in the leading media. But this is precisely what leads and has led to division rather than participation. The book would have done well to take a critical and solid look at this aspect.

5. Developing a culture of resilience through cohesion. The Netherlands, as a country that has had to face new crises such as impending floods for centuries and has developed a good social culture within it, might be an example. “Standing together” would have to be practiced structurally, socially and politically.

So much for the core proposals, which would have to be anchored institutionally in the future and for which we lack good examples, either at the national level or at the international level. The fact that there were and are no such examples is also the reason why the Corona crisis escalated into a global crisis. That is basically the logic of the text, and one can only agree with it.

This model of multi-resilience is elaborated on the following pages. However, what will be found there first and foremost are enumerations of how the post-Corona world is changing. This is not much different than in Schwab, for example, who, by the way, is not cited (Schwab & Malleret, 2020): more electronic, technological developments, fault-lines between rich and poor, populist and democratic countries, the need for development within the limits of possible resources and social necessity. New developments such as an unconditional basic income, tele-health, etc. are unfolded and some other consequences of this framework are spelled out.

Perhaps one should also mention the seven policy recommendations described from pp. 267 to 290:

- Development of competencies in the education system
- Promote European simulation capacity and foresight
- Develop futures literacy, i.e., the ability to anticipate different future paths; this is a very interesting concept, precisely because it includes the ability to creatively anticipate different developments in the future
- Improve communication through “complexity workers”, ultimately a new professional group
- Multi-level governance, i.e., promoting competencies at different decision-making levels
- Improved international cooperation
- On the way to “global governance”, which the authors believe we cannot avoid, appropriate international mechanisms and systems of responsibility should emerge

This is followed by some more global recommendations, such as a debt cut or suspension, task forces and other global response systems. Obliging, but somewhat abruptly, this

includes the vision of holistic health.

If one were to start from the pandemic, the entire system of the pandemic response machinery might well look very different. This small example shows us the main problem of this book: It is a collection of interesting ideas, findings and set pieces. But whether a consistent policy, let alone a consistent governance model, could be derived from it?

Critical Considerations

The book starts from the basic premise that the conventional narrative of the Corona crisis is correct and unquestionable. While it is not said so in a single word, it is the *de facto* basis of all that is developed in this book. This conventional narrative presupposes that the world was threatened by a novel, malignant, and dangerous virus by some stupid coincidence, that the political lockdown measures were necessary and without alternative, that vaccination is indeed a significant step in combating the pandemic and moving toward freedom, so that it may well be done in the same manner next time, merely improved by the many elements put forward and discussed here.

The first 120 pages actually consist almost exclusively of quoting and commenting on official news texts from radio, television and the Internet (BBC, AFP, agency reports, Spiegel, Deutsche Welle, etc.). The authors certainly pick solid sources. But they do not come up with the idea that the pandemic might actually begin where the corruption of the media landscape ends, although this is exactly what one must conclude when confronting the media coverage with the scientific findings. In general, quoting extraneous text, whether from media communiqués or books, takes up a lot of space. The book could have been a good 150 pages shorter if the quotations had been condensed to the most important and longish quotations had been reproduced by a good paraphrase. This copy-paste type of book writing has become rampant lately and is a bad habit stylistically.

But the fundamental problem, as I see it, is the uncritical acceptance of the mainstream narrative as factual truth, and the implicit presupposition that the main political structures are sound at their core. One would have liked to see at least some relativization in the course of self-reflexivity or at least some reflection on this position. Perhaps the comparatively early publication date of this book, which will presumably have been preceded by a relatively long period of writing and peer review, and thus the very early positioning of the work within this crisis, is an explanation for this fact.

Nevertheless, critical voices that doubted the factuality of the mainstream narrative are completely left out, such as the Great Barrington Declaration with – even then – some 700.000 signatories, Ioannidis's early analyses of the completely exaggerated Infection Fatality Rates (Axfors & Ioannidis, 2021; Ioannidis, 2020, 2021; Ioannidis, Axfors, & Contopoulos-Ioannidis, 2020), all of which were available as preprints months before final publication, as well as the critical analyses of the German Network for Evidence Based Medicine, which offered alternative views from the very beginning of the crisis (Schrappe et al., 2020; Sönnichsen, 2020; Sönnichsen, Mühlhauser, & Meyer, 2021) and solid criticism of the pandemic models that supported and justified the decisions that were available on preprint servers very early on (Kuhbandner & Homburg, 2020; Kuhbandner, Homburg, Walach, & Hockertz, 2022), such dissenting voices are left out of this text entirely. In a sense,

they are dutifully assigned to the ‘fake news’ register.

If the authors had looked beyond their own horizons, they would have noticed that there is something shady about their own absolute confidence in the media coverage which feeds their view of the crisis. Formal analyses and objections to them probably did not exist at the time of writing (Frank, 2021; Meyen, 2021), but Gunther Frank, for example, had published very competent analyses on the “Achse des Guten” website very early on, which could and should have been taken note of.

Another implicit assumption that the authors make and that also underpins their concept of global governance is that our political structures, especially international ones such as the WHO and the private NGOs that support and fund them, are healthy at their core and thus capable of being expanded. There is plenty to argue about, but the authors avoid that argument. I have my doubts about the health of these structures. A vignette I recently came across illustrates this. In about 2004, Catholic bishops in Kenya voiced accusations that a WHO vaccination campaign in Africa used tetanus vaccines that contained conjugated human chorionic gonadotropin (hCG) and were thus a sterility and abortion program in disguise. hCG is a hormone normally released at a low dose level by the corpus luteum and later by the placenta that maintains pregnancy. When conjugated with a tetanus toxin, it causes an autoimmune reaction that can be fatal to the fetus or prevents implantation of a fertilized egg in the uterus. While tetanus vaccines are given at annual, and later at three- and four-year intervals, this vaccination campaign, in a completely atypical manner, used a series of 6-month intervals over several years. While tetanus campaigns are targeted to all people, men and women alike, especially younger ones, only women of childbearing age between 16 and 49 were targeted in this case.

A careful study by American scientists who reviewed the international literature on the subject, considered the WHO-prescribed vaccination schedule and examined the relevant vaccination batches in the laboratory, confirmed the suspicion (Oller et al., 2017). This means that the WHO either deliberately violated basic medical ethical norms and, for example, inadequately informed the vaccination candidates about the goal of the undertaking. Or it became a victim itself and an NGO associated with it or financing it, such as the GAVI vaccination alliance, conducted a human experiment in disguise through it. Neither of these things reflects well on this international organization, which is, after all, currently becoming the hub of global governance in the health sector and will then, if the current changes toward global decision-making power actually fall, have far-reaching powers to influence national and local legislation and emergency regulations in the health sector (<https://childrenshealthdefense.org/defender/jeremy-farrar-who-chief-scientist/> accessed Feb. 1, 2023).

In essence, the concept of multi-resilience that the authors develop could be offered as a reasonable solution strategy even if one assumes that the mainstream narrative is false and that international systems are corrupt. In that case, one would, however, probably have to include a few additional points into the concept than those mentioned in the book.

Development of resilience or political reflection?

Any company that cuts staff and puts more work on the remaining employees so that the company can continue to exist or make more profits sends its senior executives to either mindfulness or resilience workshops, or those where the two are combined. This is helpful too (within limits) (Kersemaekers et al., 2018; Lomas, Medina, Ivztan, Rupprecht, & Eiroa-Orosa, 2019; Rupprecht et al., 2019). This, however, glosses over the fact that something is foul in the system (Rügemer, 2020, 2021).

Resilience is the new magic word. If we all become like rubber balls, nothing can happen to us. For social systems, the rubber ball version is a bit more complex – this book shows that beautifully. But it is not impossible. A little more awareness of this, please, a little more political education, a little more good will on everyone's part, and then as many pandemics as there are can befall us and we will emerge stronger, as if from a rejuvenating bath.

But what if the pandemics are not a necessity at all? What if things could be different? What if we had to think, act and manage differently at the very top? If perhaps the pandemics arise because no media writer or social scientist wants to get their fingers dirty by calling the problem by its name: Gain-of-function research undertaken by the military, supported by billions of public dollars (Hatfill, 2022; Lipsitch & Inglesby, 2014; Quay, Rahalkar, Jones, & Bahulikar, 2021; Wiesendanger, 2021; Pandolfo 2023)?

If so, resilience development is nothing more than the political silly-billy version of the social scientist who is either blind to the real problems or too cowardly to look and state the case clearly. In fact, it outsources responsibility from systems, organizations and political decision-makers to the subjective and private (Meyen, Karidi, Hartmann, Weiß, & Högl, 2017).

What if pandemics are disguised methods of warfare on the one hand and disguised methods of political intervention without democratic legitimacy on the other? Fake-news research by so-called fact-checking portals sponsored by governments or NGOs that want to see their respective policies washed clean can no longer convince me that what is written in a newspaper or circulated in a TV program is factually correct, since I myself became the object of such research, in which an equestrian reporter dismissed our study as scientifically not credible, which was quite differently seen by independent and competent peer reviewers (Walach et al., 2022; Walach et al., 2021).

These issues are far from trivial. It would be unfair to demand everything from a book, a good, competent overview of social science issues and a competent assessment of medical issues that require one's own judgment about the factual accuracy of media coverage. That is exactly what would have been necessary here. For, in essence, the question of how to evaluate media coverage of the Covid-pandemic determines what prescriptions one might suggest for dealing with a crisis in the future. This book chooses to believe the mainstream narrative and follows a consistent path. This is well-reasoned and thought out, and for those who share these premises, it is also a solid guide. It will get you into future policy commissions and expert councils.

But it's a bit like Venice: The foundations rest in the swamp. If the water rises, the city sinks. I think that danger is looming here. There is actually an abyss opening up: Trust in the factual accuracy of media reporting and in the reliability of institutions is the basis of all further options for action and decision-making. In this book, media reality is taken at face

value. When one can't do that anymore, what happens then? Then even 400 pages of clever analysis won't help.

Bibliography

- Axfors, C., & Ioannidis, J. P. A. (2021). Infection fatality rate of COVID-19 in community-dwelling populations with emphasis on the elderly: An overview. *medRxiv*, 2021.2007.2008.21260210. doi:10.1101/2021.07.08.21260210
- Frank, G. (2021). *Der Staatsvirus. Ein Arzt erklärt, wie die Vernunft im Lockdown starb*. Berlin: Achgut.
- Hatfill, S. J. (2022). Significance of the SARS-CoV-2 Spike Protein ‘Superantigen’ Sequence in the mRNA Vaccines. *Journal of American Physicians and Surgeons*, 27(2), 52-55.
- Ioannidis, J. P. A. (2020). Coronavirus disease 2019: the harms of exaggerated information and non-evidence-based measures. *European Journal of Clinical Investigation*, 50(4), e13222. doi:10.1111/eci.13222
- Ioannidis, J. P. A. (2021). The infection fatality rate of COVID-19 inferred from seroprevalence data. *Bulletin of the World Health Organization*, 99, 19-33F. doi:10.2471/BLT.20.265892
- Ioannidis, J. P. A., Axfors, C., & Contopoulos-Ioannidis, D. G. (2020). Population-level COVID-19 mortality risk for non-elderly individuals overall and for non-elderly individuals without underlying diseases in pandemic epicenters. *Environmental Research*, 188, 109890. doi:https://doi.org/10.1016/j.envres.2020.109890
- Isetti, G., Innerhofer, E., Pechlaner, H., & de Rachewiltz, M. (Eds.). (2021). *Religion in the Age of Digitization*. London: Routledge.
- Kersemaekers, W., Rupprecht, S., Wittmann, M., Tamdjidi, C., Falke, P., Donders, R., . . . Kohls, N. (2018). A Workplace Mindfulness Intervention May Be Associated With Improved Psychological Well-Being and Productivity. A Preliminary Field Study in a Company Setting. *Frontiers in Psychology*, 9(195). doi:10.3389/fpsyg.2018.00195
- Kuhbandner, C., & Homburg, S. (2020). Commentary on Flaxman et al. (2020): The illusory effects of non-pharmaceutical interventions on COVID-19 in Europe. *Frontiers in Medicine: Infectious Diseases - Surveillance, Prevention and Treatment*, accepted. doi:10.3389/fmed.2020.580361
- Kuhbandner, C., Homburg, S., Walach, H., & Hockertz, S. (2022). Was Germany’s Lockdown in Spring 2020 Necessary? How bad data quality can turn a simulation into a dissimulation that shapes the future. *Futures*, 135, 102879. doi:https://doi.org/10.1016/j.futures.2021.102879
- Lipsitch, M., & Inglesby, T. V. (2014). Moratorium on Research Intended To Create Novel Potential Pandemic Pathogens. *mBio*, 5(6), e02366-02314. doi:10.1128/mBio.02366-14
- Lomas, T., Medina, J. C., Ivtzan, I., Rupprecht, S., & Eiroa-Orosa, F. J. (2019). Mindfulness-based interventions in the workplace: An inclusive systematic review and meta-analysis of their impact upon wellbeing. *The Journal of Positive Psychology*, 14(5), 625-640. doi:10.1080/17439760.2018.1519588
- Meyen, M. (2021). *Die Propaganda Matrix: Der Kampf für freie Medien entscheidet über unsere Zukunft* [The Propaganda Matrix: The Fight for Free Media Decides our Future]. München: Rubikon.
- Meyen, M., Karidi, M., Hartmann, S., Weiß, M., & Högl, M. (2017). Der Resilienzdiskurs: Eine Foucaultsche Diskursanalyse. *Gaia*, 26(S1), 166-173.
- Oller, J. W., Shaw, C. A., Tomljeno, L., Karanja, S. K., Ngare, W., Clement, F. M., & Pillette, J. R. (2017). HCG found in WHO tetanus vaccine in Kenya raises concern in the developing world. *Open Access Library Journal*, 4(e3937). doi:10.4236/oalib.1103937
- Pandolfo, Chris (2023). NIH gave EcoHealthAlliance money for risky coronavirus research without proper oversight, watchdog finds. *Fox News*, Jan. 26. online: <https://www.foxnews.com/politics/nih-gave-ecohealth-alliance-money-risky-coronavirus-research-without-proper-oversight-watchdog-finds>, accessed 2/1/2023

- Quay, S. C., Rahalkar, M. C., Jones, A., & Bahulikar, R. (2021). Contamination or vaccine research? RNA-sequencing data of early COVID-19 patient samples show abnormal presence of vectorized H7N9 hemagglutinin segment. Research Gate.
- Rügemer, W. (2020). Imperium EU: Arbeitsunrecht, Krise, neue Gegenwehr. Köln: Papyrossa.
- Rügemer, W. (2021). Blackrock und Co enteignen. Frankfurt: Nomen.
- Rupprecht, S., Falke, P., Kohls, N., Tamdjidi, C., Wittmann, M., & Kersemaekers, W. (2019). Mindful Leader Development: How Leaders Experience the Effects of Mindfulness Training on Leader Capabilities. *Frontiers in Psychology*, 10(1081). doi:10.3389/fpsyg.2019.01081
- Schrappe, M., Francois-Kettner, H., Gruhl, M., Hart, D. J., Knieps, F., Manow, P., . . . Glaeske, G. (2020). Thesenpapier 4.0: Die Pandemie durch SARS-CoV-2/Covid-19 - der Übergang zur chronischen Phase - Verbesserung der Outcomes in Sicht - Stabile Kontrolle: Würde und Humanität wahren - Diskursverengung vermeiden: Corona nicht politisieren. Retrieved from Köln: http://www.matthias.schrappe.com/einzel/thesenpapier_4_endfass_200830.pdf
- Schwab, K., & Malleret, T. (2020). COVID-19: The Great Reset. Cologne, Geneva: Forum Publishing.
- Sönnichsen, A. (2020). COVID-19: Wo ist die Evidenz? Stellungnahme Deutsches Netzwerk Evidenzbasierte Medizin e.V. (EbM-Netzwerk) [Press release]. Retrieved from <https://www.ebm-netzwerk.de/de/veroeffentlichungen/covid-19>
- Sönnichsen, A., Mühlhauser, I., & Meyer, G. (2021). Methodische Fehler - Leserbrief zu Rommel et al (2021). *Deutsches Arzteblatt*, 118(27-28), 489. doi:10.3238/arztebl.m2021.0243
- Walach, H. (2021). Experience and information: thoughts on spirituality in a time of information flooding. In G. Isetti, E. Innerhofer, H. Pechlaner, & M. de Rachewiltz (Eds.), *Religion in the Age of Digitalization* (pp. 155-164). London: Routledge.
- Walach, H., Traindl, H., Prentice, J., Weigl, R., Diemer, A., Kappes, A., & Hockertz, S. (2022). Carbon dioxide rises beyond acceptable safety levels in children under nose and mouth covering: Results of an experimental measurement study in healthy children. *Environmental Research*, 212, 113564. doi:<https://doi.org/10.1016/j.envres.2022.113564>
- Walach, H., Weigl, R., Prentice, J., Diemer, A., Traindl, H., Kappes, A., & Hockertz, S. (2021). Retracted: Experimental assessment of carbon dioxide content in inhaled air with or without face masks in healthy children: A randomized clinical trial. *JAMA Pediatrics*. doi:10.1001/jamapediatrics.2021.2659
- Wiesendanger, R. (2021). Studie zum Ursprung der Corona-Virus Pandemie. Research Gate preprint. doi:10.13140/RG.2.2.31754.80323