



How Germany is fighting Corona with medieval methods. And why so few notice. And why a Swiss cheese would inspire our thinking.

I consider the current lockdown to be largely without alternative. I would like to prevent misunderstandings right away. However, the fact that we have ended up in this situation is not. In contrast to 60% of the population, I see some serious policy failures. Since the findings of the behavioural sciences and brain research are particularly evident in the behaviour of politicians, I would like to take the liberty of writing something more about Corona here and also point out missed opportunities.

I will only touch on many points because there are simply too many, but offer in-depth sources ('evidence') for interested readers. I have already written a few BrainCandies on Corona and, as I expected from the beginning, I have also been wrong and have been allowed to re-learn. For example, data series have not evolved as the statistical analyses led me to hope. Take herd immunity¹ for example. I follow a lot of experts from different disciplines. Got rid of some experts who turned out to be dogmatic and found new ones who added to the complexity. You will not evaluate all the points in the same way as I do, but I think you will also come to the conclusion that the public's high satisfaction with government action is not driven by a deeper understanding of the facts.

Due to the complexity, it has become an unusually long BrainCandy. And I have omitted many topics or only touched on their complexity. Perhaps you will jump to the topics that seem important to you if time is short. Let's start:

1. The "a pandemic needs the best solution" thinking error.

Error avoiders dominate opportunity seekers in the political circus. A pandemic is one of the most complex challenges one can be confronted with. Complex systems show high levels of interactions² that cannot be deciphered by purely analytical thinking. Well-controlled, step-by-step experiments are needed, as for example in any vaccine development. In Germany, attempts have been and are being made to cope with the pandemic with the one right national solution. Frightened citizens demand this, the media diligently support this claim, claiming in bold headlines when federal states do different things. For me as a scientist and market researcher, this is unacceptable. The brain researcher Gigerenzer puts it this way: „1. Complex problems always require complex solutions.
2. More information, calculation and time are always better.
3. Gut decisions are second-rate, rational optimisation is always better“.



Pictur 1: Schools-open-close

There were and are too few purposefully set-up policy experiments to test more nuanced hypotheses/measures of corona fighting, not just analytically based majority decisions.



For example, there is a fierce argument from the beginning about whether schools should remain open or closed. Black or white. This would have been a good thing to check. One would have divided similarly structured schools into different observation clusters and **closely** monitored them. And not only the school itself, but also the way to school, the Corona development in the surrounding area, the leisure behaviour after school, etc. And: how do defined defense measures work in schools? Automatic ventilation, CO² measuring devices, masks - which ones? HEPA air purifiers, Osram UV air purifiers, air circulation, m²/pupils, break solutions etc.? Time wasted, arguments rage, parents, children and teachers suffer. The one solution for all seems to be socially ethical on the surface, I feel it is quasi-monopolistic thinking that hinders progress, the struggle for the many effective opportunities too much.

The strong person fallacy.

When we are in hospital, most of us want to be treated by a doctor who appears very confident, who does not raise any doubts about his therapy. Then we feel safe and in good hands. However, research shows that we have better chances of recovery with doctors who can analyse and treat in a more differentiated way and pretend to be less safe. We are experiencing this desire for strong arms, especially among the concerned, i.e. currently the majority. The Bavarian Prime Minister Söder plays this card perfectly. No one can hold a candle to him in his eloquent determination. Anyone who disagrees with him is dismissed as Corona RAF³ a German left wing terrorist group of the 70s. We reward this with top poll ratings.

If no one is watching, Söder is sure to play Rumpelstiltskin, because Bavaria is nowhere at the forefront of Germany in fighting the pandemic - even if he likes to pretend that it is. The pandemic has become (worldwide) a battle of big egos who want to be right at all costs. Even within the WHO. Which massively hinders a differentiated optimisation of measures through learning in discourse instead of lecturing.

3. The herd instinct (Band Waggon Effect) has politicians in its grip.

Politics likes to follow the examples of other Western countries, and in Germany apparently Bavaria at the end. Here, too, it is about the one right way. Yes, don't make any mistakes. If Austria and France do hard lockdowns, then that can't be so wrong. If everyone does the same thing, everyone unfortunately makes the same mistake - if it doesn't work. But one can be badly attacked if one reaches for this international method with a high market share. Of course, one does not follow the considerably more successful examples from Asia. After all, we are not an island and we Germans do not accept control measures. Really? Not even if one could get back some of one's freedoms in return? Could save one's existence? The herd instinct also hinders the differentiated and innovative search for even better partial solutions.



4. What you see is all there is.

Nobel Prize winner Daniel Kahneman describes how our brain (system1/autopilot) tries to understand reality. Put simply, what we do not perceive does not take place. Citizens see the high death rates daily, 'understand' that these are all additional deceased, see Corona deniers in the news. The causality is clear. If you look at the political decisions, you can see that politicians, too, are mainly concerned with the visible things: droplets, restaurants, hairdressers, pedestrian zones, gyms, red light districts, winter sportspeople, masks. But not: aerosols, canteens, open-plan offices, humidity, CO², defences, management failure and overwork in old people's homes.

5. politics and science use too strong framing - and the media play along.

Framing refers to a processing error of our brain that we perceive situations and facts differently depending on how they are expressed (framed). One yoghurt has 3% fat, another is 97% fat-free. Rationally the same product, but our brain intuitively understands that the 97% version is healthier. If you follow the Corona discussion you realise that they are trying to reduce complexity via framing. "7,000 people die from Corona every week" is one such frame that automatically triggers fear and thus justifies harsh measures. Or "The intensive care units are at the limit" are ultimately a similar framing attempt that prevents a deeper penetration of the complexity.

The following statements are not meant to trivialise things!

The two frames above trigger an image in the vast majority of people's minds that many more people died in 2020 than in previous years, i.e. that we are seeing a high excess mortality. You probably did not know the term before 2020. But if you look at the numbers in a more nuanced way, the overall mortality numbers (up to 20/12/2020) are pretty much in the expected range⁴. I have looked at the analysis, the methods and assumptions used stand up to very critical scrutiny. There are currently only a few editors who really play the critical role of their guild. The utilization of intensive care units is also comparable to strong flu years. However, the burden on staff is much higher due to protective measures! In complexity, emotional framing is not helpful for effective pandemic response, as it favours overly simplistic solutions.

6. The simplicity bias.

Kahneman again. Of the many automatic thinking errors of our brain, probably the most widespread is that we tend to replace complex questions with a simpler question. Without even realising it.

Difficult question: Do people stick to the lockdown?

Simple question: Do people move more?

A lockdown for all is indeed a relatively simple, standardisable response to a complex pandemic. A medieval one, because that's what people were capable of back then. But a real response would be a data- and evidence-based, local response with a variety of complementary measures.

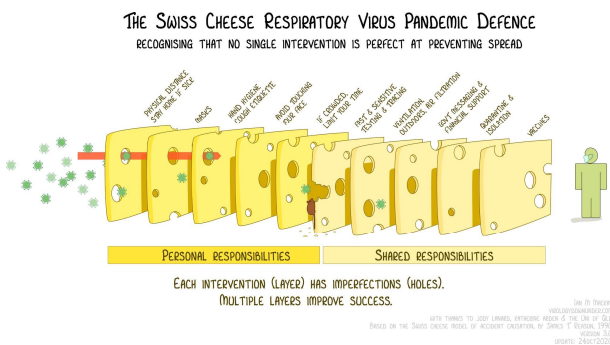


Thinking outside the box scientists suggest that a 'Swiss cheese' (Swiss Cheese Model⁵) strategy is needed. A nice analogy that makes complexity visible and more conceivable. Each slice (measure) is penetrable by the virus, but if you put many slices on top of each other, then the virus cannot get through so easily. A few of these slices are freshly cut in the BrainCandy.

And yes, a lockdown is a thick slice, but nowhere near as effective as politicians hope. Human behaviour is also complex, does not only follow the fear mantra. For example, when people are put in existential distress and the promised help (bazooka - more of a promise⁶) does not come, they move much more in search of income and social help/consolation. The 'breakwater' has not been as effective as it was expected to be, an experience being made in very many countries right now. In 2019, the WHO concluded in meta-analyses^{46,47} that lockdowns should not be considered particularly effective and cannot be recommended because the financial and social costs are far too high.

Each of the discs naturally carries a high level of complexity within itself.

And after this BrainCandy, you will probably also see that there could well be a few more slices listed in the following model.



7. The Virtue Licensing Effect.

We are all subject to the simplicity bias, also in the sense that we look for simple causalities and our brain automatically gives these simple solutions the stamp of truthfulness (fluency effect). The number of infections is not going down? There must be ONE reason. It's the covid idiots who don't play by the rules. These are the ones society's anger is directed at. Even from intelligent contemporaries, take a look at Twitter. Anyone who knows anything about statistics knows that this cannot be. The numbers can only be so high if many people don't follow the rules. No, that's not what I mean. Most people stick to the rules, at least they think they do. They really do!

But we overlook our tendency to earn mental bonus points (licensing) for every correct behaviour, which we can then redeem for a few times of wrong behaviour. And we do this without even realising it!

We put solar cells on the roof, separate waste and drive SUVs. The 80% correct behaviour shapes our self-perception, we forget the 20% deviation, after all we are humans and not machines. But with 80 million inhabitants, that's obviously enough for the virus. I know many people who emotionally justify small outbursts now and then. Mr. Söder, too, often goes to Berlin, conspicuously neatly coiffed, while propagating the strictest curfew to the media. The other prime ministers don't do that. And I do not absolve myself of this, although I know the licensing effect.



8. Landmark decisions are only made when it becomes inevitable.

Viruses mutate. Always. We were lucky that no 'exciting' variants emerged for a long time. Now there are two - from the UK and South Africa. Brazil also has a variant in 'development'. Politicians have not given this any importance so far, although experts warned^a early on that only one in 900 PCR samples will be sequenced in our country, and one in 15 in the UK. We will not be able to assess the spread of the new lines in a timely manner. The mistake leads to the precaution of making the lockdowns even more draconian. People suffer from delayed decisions for which they are not responsible.

9. WHO and federal government give too one-sided weight to virologist competences.

Malicious voices claim that one would hide behind the virologists. The Leopoldina has the most diverse experts, but they should speak with one voice if possible. (Sigh) Although it has become increasingly clear since March 2020 that the main transmission of the virus must be in the aerosol area, the WHO has still not fully recognised this and the German government has also focused for too long on measures to prevent droplet transmission (sneezing, coughing on) (1.5m distance/glass barriers/everyday masks). Aerosol control (FFP2 masks, ventilation, air purifiers), on the other hand, has been absent or half-hearted - except for the early ban on events. There is no aerosol specialist among the close advisors! The so-called superspreaders do not produce more droplets, but more aerosols. In the smallest channels deep in the lungs and through the vocal cords⁷.

Field epidemiologists do not seem to be consulted either. But they have experience in fighting local outbreaks - they would rather vaccinate the environment of infected people than the risk groups⁸. But they wouldn't use PCR tests either. Too slow. And behavioural scientists seem to be tolerated at most as 'soft' science, but disregarded. Merkel has a board of advisors that sails on one course and sidelines critics. A process that is regarded in management as the main reason for strategic mistakes. If everyone thinks the same way, mistakes are not recognised, but it seems righter because there is no opposition.

10. Aerosols are the most underestimated disc - because we cannot see them.

The possibilities to specifically combat aerosol transmission are not used, the damage is immense. After I became aware of the American aerosol expert Jimenez^b, among others, in September, I followed his recommendation and equipped our company with Hepa 13/14 air purifiers^{9,10,11}. Now there are air filters in all offices and common areas. A continuous noise surrounds us, almost like at the seaside. In our studio there is even a real behemoth from Trotec that has 10 times the necessary air purification capacity.





Aerosols cannot be measured with reasonable effort, but the CO² value can be measured as a proxy. All our offices have CO² measuring devices. (see picture) We are always surprised how often you really have to ventilate. We also have mobile measuring devices and can report that the railway manages very good air values in the range of 600-700 ppm. Thank you for that! When we work in other cities, we bring our own air purifiers, FFP2 masks and CO² measuring devices to all studies, enabling maximum safety from droplets and aerosols - with a good safety distance.

There is a lack of well-controlled aerosol experiments on the part of the federal government to make robust recommendations on how to manage schools, open-plan offices, canteens, restaurants and cultural institutions can finally be made safer. Instead, the lockdown is simply being tightened. Middle Ages. A father from Mainz, together with the Max Planck Institute, designed an inexpensive but effective aerosol extraction device for classrooms for a slim € 20012. Which attracted international attention. This class was also closed.



Image: Elena Klimach

What's wrong with parents building or paying for this equipment or even grandparents donating powerful air purifiers to at least open these areas instead of either opening everything or closing everything? A primary school in Uttenreuth¹³ bought mega air purifiers (one weighs 200kg, I am pale with envy) for €200,000.

Also closed. I have a pulse. (As long as the data is modest, parents and pupils must of course have the last word regarding individual participation in face-to-face lessons).



11. Why are Sars viruses seasonal?

It's not just about being indoors more. During the heating season, the air is very dry, outside and inside. Dry air makes our mucous membranes dry out. Dry mucous membranes are much less able to fight off viruses. In addition, dry air allows viruses to remain suspended as aerosols for longer, significantly increasing the likelihood of infection. Many studies have shown this even before Corona^{14,15,16}. We now have several large humidifiers at K&A and ensure that we have at least 50% humidity in the offices. The parts are low-tech - but very effective. A simple but effective screen for safe working conditions - but also useful at home.





12. Masks - bankruptcies, misfortunes and mishaps.

It took 10 months for politicians to partially understand masks. What lost time. Because they had not recognised the aerosol component. Only for FFP2 are there data that these can significantly reduce aerosols^{17,18}. Good that at least Bavaria is finally backing the effective masks. Only inconsistent again. Why are men allowed to go shopping with beards and masks? When I see a hipster with a mighty beard and FFP2 mask, it's as hilarious as it is pointless. To put it this way, breathing with a masked beard is very easy. The beard is more or less an intake and exhaust valve.



I continue to believe that dirty masks are an additional problem of mask use in real life, which is why we have had masks in many styles since March 2020, and the MAs can help themselves freely at reception - if they are ever in the office.



13. The weak data situation makes sound government work difficult and opposition work impossible.

After 10 months we still don't know (please add the amount of exclamation marks that suits you) where who gets infected most often¹⁹. What actually happens on the bus, S-Bahn, ICE, plane? What happens in the open-plan office, logistics centre, on the assembly line, in the supermarket, at the hairdresser, while walking in the city, in nature, while cycling, in the restaurant with and without comprehensive hygiene measures (a misleading term, still emphasising surface contamination).

It seems that apart from the old people's homes, which is already a huge embarrassment, even in Germany those living in precarious living conditions are the ones disproportionately affected. Their situation is exacerbated by the lockdown and they have to give everything to survive and can afford neither the home office question nor the quarantine. Again, these are observations, albeit very plausible ones, rather than robust data. This will be exacerbated in the upcoming bankruptcies. A recent meta-analysis: The COVID-19 pandemic has exposed disparate risks and inequities by income, race and ethnicity, gender, and immigration status²⁰.

Weak data makes it possible to give simple, seemingly moral answers to complicated questions. The decision-makers cannot be questioned. The digitalisation of the republic leaves much to be desired in key offices. On 20 January, the RKI still does not know whether the current development is now resiliently mapped. Why is this acceptable? In mid-January, the contact person management programme Sormas²¹, which is provided free of charge to the health offices, has only been installed in a quarter of all health offices. The offices can decide for themselves whether to use it. What?!



No politician has been talking about the Corona warning app in recent weeks, no one has any hope that this app can help us, while health offices are overburdened^{22,23,24}. When asked, politicians involved think the app is great and important. Data protection takes precedence over health protection. Certainly not for me personally. Example: Many federal states have decided to invite older people who do not live in homes to be vaccinated by letter. To do this, however, they cannot access the population register because of data protection, but buy addresses of much poorer quality from the post office. You can't make that up.

Politicians and their advisors assume that data protection would be a key decision criterion for using the app. When you know people better, you understand that people don't particularly care about data protection in the wild, nor do they care about brands, for that matter. Most of them only do so if you ask them. People are much more concerned with whether something benefits them. But the warning app is not loaded with benefits because politicians have stifled the ethical discussion on whether users can also have real immediate benefits. Facebook, Whatsapp, Instagram, Google, Youtube, Amazon, Tik Tok, Clubhouse are the biggest data octopuses and still have a huge following. Because there are benefits that people don't want to do without, especially in the lockdown. The warning app even has an emotional disadvantage: you don't get the news that you've had risky contacts until days later, if at all. And now you are supposed to isolate yourself, at your own expense, at a time when covid sufferers are socially stigmatised. "It's their own fault". You can guess how this will end, you don't need to be a behavioural scientist for that. Now, in all seriousness, a manual diary function in the app is being praised as the solution. The BRD Corona Middle Ages app.

If I had more freedom of movement with the active warning app, could meet more friends with a likewise active warning app and without current risk contacts, could go to restaurants or theatres with a particularly good hygiene concept, then the temporarily suboptimal data protection becomes a minor matter.

14. "The old people's homes must not be particularly isolated, they are already protected".

In the first Lockdown, the old people's homes were protected by locking up the old people.

After that, there was a kind of political consensus with some experts (including Drosten, the most famous German Virologist) that the old people's (homes) should/can't be specially protected (isolated). In the meantime, many old people's homes have become storage facilities because all events in the homes have been cancelled. What about civil rights?

Boris Palmer, the Green mayor of Tübingen, who is unpopular in his own party because he is unconventional, tried an experiment with his Tübingen model and was criticized extremely harshly for it. Another deviant from the consensus. The grocery store had to reserve times for old people to shop. The elderly should avoid public transport and use taxis at city expense. Palmer complained as recently as December in Steingart's Morning Briefing (top rating political podcast) that he was not allowed to use antigen tests in old people's homes until recently, and was not getting robust data from the Corona warning app to develop further measures. Palmer has found his Swiss cheese model and is showing sustainably better metrics. It is the real disaster that there is not much experimentation more of it. Even the New York Times reported it. And I would have reported it here if it hadn't worked, because it was still important.

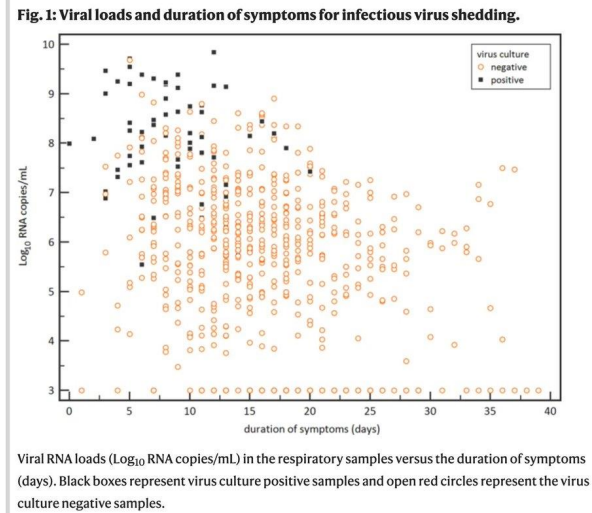


In mid-January, Söder wrote that the homes had to be better protected. However, politicians had previously said that everything had been done. Unfortunately, this is not true, because then the old people's homes would not continue to be the central hotspot²⁵ that produces the most cases. If you look at the outbreaks in nursing homes, it seems to be a complete overtaxing of the managers and overworking of the staff in the respective home. Coupled with non-existent (previously not allowed) rapid tests.

A bad cocktail. These homes should and must have been given effective management support. Merkel probably hoped that the Länder would do this. She would have done better to declare a state of emergency. It is not enough to borrow some capacity from the aid organisations. There are no end of management consultants in Germany. Why not make government-subsidised project contracts and standard procedures, worked out by the Ministry of Health, as a default? That could still be done! If necessary as an experiment, but hurry up. Sorry, if you understand that you unfortunately belong to the risk group.

- 15. **The "most sensitive test is the best" dogma.** The PCR test is considered the best test, but at the same time it is criticised for being too accurate because it is not possible to determine whether a positive result also indicates a current risk of infection or whether the person tested has already survived the infection. A PCR test shows a positive result for about four weeks. Of that, maybe four to five days are really contagious. So we quarantine people longer than necessary, and after 48 hours at the earliest, we also quarantine their contacts. This graph shows in how many PCR tests it was actually possible for the virus to multiply in the laboratory, i.e. there was a potential for infection.

This is only the case with the dark spots. Harvard epidemiologist, Michael Minac, explains it perfectly on Twitter, be sure to follow.



Since March 2020, there have been so-called antigen tests. These only work if the person tested has an active infection and is contagious. Antigen tests have a high specificity (react only to SARS-CoV-2) and a high sensitivity (detect 95-99% of infected persons). Because the PCR test is even more sensitive, many virologists rejected the antigen test. "What if a false negative then behaves mindlessly?" Again, the cheese analogy: one looks for the one impermeable disc and hardly evaluates the disadvantages: results after 48 hours, often later (Bavaria) and thus many contacts that can no longer be traced!

More and more scientists are now calling for a departure from dogma^{26,27,28,29,30,31}. Using both discs in parallel makes sense. Instead of always telling people they are not complying properly (state mistrust). Please equip not only the homes, but also the companies, the service providers and also the private households, if they are at risk.



The antigen test is more like the policeman who protects me from criminals, the PCR test is more like the forensic detective who wants to solve the crime after the fact.

My prediction: In the aftermath of the pandemic, we will be able to see that antigen tests were a game changer because they can solve other contexts than the PCR test. Visits to old people's homes - perfect: you are not contagious now. Entertainment becomes possible again for our elderly. Think how many services would be possible again if an antigen test was done before the service. After five minutes the result is available - in most cases. Antigen tests currently cost little (€ 5,- to € 9,-) and could be produced in much higher quantities for about € 1/\$ with the help of politics.

The restriction to doctors, dentists and pharmacies makes it more expensive for users at € 40. Not smart, really. Many would gladly pay their hairdresser the € 9. Surely one could have tested the usefulness of the tests in one federal state a long time ago - and thus whether the fears about misconduct really prove to be relevant.



At K&A, we gave all employees the opportunity before Christmas to start the Christmas holidays with peace of mind via a PCR test. Very time-consuming! So now in our company most staff have already been trained in the use of rapid tests. We will use the tests in f2f situations as soon as this is possible. Slowly, things are moving, Thuringia's Prime Minister RameLOW is finally demanding that companies should test their MAs twice a week by antigen.

Hello, Mr. Söder? My greatest wish at Corona: that we can use antigen tests very frequently when the Infection Protection Act finally allows it.

16. The 'Sindemic' is ignored.

Corona affects the elderly - and moreover, especially people with co-morbidities, particularly diabetes, arteriosclerosis, metabolic syndrome, etc. Something that is due to our lifestyle. Christiane Woopen, ethics professor, makes the case³² that these sins should finally be addressed and the pandemic mitigated via a stronger immune system.

The main problem is probably the highly and most highly processed foods, which are said to account for between 75% and 85% of calorie intake. So we consume too many tasty, fast-moving foods, with high energy density (empty carbohydrates plus fat) and low nutrient density. How quickly one can learn, for example, via continuous glucose monitors, such as Freestyle by Abbot, under guidance, to drastically reduce one's blood sugar fluctuations, eliminate one's need for insulin and metformin and, through better nutrient supply, set one's metabolism on a new level within just a few weeks, is shown by many studies^{33,34}, quite practically even by a showcase pharmacist in the UK³⁵. And what I feared has happened. People on lockdown are not eating healthier. While more lunches and dinners are eaten at home rather than in canteens or restaurants, snacking has increased much more than main meals combined - across Europe. The rise in confectionery shows that people on lockdown are doing the wrong thing to lift their spirits. Yes, organic has also gone up, but far too little to make a relevant difference. In the UK, it was observed that those most at risk from Corona had done the least for their health³⁶.



17. Vaccines - policy failure is not admitted.

I also have a business education - which, if I were prone to migraines, would give me the hardest headache right now. Actually, there's not much complexity here. If you want a scarce commodity, there are two key empirical values: speed and a fat wallet. Nothing more.

Of course, it is more complex if you have to buy before the prototype has the stamp of approval. If the cost of lockdowns in Germany alone is put at €8 billion a week, and the buzz of Corona EU aid is said to be at least €750 billion, what is it worth to the community to procure the only remaining weapon against Corona? Since the EU classifies all contracts as secret, which is what I would do if I were them, it is speculation, but the consensus is €2-2.8 billion.

What happened? The difficult, seemingly high-risk decision was rejected by the top politicians and replaced by communitisation. And justified it with a new, easier goal: Prevent vaccination nationalism at all costs. And - to sugar the German Council Presidency with a nice German sense of community. And to do this, it used the slowest process in its experience. Non-decision-making negotiators and national say interwoven with national interests: Sanofi France, Biontech and Curevac Germany. Biontech and AstraZeneca were only ordered in mid-November - when phase 3 was completed. Israel, USA and UK had already ordered in July. Israel paid Biontech € 50 per dose, the EU only € 20. Saving money without looking at the opportunity costs. You only look at what you see, the price, but not what happens, the lockdown.

Israel has now vaccinated about 30% of the population, the US is still far behind, but only because of administrative problems, not because of a lack of vaccine.

The UK is 5 times further ahead than Germany on 19.1.21. Brexit does have its good sides. By the way, the invitation to buy with the EU was not accepted.

And in Germany, Spahn (Minister of Health) and Merkel never tire of saying that everything went right because the quantity of vaccine was the central criterion and not, for example, the rapid supply. Not funny.

From a purely economic point of view, it would have made sense to buy all the quantities offered as quickly as possible at the prices demanded. So that one is at the front of the supply chain. And what if they find this unethical because of the third countries without deep pockets? Then this should have been discussed and decided, but it was not. And you could give away far too many cans in the end. And all this at a lower total cost than we are now facing due to the prolonged lockdown. When will the mistake finally be admitted? Then the issue could be buried. But unfortunately, not like this.

Another exciting development: The UK is trying to speed up vaccination by giving the second dose much later - which was not tested in the phase 3 trials. However, an Excel error at AstraZeneca created a subgroup that only received half the first dose and were even better protected at the end. That gives the experts hope. Of course, this is not only being hotly debated in the UK, but also in Germany and the USA, and was once again rejected by consensus here instead of at least being set up as an experiment^{37,38,39,40,41}. But we can then take the UK as an experiment, let's be curious. In the UK, it is also assumed that all approved vaccines can be mixed later. No matter which vaccine is used first, the second vaccination will be given with whatever is available. It's also an exciting experiment, but one that doesn't necessarily have to be carried out nationally.



18. ZeroCovid.

A movement that is gaining momentum. No longer the supposedly 'mild' lockdowns, but a shutdown of the Republic to the absolute minimum. The goal is not 50 per 100,000, but actually zero. One takes one's cue from New Zealand, Australia and Asia (South Korea, Vietnam, Taiwan etc.). I have no data and therefore no real opinion on this. Among many other things that favour milder courses (often insularity, controllable national borders, fewer co-morbidities - leaner populations, temperate climates, no residential ghettos in Australia and New Zealand) all these countries have been running the ZeroCovid strategy from the beginning. For field epidemiologists, this is a very manageable field. Can a ZeroCovid strategy still be achieved as quickly as promised, even with a high incidence of infection? After many months of already endured economic and social stress⁴²? Again, the better way would be to control it with a good experiment. What if one federal state, which can be relatively well shielded, implements the experiment and is generously supported by the others. Schleswig-Holstein?

What if the EU were to generously support a motivated smaller country in this attempt? Slovenia? The Czech Republic? After two weeks we should already see whether this could work and then make a much more informed decision? Before the hotly feared virus variants were really more widely distributed?

19. And finally, vaccination, an example of the 'best solution Falacy'.

Politicians have proclaimed vaccination as a prioritised strategic measure against the pandemic, seemingly ignoring the intensive search for treatment options for those who have fallen ill.

This may be because hopefuls of the early months did not work well in the end.

You may remember Cloroquinidine (promoted by Trump) and Remdesivir (very expensive). Many other pharma cocktails used by stressed doctors in the early months did more harm than good. Scorched earth, then.

However, there are still some interesting opportunities. There are many data analyses showing that patients with normal-high vitamin D levels have significantly better outcomes (lower symptom severity, shorter course, less intensive care, fewer deaths). It is true that these are often correlations and still few interventional studies. But when correlations run virtually exclusively in one direction, causal relationships are likely. In this detailed video, American professor Roger Seheult shows the data⁴³ and the amazingly powerful effect of adequate vitamin D levels. He also has a clear recommendation at the end. At K&A, we gave employees the opportunity to test their vitamin D levels. We were on average significantly too low, at most at the lower limit of the recommendation.

Another substance got my attention, the antiparasitic (yes, not a nice idea) Ivermectin had been anecdotally linked to significantly better outcomes in developing countries. Small but good double-blind studies then showed surprisingly good results and are currently being replicated in several countries, in the EU unfortunately only in Spain. What seemed to be a crackpot idea until the mid-2020s has in the meantime attracted the attention of the WHO, which has commissioned the University of Liverpool (which does not only have good football) to conduct a meta-analysis of the existing and ongoing studies.

"WHO-sponsored review of ivermectin trials indicates 83% reduction in covid mortality". The scientist Dr. Hill gives an interim status here⁴⁴ that gives one hope.



Ivermectin is available very cheaply from the vet (identical to that used in humans). I know doctors who follow the studies closely and would take Ivermectin immediately if symptoms appeared. I also have it in the fridge. The side-effect profile is good, but if you are pregnant or want to have children in the short term, please inform yourself particularly well.

And then there are supposed to be positive experiences with monoclonal antibodies for rheumatoid arthritis therapy: Tocilizumab and Sarilumab (UK, Boris believes in it, others are very less enthusiastic, expensive) and antidepressant Fluoxetine⁴⁵ (Selective Serotonin Reuptake Inhibitors, University of Würzburg) but not in the potency of Vitamin D and Ivermectin.

It's great that you've stuck it out this far. Feel free to browse the sources if you are interested. Unfortunately, I don't have simple answers to complex phenomena either, but maybe use the Swiss cheese analogy and insist that more intelligent experimentation be done rather than just medieval-looking one-size-fits-all pap. It certainly doesn't work without contact reduction for a while, but it definitely works much, much more intelligently.

Take good care of yourself and, if you can, please take care of someone else.

Ralph Ohnemus

Sources:

1. <https://www.aerzteblatt.de/nachrichten/119216/Manaus-Keine-Herdenimmunitaet-trotz-Infektionsrate-von-76>
2. https://de.wikipedia.org/wiki/Komplexes_System
3. <https://www.swr.de/swr2/leben-und-gesellschaft/bayrischer-ministerpraesident-soeder-warnt-vor-corona-raf-100.html>
4. <https://reitschuster.de/post/auswertung-sterbefaelle-2/>
5. <https://www.nytimes.com/2020/12/05/health/coronavirus-swiss-cheese-infection-mackay.html>
6. <https://www.n-tv.de/wirtschaft/Steuerberater-kritisieren-komplizierte-Regeln-article22285569.html>
7. <https://www.youtube.com/watch?v=jMLGyL5neik> Aerosols: Key to control the coronavirus spread?
8. <https://iser.med.unsw.edu.au/blog/hijacking-public-health-and-price-paid-during-covid-19-pandemic>
9. [https://www.journalofhospitalinfection.com/article/S0195-6701\(21\)00007-4/fulltext#.X_9S09K2WXA.twitter](https://www.journalofhospitalinfection.com/article/S0195-6701(21)00007-4/fulltext#.X_9S09K2WXA.twitter) Dismantling myths on the airborne transmission of severe acute respiratory syndrome coronavirus (SARS-CoV-2)
10. <https://jamanetwork.com/journals/jama/fullarticle/2763852> Turbulent Gas Clouds and Respiratory Pathogen Emissions: Potential Implications for Reducing Transmission of COVID-19



11. https://docs.google.com/document/d/1fB5pysccOHvxphpTmCG_TGdytavMmc1cUumn8m0pwzo/mobilebasic# FAQs on Protecting Yourself from COVID-19 Aerosol Transmission
12. <https://www.mdr.de/wissen/corona-lueftung-baumarkt-schulen-100.html>
13. <https://uttenreuth.vg-uttenreuth.de/bildung-soziales/schulen/>
14. https://www.youtube.com/watch?v=ss5S8ui5B_g Role of Humidity In Reducing Airborne Virus Transmission
15. <https://www.forbes.com/sites/leahbinder/2020/12/24/scientists-say-this-one-move-could-beat-back-the-covid-19-surge-if-people-only-knew-about-it/?sh=34baae376c49> Luftfeuchte!
16. <https://www.wired.com/story/covid-winter-is-coming-could-humidifiers-help/>
17. <https://aapsonline.org/mask-facts/>
18. <https://www.researchsquare.com/article/rs-142138/v1> Expiratory aerosol particle escape from surgical masks due to imperfect sealing
19. <https://www.aerztezeitung.de/Politik/Deutschland-im-Corona-Blindflug-416280.html> Harsh criticism of the RKI data by Professor Häussler. 15 January 2021. Definitely read.
20. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7805463/pdf/nihpp-2021.01.07.21249419.pdf> Competing Health Risks Associated with the COVID-19 Pandemic and Response: A Scoping Review
21. <https://www.sormas-oegd.de>
22. <https://www.spiegel.de/netzwelt/apps/corona-warn-app-nutzer-melden-probleme-auf-android-smartphones-a-302a4a8d-16f7-4590-a095-0e0e340ab9d3>
23. <https://www.medrxiv.org/content/10.1101/2020.12.10.20247080v1> Does Contact Tracing Work? Quasi-Experimental Evidence from an Excel Error in England
24. https://www.spiegel.de/netzwelt/netzpolitik/corona-warn-app-warum-viele-sie-nutzen-und-viele-nicht-a-f7956afd-6cd8-4d8f-9835-fd40fe0fe022?sara_ecid=soci_upd_KsBF0AFjflf0DZCxpPYDCQgO1dEMph
25. <https://www.welt.de/politik/deutschland/plus224438920/Heime-Das-Virus-wuetet-die-Krisenmanager-zaudern.html>
26. https://www.youtube.com/watch?v=h7Sv_pS8MgQ Coronavirus Update 98: Rapid COVID 19 Antigen Testing at Home - A Possible Breakthrough, Juli 2020
27. https://www.finddx.org/wp-content/uploads/2020/05/FIND_COVID-19_RDTs_18.05.2020.pdf RAPID DIAGNOSTIC TESTS FOR COVID-19
28. https://www.youtube.com/watch?v=h7Sv_pS8MgQ Coronavirus Update 98: Rapid COVID 19 Antigen Testing at Home - A Possible Breakthrough (Juli 2020!)
29. <https://europeansting.com/2020/12/29/this-is-why-we-should-test-everyone-for-covid-19/> Hier fordern Ökonomen Antigentests für Jedermann
30. <https://advances.sciencemag.org/content/early/2020/11/20/sciadv.abd5393.1.full> Test sensitivity is secondary to frequency and turnaround time for COVID-19 screening
31. <https://science.sciencemag.org/content/early/2020/12/18/science.abe9187>. full COVID-19 testing: One size does not fit all | Science
32. <https://pca.st/episode/57809eba-dfe9-47b4-896f-749e28d98de5>
33. https://www.levelshealth.com/blog/glucose-levels-covid-re-search?utm_source=drip&utm_medium=email&utm_campaign=%5BLEVELS%5D+%F0%9F%98%B7The+scary+link+between+glucose+levels+and+COVID+



34. <https://nutrition.bmj.com/content/bmjnph/early/2020/10/21/bmjnph-2020-000072.full.pdf>
Insights from a general practice service evaluation supporting a lower carbohydrate diet in patients with type 2 diabetes mellitus and prediabetes:
35. <https://www.hertsad.co.uk/news/health/st-albans-pharmacist-wins-national-award-6880768>
36. <https://bpspsychub.onlinelibrary.wiley.com/doi/full/10.1111/bjhp.12500> Health behaviour change during the UK COVID-19 lockdown: Findings from the first wave of the C-19 health behaviour and well-being daily tracker study 6.1.21
37. <https://www.nytimes.com/2021/01/01/health/coronavirus-vaccines-britain.html> Mix and Match!
38. <https://www.acpjournals.org/doi/10.7326/m20-8137> Alternative Dose Allocation Strategies to Increase Benefits From Constrained COVID-19 Vaccine Supply
39. <https://www.spiegel.de/politik/deutschland/corona-und-das-politikversagen-deutschland-steht-auf-der-kippe-a-00000000-0002-0001-0000-000174691217?>
40. <https://www.welt.de/debatte/kommentare/article224081750/Corona-Impfstoffe-Merkel-und-Spahn-haben-sich-von-Anfang-an-das-falsche-Ziel-gesetzt.html>
41. <https://www.spiegel.de/politik/deutschland/deutschland-und-die-eu-haben-zu-wemig-a-00000000-0002-0001-0000-000174544038?> Vaccine Policy Critique Mid-December
42. <https://blogs.bmj.com/bmj/2021/01/07/pandemic-fatigue-how-adherence-to-covid-19-regulations-has-been-misrepresented-and-why-it-matters/>
43. https://www.youtube.com/watch?v=ha2mLz-Xdpg&feature=emb_rel_end Very good summary Covid - Vitamin D
44. <https://swprs.org/who-preliminary-review-confirms-ivermectin-effectiveness/> Ivermectin Meta Analyse Zwischenstand
45. <https://www.infranken.de/ratgeber/gesundheit/medikamente/antidepressivum-wirkt-gegen-corona-uni-wuerzburg-mit-verblueffender-entdeckung-art-5014617>
46. <https://www.aier.org/article/what-they-said-about-lockdowns-before-2020/> What They Said about Lockdowns before 2020
47. https://www.who.int/influenza/publications/public_health_measures/publication/en/

Good experts on Twitter for quick, up-to-date info:

- a. @CT_Bergstrom Biologie Professor Universität Washington, Autor 'Calling bullshit, the art of skepticism in a data driven world'
- b. @jjicolorado, Jose-Luiz Jimenez, Chemistry Professor University of Colorado, Aerosol Specialist
- c. @michaelmina_lab Epidemiologist, Immunologist, Physician, Harvard Public Health/Medical School. Discuss vaccines, immunity, infectious diseases, public health, and tests. Erklärt sehr gut PCR und Antigen Tests
- d. @JonasHeidelberg Biophysicist, supports antigen testing
- e. @Dr2NisreenAlwan Associate Prof @unisouthampton Public Health. Epidemiology.
- f. @DrAseemMalhotra Cardiologist, Sunday Times best selling author, researcher & Prof of Evidence-Based Medicine. Tweetet über den Link von Inflammation - Processed Food - Covid
- g. @devisridhar Professor Global Public Health Edinburgh Med School.

Book recommendations

By Ralph Ohnemus:





Brand experience. The strategy in hypercompetition and information tsunami [> order here](#)

Brand amazement. Winning in the information tsunami [> order here](#)

Feedback, suggestions or criticism about this article:
braincandy@ka-brandresearch.com

The author

Ralph Ohnemus, CEO. Board member and main shareholder of K&A BrandResearch since 2001. Previously a client of K&A BrandResearch for 15 years.

National and international marketing and sales experience in senior management positions, including FMCG, fashion, media and telecommunications - most recently as SVP Consumer Sales responsible for marketing, sales and chain stores at Viag Interkom O2.

Contact: r.ohnemus@ka-brandresearch.com

