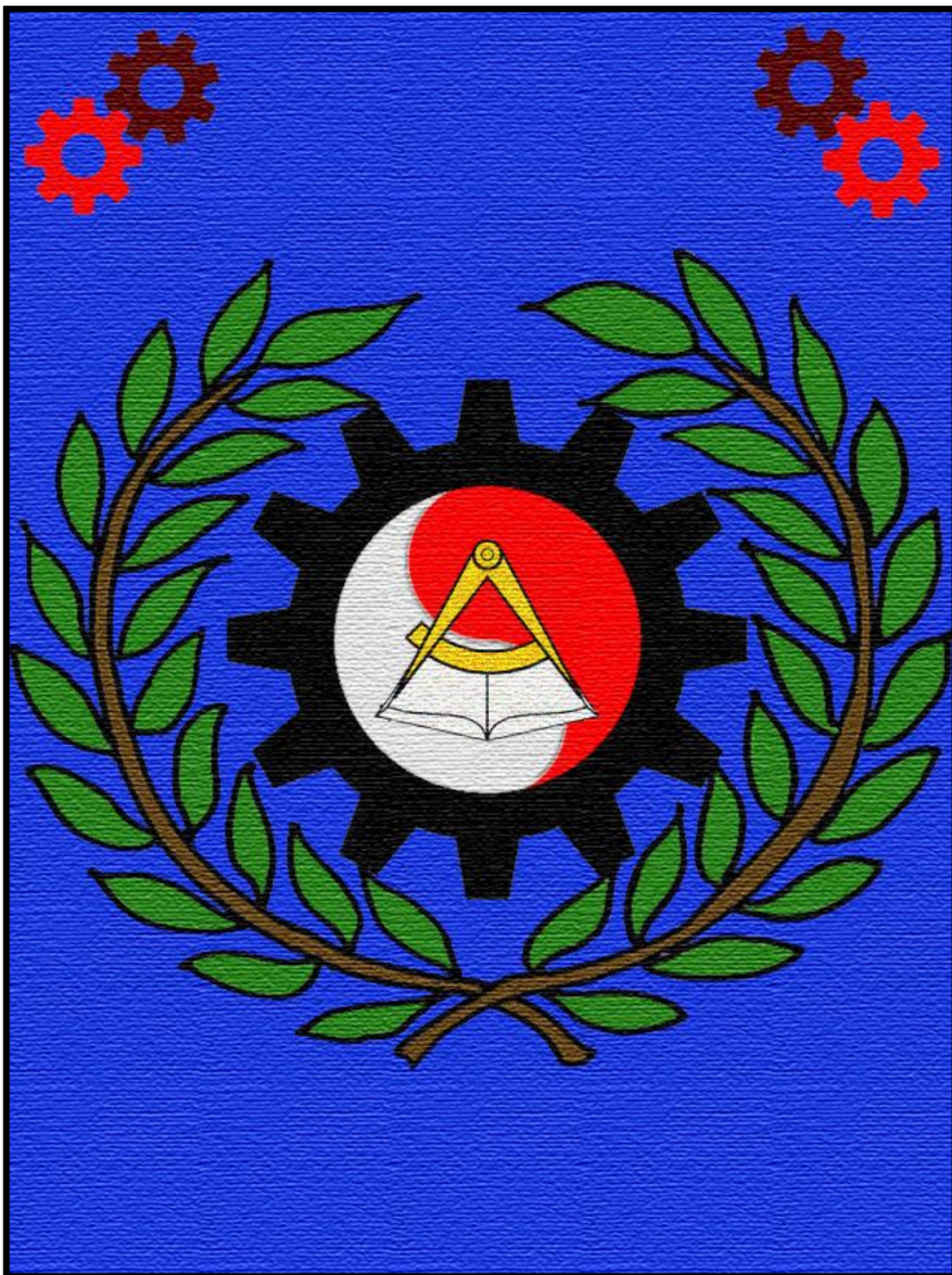# WordPress 2021 – English

Illustration 1 - Baroque's Standard

Centre of Knowledge

In the age of the internet the access to information is almost limitless - but this also applies to misinformation. The pandemic has shown us how quickly misinformation can spread - either deliberately by conspiracy theorists or unknowingly by individuals who are not that familiar with the matter.

For a democracy, this is very problematic, since progress requires consensus and compromise.

However, since not everyone has the time to find reliable and trustworthy sources on the internet (whether it is an article from a science magazine like Nature or information on a Website from the CDC) and got the time to read them - for instance due to a stressful job or a unreliable internet connection which closes the door to said information -, it would therefore be more practical to set up a hotline that can satisfy the need for information in other ways. Moreover, it could also give back some certainties in times of uncertainty, or at least a clear overview which counteracts the loss of control - which we experience right now in the pandemic -.

It is quickly and easily explained:

1. A caller has questions regarding vaccination or the virus

2. The control center receives the call and looks for the adequate expert (i.e. either a Virologist or someone who was educated on it)

3. Finally, the control center connects the caller with the expert

If implemented in practice, a website with compact and easily understandable information should still be available (as the German [Bundeszentrale für gesundheitliche Aufklärung](#) has done).

We should of course not be under the illusion that those who are already deep in the ocean of conspiracy theories can be returned to the surface of reality with it.

It is meant for the people who are still plagued by uncertainties and seek to know more about a topic.

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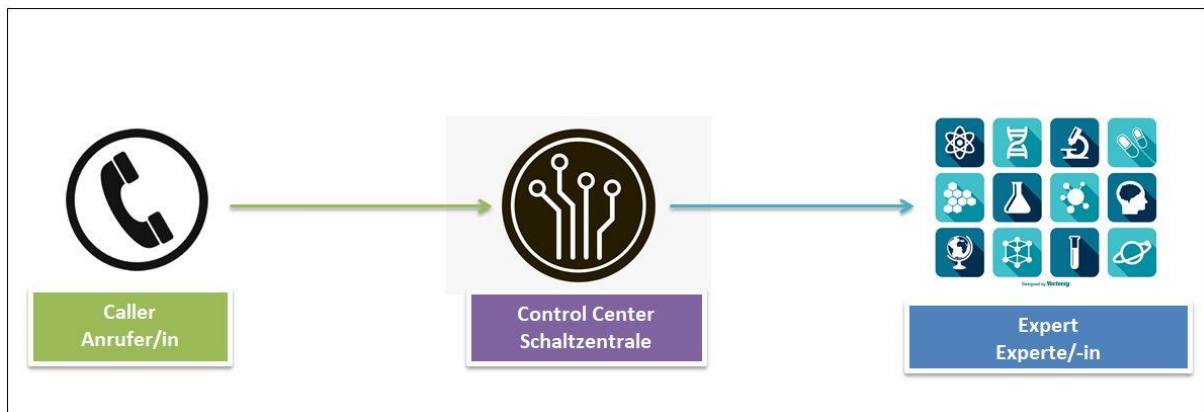
Illustration 2 - A simple depiction of how the hotline would work

(Released: 14th February 2021, 19:09 Uhr/7:09 pm)

Science News #1

Covid-19 may be here to stay, according to an article from nature.
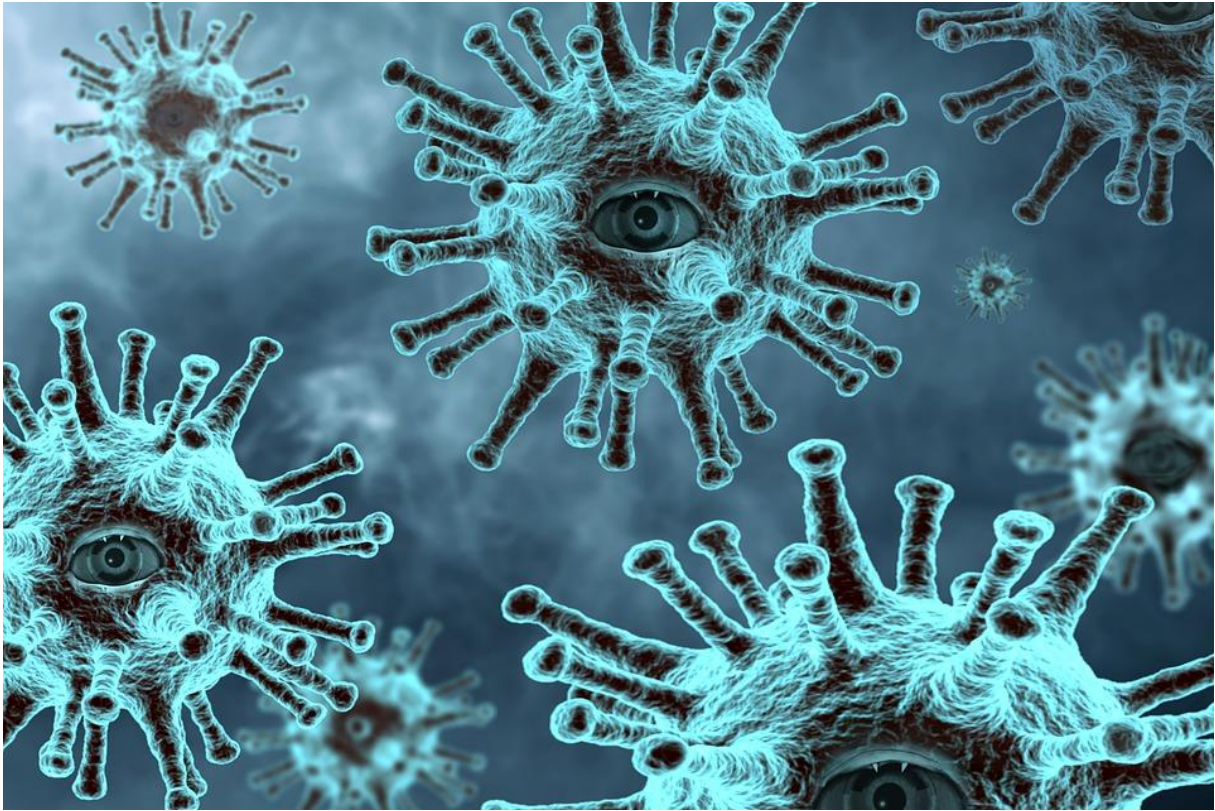How and why? These questions will be answered in this summary.

Disclaimer: SARS-CoV-2 is technically still classified as a pandemic by scientists due to many people still being susceptible to it. If it were to become an endemic, the number of infections would become relatively stable across years (with occasional flare-ups).

The Endemic Future and the Opinion of Scientists

In a few countries the people in some regions were able to enjoy a life free of SARS-CoV-2, and in this case Western Australia. This was achieved by placing heavy restrictions on travel and imposing lockdowns. Naturally, the following question arises:
"If other regions, aided by vaccines, aimed for a similar zero-COVID strategy, then could the world hope to rid itself of the virus?"

While it may sound achievable to a layman, most scientists think that it is improbable.
Nature asked in January 100 immunologists, infectious disease researchers and virologists who work on the coronavirus whether it could be eradicated. These are the results:
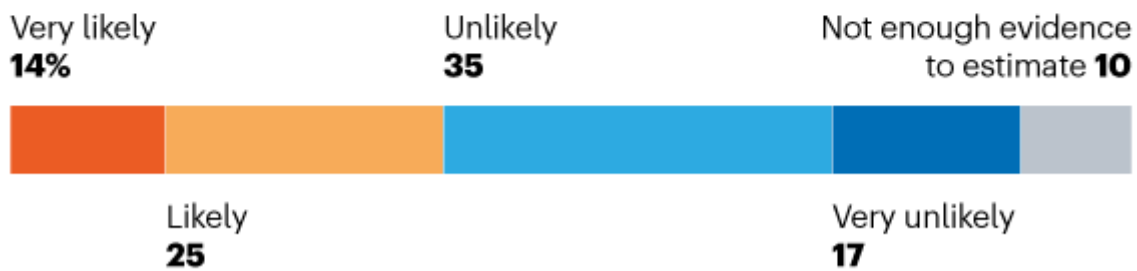
ENDEMIC FUTURE

In a *Nature* poll, 89% of scientists felt that SARS-CoV-2 was either very likely or likely to become an endemic virus.

How likely do you think it is that SARS-CoV-2 will become an endemic virus: that is, one that continues to circulate in pockets of the global population?
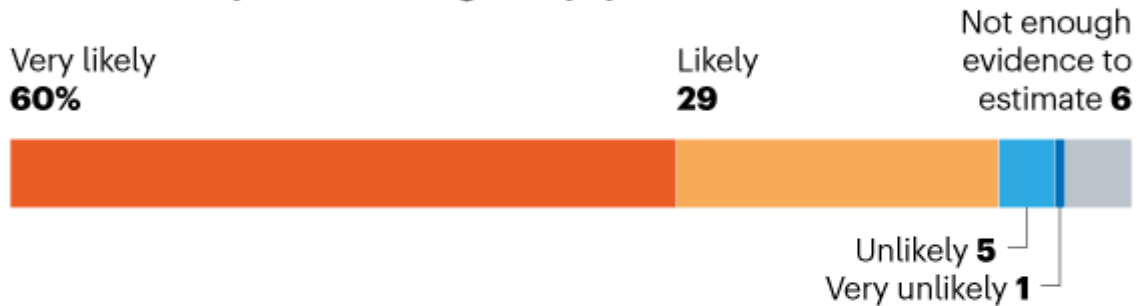
Very likely
60%

Likely
29

Not enough evidence to estimate **6**

Unlikely **5**
Very unlikely **1**

How likely do you think it is that SARS-CoV-2 can be eliminated from some regions?

Very likely
14%

Unlikely
35

Not enough evidence to estimate **10**

Likely
25

Very unlikely
17

119 immunologists, infectious-disease researchers and virologists from 23 countries. Percentages do not add up to 100% because of rounding.

©nature

89% think it is likely that it will become an endemic
6% think it is unlikely.
6% think there's not enough evidence to estimate
--

39% think that SARS-CoV-2 can be eliminated from some regions
52% think it is unlikely
10% think there's not enough evidence to estimate

Note: "Percentages do not add up to 100% because of rounding."

The failure of eradicating the disease doesn't mean that death, illness or social isolation will continue on the scale we have seen so far. It depends on the type of immunity we acquire through vaccination and how the virus evolves.

Influenza and the four known coronavirus which cause common colds are endemic as well.
In other words: *"[...] a combination of annual vaccines and acquired immunity means that societies tolerate the seasonal deaths and illnesses they bring without requiring lockdowns, masks and social distancing."*
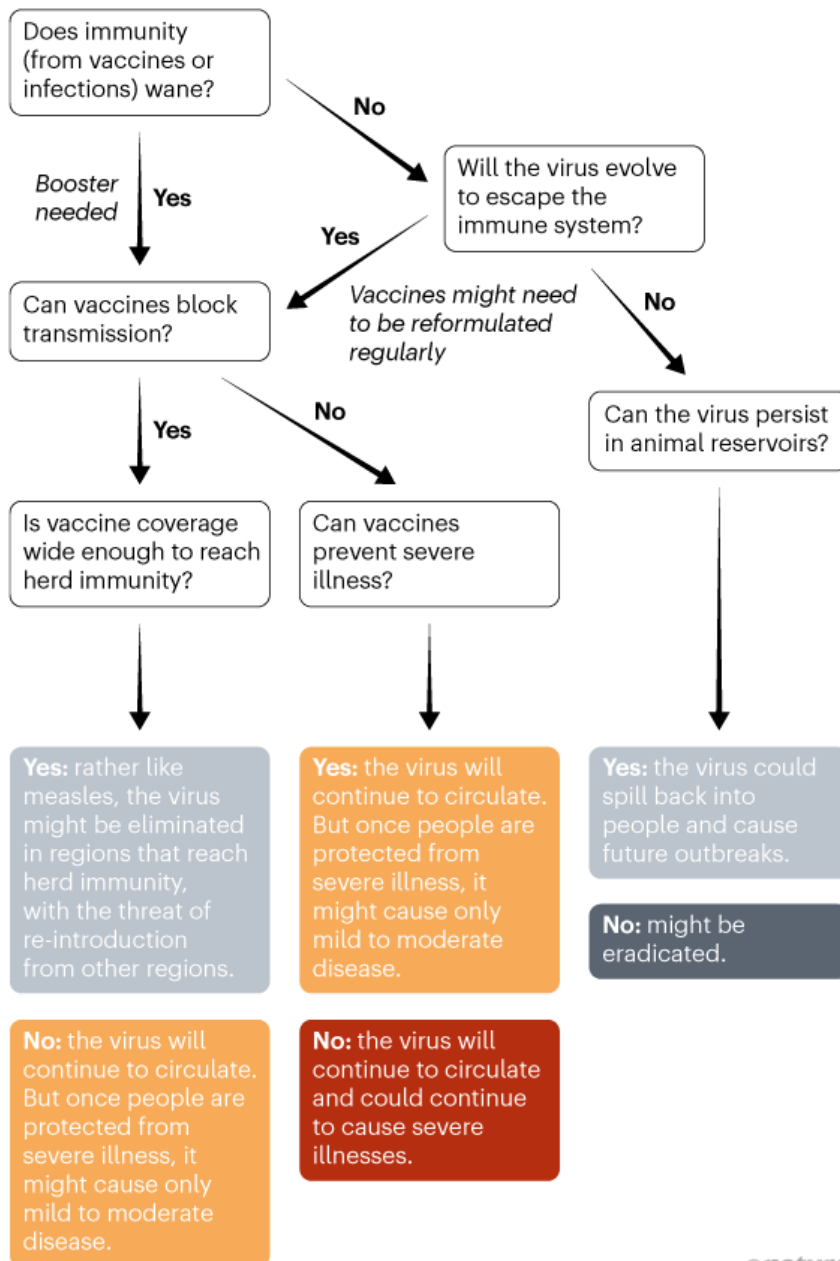
In regions with zero-Covid, there'd still be a risk of new outbreaks, but those could quickly be eliminated by herd immunity if most people had been vaccinated.

It doesn't sound like there's much certainty which way the virus will go. Angela Rasmussen, a virologist from Georgetown University, said: *"The virus becoming endemic is likely, but the pattern that it will take is hard to predict."*

The graphic below explains how it could become an epidemic:

CORONAVIRUS: HERE TO STAY?

SARS-CoV-2 has spread so far around the world that it is very unlikely to be eradicated. Here are some of the key factors that are likely to lead to it becoming endemic.

Does immunity (from vaccines or infections) wane?

No

Yes Booster needed

Will the virus evolve to escape the immune system?

Yes

Can vaccines block transmission?

Vaccines might need to be reformulated regularly

No

Can the virus persist in animal reservoirs?

Yes

No

Is vaccine coverage wide enough to reach herd immunity?

Can vaccines prevent severe illness?

Yes: rather like measles, the virus might be eliminated in regions that reach herd immunity, with the threat of re-introduction from other regions.

Yes: the virus will continue to circulate. But once people are protected from severe illness, it might cause only mild to moderate disease.

Yes: the virus could spill back into people and cause future outbreaks.

No: might be eradicated.

No: the virus will continue to circulate. But once people are protected from severe illness, it might cause only mild to moderate disease.

No: the virus will continue to circulate and could continue to cause severe illnesses.

©nature

Once a immunity is reached - natural or through vaccination - , though, the people won't experience severe symptoms. In fact, if the virus sticks around, it would become a childhood virus encountered early when growing up - that means that there are typically mild infections or none at all (according to Jennie Lavine, an infectious-disease researcher at Emory University in Atlanta, Georgia).

It is considered possible, because of the behaviour of the four other endemic coronaviruses known as OC43, 229E, NL63 and HKU1 - three of them have probably been circulating in human population for hundreds of year; and two of them are responsible for 15% of respiratory infections.

Regarding Covid-19, memory B-cells were made by people who had caught the disease.
This means that, even though the antibodies decline after 6 months, new antibodies can be manufactured as soon as the individual is being re-infected with the virus. The T-cells will then eliminate the infected cells - as it normally does with known infectious diseases.
However, the article continues: *"It's yet to be established if this immune memory can block viral reinfection — although cases of reinfection have been recorded, and new viral variants might make them more likely, they are still considered rare."*

Weiskopfs says that, if the majority of the people develop a life-long immunity to the virus, then it is unlikely that the virus will become an epidemic. The acquired immunity might wane after a year or two, especially when the virus is able to evolve and escape.

"More than half the scientists who responded to Nature's survey think waning immunity will be one of the main drivers of the virus becoming endemic."

Until a steady epidemic is reached, it could take a few years or decades. It also depends on how quickly populations develop immunity. And while allowing the virus to spread unchecked would be the fastest way to get to the point, Lavine says, it would also result in millions of deaths. Consequently, the path through vaccination is the safer and option.

Vaccines and Herd Immunity

Vaccines that prevent symptomatic infection might also stop transmission from one person to antoher, as clinical trials have suggested. In case of a successful block of transmissions, there's the possibility of eliminating it in some regions as long as enough people are vaccinated which in turn also protects those who are not vaccinated, thus contributing to herd immunity.

- Vaccine with 90% effectiveness:
At least 55% of the population needed to achieve temporary herd immunity, but some social distancing measures have to be kept (like face masks and home office) according to a model from a model that was developed by Alexandra Hogan at Imperial College London and her colleagues
- If a vaccine is less effective than 90% or a new more infectious variant arises, vaccine coverage needs to be greater to weaken the circulation

Vaccinations requires the willingness of the people to get vaccinated, and a survey written about in the article shows the worrying aspect:
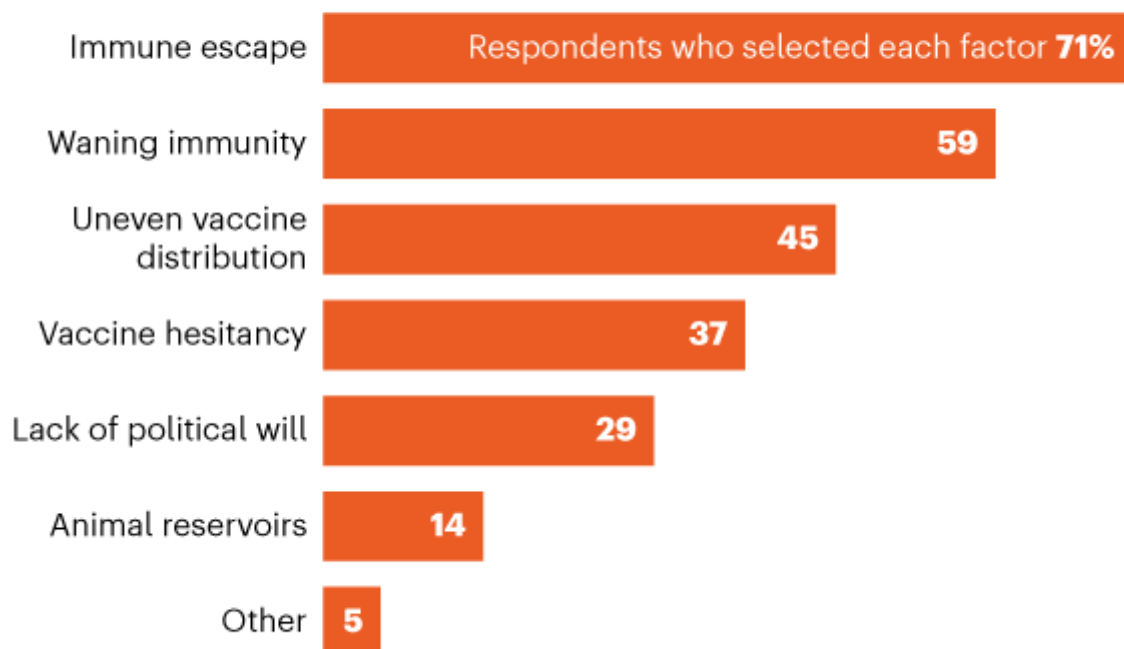
"A survey of more than 1,600 US citizens found that more than one-quarter (25%) would definitely or probably decline a COVID-19 vaccine, even if it were free and deemed safe (see go.nature.com/3a9b44s). "How successful we are at addressing those concerns will determine how many people get the vaccine and how many remain susceptible," says Rasmussen."

Insufficient immunization could lead to a similar outbreak of measles, which is an endemic in some parts of the world: *"In 2018, a global resurgence killed more than 140,000 people."*

Animal reservoirs will also decide whether it becomes an epidemic (i.e. SARS-CoV-2 success in wild animal populations), some diseases have shown to be persistent because of that. Among them are yellow fever, Ebola and chikungunya virus.

DRIVING FACTORS

Nature asked scientists to pick three of the biggest factors that would drive SARS-CoV-2 circulation in people if it became endemic.

Factor	Respondents who selected each factor
Immune escape	71%
Waning immunity	59
Uneven vaccine distribution	45
Vaccine hesitancy	37
Lack of political will	29
Animal reservoirs	14
Other	5

©nature

Conclusion

From the views of the scientists and the history of other coronaviruses and influenza, as well as factors such as vaccination effectiveness and virus mutation, we therefore also come to the conclusion that it is likely to become an epidemic.

While we may have to live it, we can ensure that all nations receive the vaccines to combat the disease effectively and get with cooperation future outbreaks also under control.

Moreover, disinformation must be fiercely combatted to ensure that there are no larger outbreaks of SARS-CoV-2 in the future or other illnesses.

Extra: SARS-CoV-2 is of Natural Origin

In an article around April 2020, I already wrote about the origin of the novel coronavirus. No country engineered it, and here are the facts from back then:

• The RBD portion of the SARS-CoV-2 spike proteins had evolved to effectively target a molecular feature on the outside of human cells called ACE2, a receptor involved in regulating blood pressure. The spike proteins of Covid-19 were even so effective at binding the human cells, that the scientists concluded it was the result of natural selection and not the end-product of genetic engineering.

• "If someone were seeking to engineer a new coronavirus as a pathogen, they would have constructed it from the backbone of a virus known to cause illness." However, the backbone of SARS-CoV-2 differed substantially from those of already known Coronaviruses. It's also mostly similar to other viruses found in bats and pangolins.

The article, from ScienceDaily, also pointed out the role of animals:
"*If the SARS-CoV-2 entered humans in its current pathogenic form from an animal source, it raises the probability of future outbreaks, as the illness-causing strain of the virus could still be circulating in the animal population and might once again jump into humans. The chances are lower of a non-pathogenic coronavirus entering the human population and then evolving properties similar to SARS-CoV-2.*"

Source

https://www.sciencedaily.com/releases/2020/03/200317175442.htm

Final Sentence

I hope I was able to inform you well, but I still recommend reading the original article of nature which elaborates more on it and also mentions aspects I have cut out to make this a summary.

(Released: 17th February 2021, 21:43 Uhr/9:43 pm)
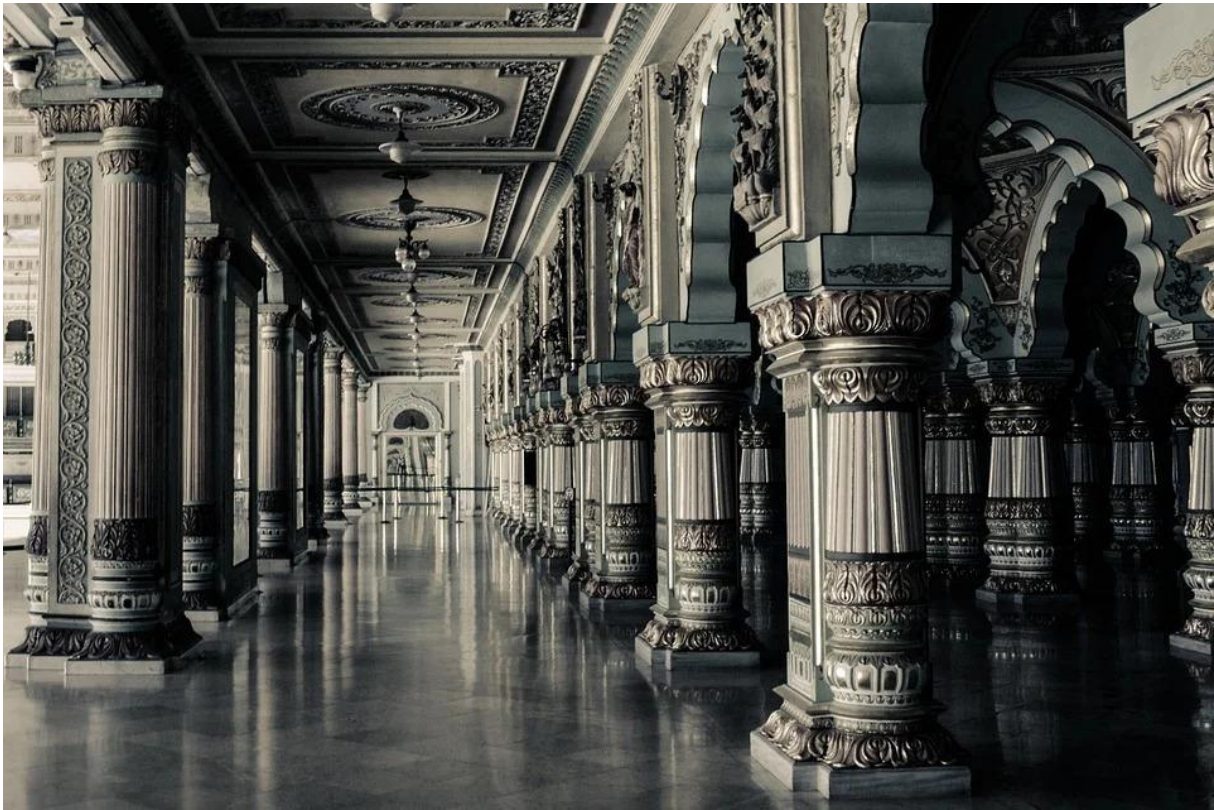
Economy of Culture

Illustration 4 - Once an economy is allowed to freely develope within its cultural boundaries, it is going to have a unique architecture

Description: Another idea of mine regarding the economy, it builds up on previous ideas such as "An Economy for the Future" and "Arbeiter sind keine Werkzeuge!" (= Workers are not tools!).

There are as many cultures on our planet as there are nations - if not more. However, despite the clear differences between cultures (i.e. cultural standards/patterns), economic systems like neoliberalism and socialism tend to dictate how a nation and its people should act. Some economic participants may implement policies to adapt the system to the dominant culture of the country they act within, but the main problem remains that goals such as privatization or collectivization remain mostly untouched, since they are essential to these systems to exist in the first place. Naturally, next to the economic difficulties, cultural complicacy arises as well.

For instance, slow growth and a lower level of productivity may seem undesirable to an economist of first world nations, but for the people an increased level of productivity, and therefore more working hours, could severly interfere with their way of life. Moreover, material welfare like in western nations may be seen as unnecessary to other nations (i.e. what goes beyond the basic material needs), but spiritual welfare as well as a balanced way of life is what is important to them.

Hence I propose that instead of following an abstract economic concept, the economy of a nation should be moulded by the culture and circumstances of life (e.g. society).

The understanding of cultural patterns, as well as values and norms, are therefore very important. In the following paragraphs I'll introduce you to two researchers and their research into the different cultures of humanity.

What are cultural patterns and What is their Purpose?

- with variations they are valid for a majority of the members of a culture
- they describe and explain how a cultural group perceives and evaluates things, how they think and why they act in specific ways
- they regulate behaviour (interactions with other people in certain situations)
- variations (individual and group specific) are tolerated within certain boundaries
- behaviours outside these boundaries are socially rejected and sanctioned
- people's own cultural standards are not perceived consciously any more after their successful socialisation -> makes understanding between cultures more difficult
- own cultural standards become conscious if they are compared with other cultures' standards

Edward T. Hall, an American anthropologist and cross-cultural researcher, distinguishes cultures in four dimensions (time, context, space and information) and two categories for each.

Time

Monochronous Cultures

M-Time means that people do one thing after another. Cultures in this category care about punctuality, making plans and keeping to plans. To them, their job/work is very important and thus also have more short-term relationships.

Their work time is clearly separable from personal time.

Polychronous Cultures

P-Times means that people do things simultaneously. Cultures in this category value human interaction over time and material things, thus leading to a decreased concern for finishing a project (for instance) at once - they still get it done, but in their own time.

Therefore, it can be deduced that time schedules are not so important and plans are flexible. On the other hand, people are very important and they spent more time on maintaining and building up relations with family/friends/business partners (more life-long relationships).

Their work time is not clearly separable from personal time.

Context

Low Context

Cultures within this dimension explicitly communicate a majority of the information in the verbal message. It means that more time is needed, but there's also less chance of misunderstanding, especially when visitors are present.

Example: an apology must be clearly articulated.

High Context

Cultures within this dimension have many contextual elements that help people to understand the rules. Consequently, a lot is taken for granted. For people who do not understand the 'unwritten rules' of the culture, this can be very confusing. However, it also means that a relationship is established prior to that (e.g. company and family).

Feelings, thoughts and information are not explicitly expressed, but also through a variety of contexts, such as voice tone, body language, facial expressions, eye contact, speech patterns, use of silence, past interactions, status, common friends, etc.

Example: an apology can be communicated through a wide range of nonverbal gestures such as a smile, a sigh, a shrug or a frown.

Space

Edward T. Hall also was concerned about space and our relationships within it. He called the study of space Proxemics. In many situations we are concerned with space; from personal body space to space in office, and parking space to the space at home.

High Territoriality

- people have distinctive places which they call "mine" and don't want them to be "disturbed"
- closed doors
- private offices and partitions
- minimal interruptions and disruption
- permission needed to enter private space
- no touching without agreement

People high territoriality tend also to be low context.

Low Territoriality

- large rooms, few if any partitions
- managers mix with employees
- open doors
- no problems with interruptions and disruption
- private and "public" space not so clearly distinct
- touching is more commong, e.g. greeting rituals

People with low territoriality tend also to be high context.

You can find an excellent summary of the three aspects [here](#).

Note: Most cultures very likely have characteristics of all four dimensions, but some aspects may be more prevalent than others.

However, there's also a 6-dimension model of national culture.

Geert Hofstede's Cultural Dimensions Theory

According to Hofstede, there are six dimensions of a culture:
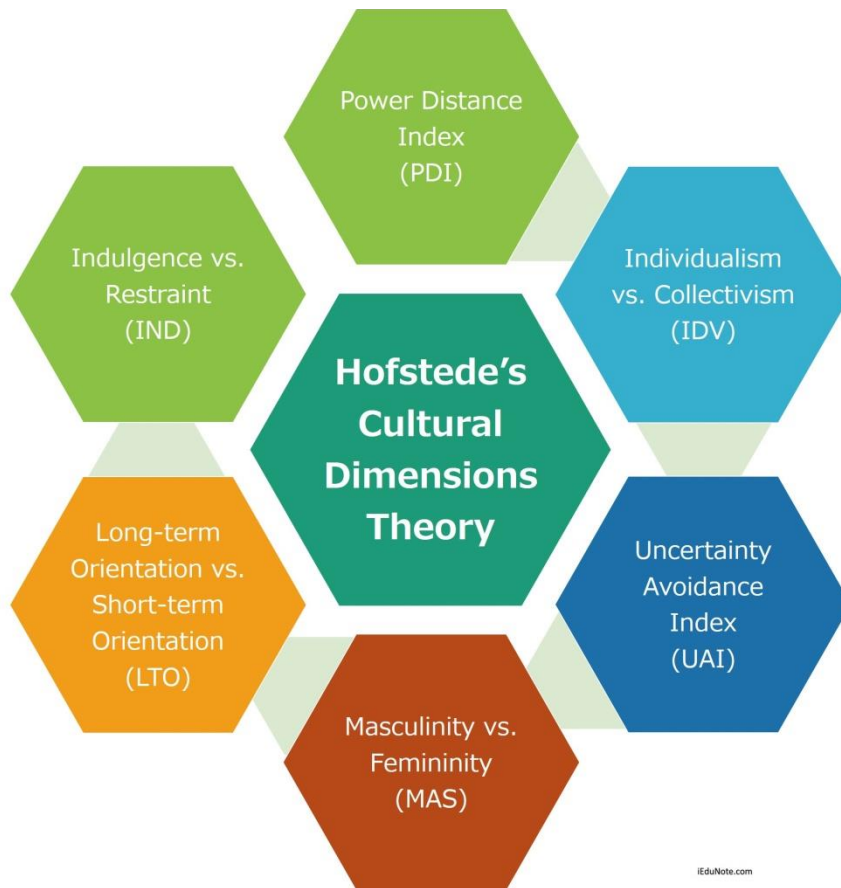
In order to make it short, I will explain each facet in one sentence. The information originates from Mindtools, as well as the list which is used.

Power Distance Index (PDI) – 1

PDI is the extent to which inequalities of power and wealth are commonly accepted.

PDI	Characteristics	Tips
High PDI	• Centralized organizations. • More complex hierarchies. • Large gaps in compensation, authority and respect.	• Acknowledge a leader's status. As an outsider, you may try to circumvent his or her power, but don't push back explicitly. • Be aware that you may need to go to the top for answers.
Low PDI	• Flatter organizations. • Supervisors and employees are considered almost as equals.	• Delegate as much as possible. • Ideally, involve all those in decision making who will be directly affected by the decision.

Individuality Index (Individualism vs Collectivism - IDV) – 2

IDV is the extent to which individual interests prevail over the interests of a group.

IDV	Characteristics	Tips
High IDV	• High value placed on people's time and their need for privacy and freedom. • An enjoyment of challenges, and an expectation of individual rewards for hard work. • Respect for privacy.	• Acknowledge individual accomplishments. • Don't mix work life with social life too much. • Encourage debate and expression of people's own ideas.
Low IDV	• Emphasis on building skills and becoming master of something. • People work for intrinsic rewards. • Maintaining harmony among group members overrides other moral issues.	• Wisdom is important. • Suppress feelings and emotions that may endanger harmony. • Avoid giving negative feedback in public. • Saying "No" can cause loss of face, unless it's intended to be polite. For example, declining an invitation several times is expected.

Masculinity Index (Masculinity vs Femininity - MAS) – 3

MAS refers to the distribution of roles between men and women.

MAS	Characteristics	Tips
High MAS	• Strong egos – feelings of pride and importance are attributed to status. • Money and achievement are important.	• Be aware of the possibility of differentiated gender roles. • A long-hours culture may be the norm, so recognize its opportunities and risks. • People are motivated by precise targets, and by being able to show that they achieved them either as a group or as individuals.
Low MAS	• Relationship oriented/consensual. • More focus on quality of life.	• Success is more likely to be achieved through negotiation, collaboration and input from all levels. • Avoid an "old boys' club" mentality, although this may still exist. • Workplace flexibility and work-life balance may be important, both in terms of job design, organizational environment and culture, and the way that performance management can be best realized.

Uncertainty Avoidance Index (UAI) – 4

UAI is the extent to which people feel threatened by uncertain or unknown situations.

UAI	Characteristics	Tips
High UAI	• Conservative, rigid and structured, unless the danger of failure requires a more flexible attitude. • Many societal conventions. • People are expressive, and are allowed to show anger or emotions, if necessary. • A high energy society, if people feel that they are in control of their life instead of feeling overwhelmed by life's vagaries.	• Be clear and concise about expectations and goals, and set clearly defined parameters. But encourage creative thinking and dialogue where you can. • Recognize that there may be unspoken "rules" or cultural expectations you need to learn. • Recognize that emotion, anger and vigorous hand gestures may simply be part of the conversation.
Low UAI	• Openness to change or innovation, and generally inclusive. • More inclined to open-ended learning or decision making. • Less sense of urgency.	• Ensure that people remain focused, but don't create too much structure. • Titles are less important, so avoid "showing off" your knowledge or experience. Respect is given to those who can cope under all circumstances.

Long Term Orientation vs Short Term Orientation (Pragmatic vs Normative - PRA) – 5

The PRA indicates the long-term and short-term orientation of a country; countries with a long-term orientation tend to be pragmatic, modest and more thrifty whereas countries with short-term orientation tend to place ore emphasis on principles, consistency and truth, and are typically religious and nationalistic.

PRA	Characteristics	Tips
Long-Term Orientation	• People often wonder how to know what is true. For example, questions like "What?" and "How?" are asked more than "Why?" • Thrift and education are seen as positive values. • Modesty. • Virtues and obligations are emphasized.	• Behave in a modest way. • Avoid talking too much about yourself. • People are more willing to compromise, yet this may not always be clear to outsiders; this is certainly so in a culture that also scores high on PDI.
Short-Term Orientation	• People often want to know "Why?" • Strong convictions. • As people tend to oversell themselves, others will assess their assertions critically. • Values and rights are emphasized.	• Sell yourself to be taken seriously. • People are less willing to compromise as this would be seen as weakness. • Flattery empowers.

Indulgence vs Restraint (IVR) – 6

The IVR shows the amount of gratification which is allowed in a country. However, as it is pointed out by the website: "*Hofstede's sixth dimension, discovered and described together with Michael Minkov, is also relatively new, and is therefore accompanied by less data.*"

PDI	Characteristics	Tips
High Indulgence	• Optimistic. • Importance of freedom of speech. • Focus on personal happiness.	• Don't take life too seriously. • Encourage debate and dialogue in meetings or decision making. • Prioritize feedback, coaching and mentoring. • Emphasize flexible working and work-life balance.
High Restraint	• Pessimistic. • More controlled and rigid behavior.	• Avoid making jokes when engaged in formal sessions. Instead, be professional. • Only express negativity about the world during informal meetings.

Conclusion

From both Hofstede and Hall we can conclude that the cultural background greatly influences the individuals within a society - from how they behave during social interactions to a business approach. A lot of things have to be taken into consideration, otherwise misunderstandings happen or conflicts emerge.

While the characteristics mentioned apply especially for human-to-human interactions, in Hofstede's case it already shows that these treats are most likely also reflected within the economy (see: IDV = Individualism vs Collectivism; PDI = Power Index -> wealth inequality/strong hierarchies, etc). This can also be seen when countries are compared to each other: Norway vs USA, for instance.

However, here it is also important to note that existing power structures do not necessarily reflect how the larger part of society thinks. This has less to do with the culture of a nation - especially with the studies mentioned above - and will therefore be addressed at another time.

Common Fundament

The existence of cultural differences does not result in a radical different economy from country to country, since worker rights movements - as an example - emerged all over the world in industralized societies.

In other words: we do not have to re-invent the entire economic system.

Take Europe, for instance: while all countries have a welfare system, there are some differences when it comes to universal healthcare. Some allow the market to play a bigger part, while other countries are heavily centralized in that aspect.
Once the pressure of endless economic growth and profit maximization are gone, we can expect that there'll also be more differences in other parts of the economy.

To make it short: we are going to see a welfare state in each nation. In some nations the extent of collectivization may vary, as well as wealth inequality (i.e. very high taxation to evenly distribute health or moderate taxation that allows some individuals to be a bit wealthier than the general populace, not to the extent of the inequality we witness today).

Transition to the Economy of Culture

The transition to the Economy of Culture won't happen overnight, since a lot has to be taken into account. During the early phase a lot of input from the populace is needed to determine the path is taken. In fact, the whole process relies on a continuous exchange with not just the people, but also different economic experts (that includes unorthodox ones too) and may even extent to scientists (e.g. climate of a region). Regional differences within a country could also occur, but will largely remain within the framework set by the national government.

Lastly, each country needs to respect the cultural differences - including the privat entities -. Additionally to the domestic policies, international treaties should be made as well to ensure that tax evasion and other loopholes are closed. It also requires to enforce the rules of the treaties which may end up in the formation of a special transnational committee which purpose is it to monitor very

wealy individuals and corporations during that time of transition. Once cemented, but that is going to take at least two decades, the tasks of the committee may change or it is dissolved when it deemed necessary.

(Released: 27th February 2021, 14:59 Uhr/02:59 pm)

A Defense Force for Democracies - The Guardians of Democracy

In order to protect our civil rights, we have to protect the democratic system. We can only achieve it by being organized and vigilant. This article shall propose an organization dedicated to the preservation of said civil rights and our democracy.

The organization shall act as a peaceful tool for the protection of democracy, civil liberties and human rights.

A short historic overview

The greatest advantage of democracies is the right to freely express oneself without having to fear imprisonment or sanctions. Then there are collective freedoms such as the freedom to assembly, the freedom to practice ones religion, and else.

Moreover, democracies allow us to form organizations, political parties and actively shape the discourse through protests and citizen initiatives (in Switzerland there are also direct-democratic elements which gives the people greater influence in the decision-making process).

While it may not be perfect and some things definitely need improvement (depending on the country there's more or less to do, in relative terms), it is the best form of government. After all, it allows change to happen and can therefore be molded by the people.

Those who have some understanding of history know that it hasn't always been like this – and in some countries young democracies even failed (e.g. Germany, the Weimar Republic 1918-1933). Going back further, there once existed absolute monarchies which concentrated the power in the hands of the king or queen and the nobility.

In some nations, the monarchies slowly evolved into constitutional monarchies and then into parliamentary democracies. However, the transition was neither automatic nor peaceful in most parts.

In France, the rule of the monarchy was overthrown by a violent revolution (1787- 1799). And while it has succeeded in its goal to abolish the monarchy, it failed in establishing a more equal form of government. At the end, Napoleon Bonaparte became emperor of France.

In Germany, there was an attempt as well, but it was crushed within a year (1848/1849).

In Russia, there were two revolutions: one in 1905, which failed; and one in 1917, which succeeded. The latter ended in a dictatorship which peaked with Stalin's takeover in 1924 after Vladimir Lenin's death.

There are cases in which revolutions were successful, though, and among them is the US-American revolution (1765 – 1783). Of course, the USA wasn't overnight a flawless democracy after it became independent, but it slowly evolved into the direction.

Switzerland, formed in 1291, adopted a new constitution in 1848 which formed the present nation. Since the mid-19th century it enjoyed relative domestic tranquility and is quite unique in that regard.

By far the oldest living participatory democracy is the Iroquois Confederacy - founded in 1142 by the Great Peacemaker. It was also the inspiration for the form of government of the US. *"The Iroquois Confederacy originally consisted of five separate nations – the Mohawks, who call themselves Kanienkehaka, or "people of the flint country," the Onondaga, "people of the hills," the Cayuga, "where they land the boats," the Oneida, "people of the standing stone," and the Seneca, "thepeople of the big hill" living in the northeast region of North America."*

As one can see the transition to democratic forms of government were different in each nations. In some countries it took longer, other countries developed over time – and in some cases, like Italy and Germany, far right-wing dictatorships destroyed a democracy.

Both of which ended then in 1945, after the Second World War.

Defending modern democracies

In modern times, we don't have to worry about a re-emergence of monarchies. However, there are other threats to the democracies we live in today. Among these threats are the political (far-right and far-left), religious (i.e. fundamentalism), and economic (lobbyism by large corporations and other attempts to influence the decisions of politicians and other parts of the government).

If nothing is done against the threats, then our democracy will deteriorate and it either turns into a Theocracy, an Oligarchy or a Dictatorship.

Civil rights must be protected, democratic institutions strengthened and democracy as whole expanded. Transparency is also an important part, which is why it should be pushed as well – from a more transparent decision-making process (how are decisions made?) to a clearer picture which private enterprises donated to which party.

Furthermore, a lot of people work hard every day and they do not have the time to do research about the rights and liberties they have. Consequently, there should an educational force which provides the information in a comprehensible and compact way (in some countries, like Germany, there already exist institutions such as the Bundeszentrale für politische Bildung = (German) Federal Agency for Civic Education, which make it easier to found an information network).

The information which is then provided can range from legal rights to political, economic, scientific and historic education.

The information network should also be easily accessible and the sources proof-read by a third party (which consists of experts for each field/topic). After all, the people deserve a reliable source of information. The network alone is passive, and that's where the organization comes into play.

An information network which is not known to the majority of the population is not of much use, that's why it needs to be promoted and supported by a group dedicated to protect, preserve and expand democracy. In this case, I'm talking about the Guardians of Democracy – an organization which is a cross-party acting educational force.

It not only hosts events, writes articles or hold speeches to make the people aware of the network; it also uses its platform for a variety of other political events and establishes contacts to rural and urban areas alike. That's why the internet is a key instrument to organize and coordinate. No one should be left behind just because they live in a different geographical location or are wealthy enough to travel to a city whenever they want. Therefore, the organization is inherently egalitarian and the philosophy must be enforced by its members.

Obviously, I don't need to mention that in multi-party systems it only includes the democratic-minded political parties. Otherwise it would be undermined by the extremists.

On an economic level, it means that it doesn't act in favour of any corporation. Transparency and democracy (e.g. labour unions) are important in the market as well. There's no moral justification for a CEO of a large company to act like a tyrant. They employ people who have human rights and democratic rights. Naturally, a private entity should also be internally democratized as much as possible.

A democratic market means that smaller companies aren't being neglected or forcibly driving out by larger companies through unfair tactics (e.g. reducing the price drastically which results in bankruptcy of the smaller businesses which cannot afford to sell at very low prices).

In short: The democratic system as whole must be protected and should be expanded (from more transparency of decision-making processes to inclusion of all people, regardless of gender, skin colour, or else), neither should the market be left out in this process of democratization and education (e.g. worker rights). Each threat has to be assessed to be given an adequate response (i.e. corruption is not the same as political violence, and in some countries one political ideology is more violent and a greater threat than the other one).

The Organization

Lastly, we shall focus on the structure of the organization (or at least what I already had in mind for it, the proposal here is not final and sub organizations and/or roles can be added later one).

The flag of organization, at this point in time, consists of a dark-red background, an owl, a wreath of laurel, a shield and the sun.

The meaning of the flag (i.e. its elements) and the flag itself are displayed on the next page.

Illustration 5 - Guardians of Democracy Flag

The dark red colour stands for the countless lives it took to establish our democracy. It serves as a reminder that our democratic system should not be taken for granted, and therefore the necessity emerges to protect and defend our values and democracy as a system itself. It ranges from individual liberties such as freedom of speech and freedom of self-development to collective freedoms like the freedom to assembly. A healthy public discourse is a requirement, as well as giving everyone the chance to get access to educational materials from trusted and serious sources.

The wreath of laurel represents confidence in victory (as history has shown) and shows the certitude in the democratic cause. Battles were lost in the past – in France, Germany, and other countries where revolutions once broke out to abolish monarchic rule. However, in the long run, the war of the systems ended with democracy emerging victorious over the monarchies and dictatorships.
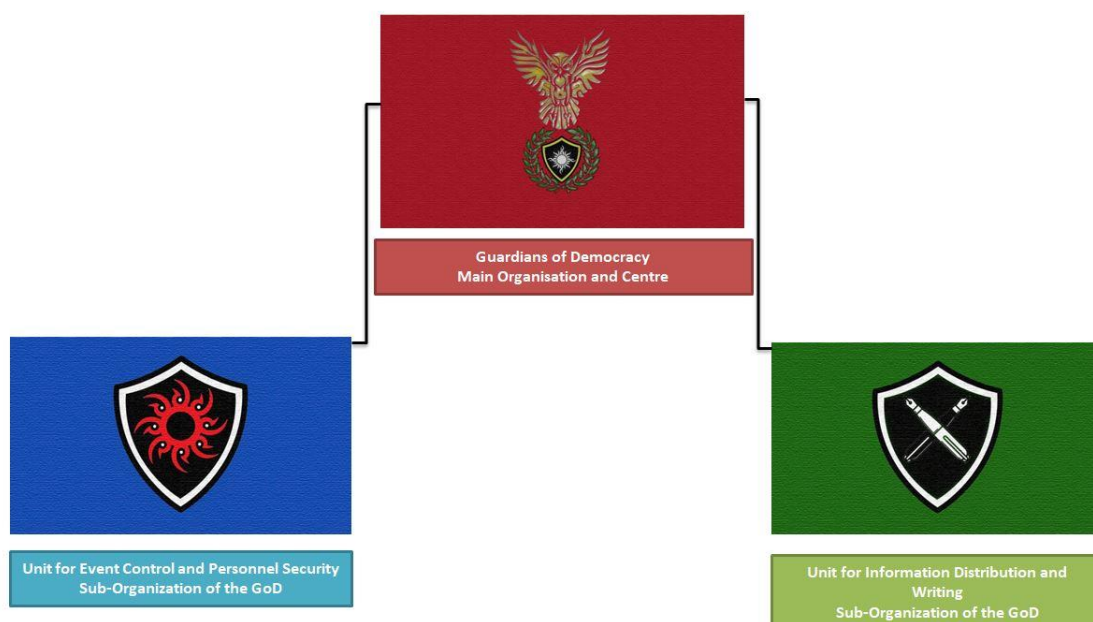
The shield emphasizes on the role as defenders and protectors – the guards – of democracy – whether it is anti-democratic political extremism, theocratic religious radicals or oligarchic individuals with a lot of power and economic might. The guards are ready and willing to fight on all fronts.

The owl symbolizes knowledge (which is limitlessly accessible in democracies), foresight (always looking to the future and making decisions based on the consequences it has on those living several generations later) and patience (some procedures and plans may take longer, but no rush decisions are made to avoid mistakes). All three of these characteristics are important for sustainability. The sun is a symbol of life and that it in itself is valuable. It is also a symbol of power; power which is needed to stop and destroy inhumane ideologies and the enemies of democracy.

Sub-organizations

The exact make-up of the organization is, as previously mentioned, not entirely certain since I prefer the people to form it and shape it in a way they want to see it.

One of the few things that are set is the role of the Coordinator – basically the one who organizes it (there exists a local-coordinator of a city or county, then a state-coordinator, etc. etc.), but it isn't limited to one person. Now to the sub-organizations.

Guardians of Democracy
Main Organisation and Centre

Unit for Event Control and Personnel Security
Sub-Organization of the GoD

Unit for Information Distribution and Writing
Sub-Organization of the GoD

As one can see, it is simply organized at this point in time, but this shouldn't stop anyone from expanding the sub-organizations if deemed necessary. Since I'm unaware when you are reading this, it could be possible that it is more than just an idea for an organization at this point. The current date is the 22nd February 2021, it is 2:42 pm CEST.

Moving on, I explain now the two sub-organizations.

Both are explained on the next page of the document, these are also going to be the last pages.

Note: The sun symbol and the crossed pencils can be changed, of course. I'm just awful at drawing which is why I used icons on the internet.

Illustration 6 - Unit for Event Control and Personnel Security (UEC-PS)

The Unit for Event Control and Personnel Security (UEC-PS) ensures that the political events and other festivals related to the organizations – or asked by organizers to help out – remain peaceful, especially when it comes to protests. Additionally, they also make sure that the speakers – for instance – on the event are not harmed. The sun is once again the symbol of power and life, life in this case means that violence is only used in self-defense. If necessary, new tasks can be administered by it.

Members of the UEC-PS are ideally trained in self-defense or dispute settlement.

The Unit for Information Distribution and Writing (UID-W) is the organization which writes articles about upcoming events, the information network and comments on political, economic and scientific news in general. It operates on a local, state and federal level (depending on the country also a regional level, if it is a more centralized government, but here it again is up to the people how they want to shape it).

Since it is a cross-party organization, loaded words and attention-grabbing articles should be avoided. Opinion articles which are polemic, as an example, must be pointed out as such to prevent confusion.

Final Note
International communication (i.e. international exchange) is also encouraged. The organization from each nation can establish an extra communication network or use social media of any kind. All act independently in their own nation.

(Released: 22nd February 2021, 14:51 Uhr/02:51 pm)

Legal Report on Uighurs:
China breaches every Article in Genocide Convention

The Genocide Convention of 1948

The [Convention on the Prevention and Punishment of the Crime of Genocide](#) ^(PDF), also known as Genocide Convention, was signed on 9 December 1948. It was the first human rights treaty adopted by the General Assembly of the United Nations.

In context of the Second World War, it signified the commitment of the international community to never let such atrocities - as they happened during World War II, namely the Holocaust - never happen again. Genocide is a crime that can occur both in times of war and peace. The definition of Genocide was also adopted in the 1998 Rome Statue of the International Criminal Court (ICC).
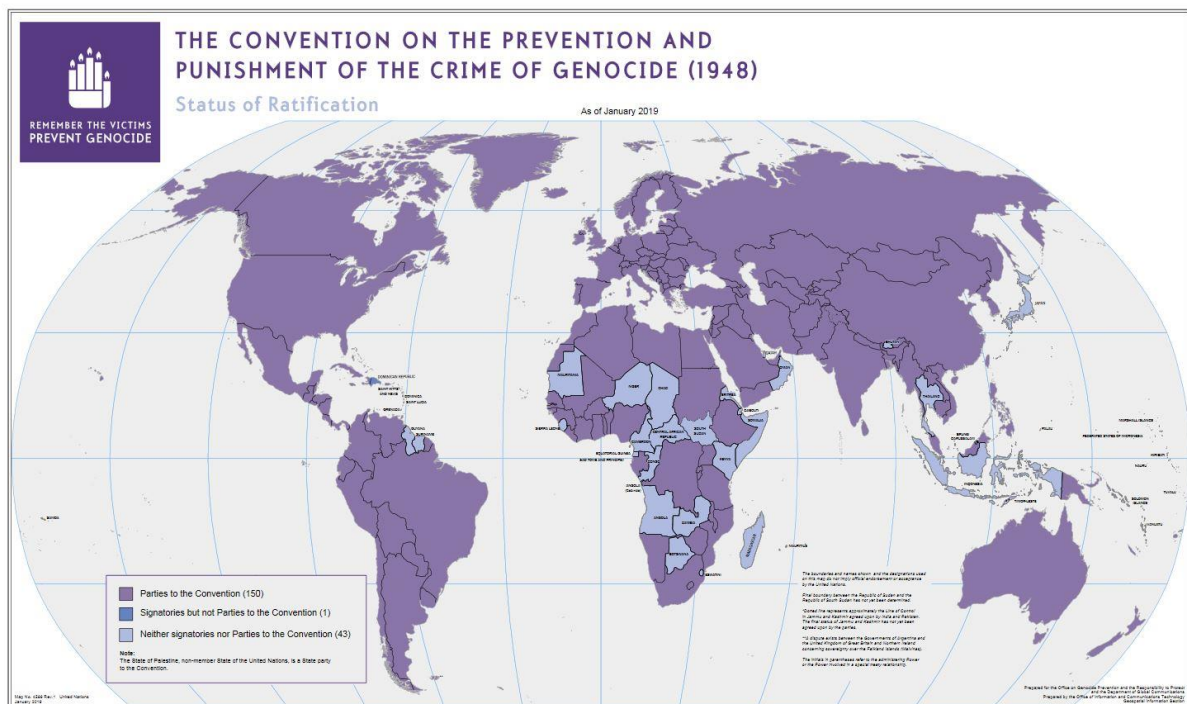

Illustration 8 - 150 countries are parties to the convetion, including China

The countries that signed the treaty have [following obligations](#):

• Obligation not to commit genocide (Article I [as interpreted by the ICJ](#))

• Obligation to prevent genocide (Article I) which, [according to the ICJ](#), has an extraterritorial scope;

• Obligation to punish genocide (Article I);

• Obligation to enact the necessary legislation to give effect to the provisions of the Convention (Article V);

• Obligation to ensure that effective penalties are provided for persons found guilty of criminal conduct according to the Convention (Article V);

• Obligation to try persons charged with genocide in a competent tribunal of the State in the territory of which the act was committed, or by an international penal tribunal with accepted jurisdiction (Article VI);

• Obligation to grant extradition when genocide charges are involved, in accordance with laws and treaties in force (Article VII), particularly related to protection granted by international human rights law prohibiting refoulment where there is a real risk of flagrant human rights violations in the receiving State.

Genocide of the Uighurs

[The 25,000-word report](#), which was published by a non-partisan US-based thinktank (Newlines Institute for Strategy and Policy), put forward a legal examination and found that China breaches every article of the Genocide Convention.

Listed here are some of the articles of the 1948 Genocide Convention:

Article I
The Contracting Parties confirm that genocide, whether committed in time of peace or in time of war, is a crime under international law which they undertake to prevent and to punish.

Article II
In the present Convention, genocide means any of the following acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such: (a) Killing members of the group;
(b) Causing serious bodily or mental harm to members of the group;
(c) Deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part;
(d) Imposing measures intended to prevent births within the group;
(e) Forcibly transferring children of the group to another group.

Article III
The following acts shall be punishable:
(a) Genocide;
(b) Conspiracy to commit genocide;

(c) Direct and public incitement to commit genocide;
(d) Attempt to commit genocide; (e) Complicity in genocide.

Article IV
Persons committing genocide or any of the other acts enumerated in article III shall be punished, whether they are constitutionally responsible rulers, public officials or private individuals.

The violations are explained in an article of the Guardian:
"As evidence, the report cited reports of mass deaths, selective death sentences, and long-term imprisonment of elders, systemic torture and cruel treatment including sexual abuse and torture, interrogations and indoctrination, the targeted detention of Uighur community leaders and people of childbearing age, forced sterilisation, family separation, mass labour transfer schemes, and the transfer of Uighur children to state-run orphanages and boarding schools."

"The intent to destroy the Uighurs as a group is derived from objective proof, consisting of comprehensive state policy and practice, which President Xi Jinping, the highest authority in China, set in motion," the report said.

"The persons and entities perpetrating the above-indicated acts of genocide are all state agents or organs – acting under the effective control of the state – manifesting an intent to destroy the Uighurs as a group within the meaning of article II of the Genocide convention," the executive summary said.

Regarding the report:

"In creating the report, all available and verifiable evidence was studied by dozens of experts on international law, genocide studies, Chinese ethnic policies and China, the institute said. It made no recommendations."

Addendum 1: Executive Summary of the Report - Genocide Convention Breaches

1. **This report concludes** that the People's Republic of China (China) bears State responsibility for committing genocide against the Uyghurs in breach of the 1948 Convention on the Prevention and Punishment of the Crime of Genocide (Genocide Convention) based on an extensive review of the available evidence and application of international law to the evidence of the facts on the ground.
2. **The examination was conducted** by recognized independent experts on international law, genocide, China's ethnic policies, and the Xinjiang Uyghur Autonomous Region (XUAR).
3. **Intent to Destroy.** Under Article II of the Genocide Convention, the commission of genocide requires the "intent to destroy, in whole or in part, [a protected group], as such." The "intent to destroy" does not require explicit statements. Intent can be inferred from a collection of objective facts that are attributable to the State, including official statements, a general plan, State policy and law, a pattern of conduct, and repeated destructive acts, which have a logical sequence and result — destruction of the group as such, in whole or in substantial part.

4. **High-level statements of intent and general plan**. In 2014, China's Head of State, President Xi Jinping, launched the "People's War on Terror" in XUAR, making the areas where Uyghurs constitute nearly 90 percent of the population the front line. High-level officials followed up with orders to "round up everyone who should be rounded up," "wipe them out completely … destroy them root and branch," and "break their lineage, break their roots, break their connections, and break their origins." Officials described Uyghurs with dehumanizing terms and repeatedly likened the mass internment of Uyghurs to "eradicating tumors."

5. **Comprehensive State policy, pattern of conduct and repeated destructive acts.**

a. Government-Mandated Homestays. Since 2014, the Government of China (Government) has deployed Han cadres to reside in Uyghur homes as monitors, resulting in the rupturing of family bonds. County governments further coerce, incentivize, and actively promote Han-Uyghur marriages.

b. Mass Internment. In 2017, the XUAR legislature formally legalized the mass internment of Uyghurs under "De-Extremification" regulations. The top security official and entities dispatched a manual and set of documents across the region with orders to police Uyghurs, "speed up the construction" and expansion of the mass internment camps, "increase the discipline and punishment" within the camps and maintain "strict secrecy" over all information, which is not to "be disseminated," nor "open to the public." The manual outlines the complex hierarchy of officials, entities, and the centralized digital surveillance system overseeing the entire campaign.

c. Mass Birth-Prevention Strategy. China has simultaneously pursued a dualsystematic strategy of forcibly sterilizing Uyghur women of childbearing age and interning Uyghur men of child-bearing years, preventing the regenerative capacity of the group and evincing an intent to biologically destroy the group as such. According to Government statistics and directives, including to "carry out family planning sterilization," "lower fertility levels," and "leave no blind spots," China is carrying out a well-documented, State-funded birth-prevention campaign targeting women of childbearing age in Uyghur-concentrated areas with mass forced sterilization, abortions, and IUD placements. China explicitly admits the purpose of these campaigns is to ensure that Uyghur women are "no longer baby-makingmachines."

d. Forcible Transfer of Uyghur Children to State-run Facilities. Pursuant to new Government policy in 2017, China began building a vast network of massive State-run, highly securitized boarding schools and orphanages to confine Uyghur children, including infants, full time. XUAR counties receive specific quotas from higher authorities to institutionalize such "orphans," who often lose both parents to internment or forced labor.

e. Eradication of Uyghur identity, community, and domestic life. Pursuant to Government campaigns, local authorities have eliminated Uyghur education, destroyed Uyghur architecture and household features, and damaged, altered, or completely demolished the vast majority of mosques and sacred sites in the region, while closing off other sites or converting them into commercial spaces.

f. Selective Targeting of Intellectuals and Community Leaders. The intent to destroy the

Uyghurs as a group is further demonstrated by the Government's deliberate targeting of the guardians and transmitters of Uyghur identity for prolonged detention or death, including household heads, intellectuals, and cultural leaders, regardless of Party affiliation or educational status. The deliberate targeting of Uyghur leaders and sacred sites evinces an intent to destroy the essential elements of Uyghur identity and communal bonds, which define the group as such.

6. China's policies and practices targeting Uyghurs in the region must be viewed in their totality, which amounts to an intent to destroy the Uyghurs as a group, in whole or insubstantial part, as such.

7. **Acts of Genocide**. While commission of any one of the Genocide Convention's enumerated acts with the requisite intent can sustain a finding of genocide, the evidence presented in this report supports a finding of genocide against the Uyghurs in breach of each and every act prohibited in Article II (a) through (e).

8. **"(a) Killing members of the group."** There are reports of mass death and deaths of prominent Uyghur leaders selectively sentenced to death by execution or, for elders in particular, by long-term imprisonment.

9. **"(b) Causing serious bodily or mental harm to members of the group."** Uyghurs are suffering serious bodily and mental harm from systematic torture and cruel treatment, including rape, sexual abuse, exploitation, and public humiliation, at the hands of camp officials and Han cadres assigned to Uyghur homes under Government-mandated programs. Internment camps contain designated "interrogation rooms," where Uyghur detainees are subjected to consistent and brutal torture methods, including beatings with metal prods, electric shocks, and whips. The mass internment and related Government programs are designed to indoctrinate and "wash clean" brains, driving Uyghurs to commit or attempt suicide from the threat of internment or the daily extreme forms of physical and psychological torture within the camps, including mock executions, public "self-criticisms," and solitary confinement.

10. **"(c) Deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part."** The authorities systematically target Uyghurs of childbearing years, household heads, and community leaders for detention in unliveable conditions, impose birth-prevention measures on Uyghur women, separate Uyghur children from their parents, and transfer Uyghurs on a mass scale into forced hard labor schemes in a manner that parallels the mass internment. In sum, China is deliberately inflicting collective conditions calculated to terminate the survival of the Uyghurs as a group.

11. **"(d) Imposing measures intended to prevent births within the group."** The systematic birth prevention campaign in Uyghur-concentrated areas is reinforced by the mass internment drive. In the camps, Uyghur women are subjected to forced IUD insertions, abortions, and injections or medication halting their menstrual cycles, while Uyghur men of childbearing age are targeted for internment, depriving the Uyghur population of the ability to reproduce. As a result of these interconnected policies, growth rates in Uyghur-concentrated areas are increasingly approaching zero.

12. **"(e) Forcibly transferring children of the group to another group."** Where detentions and forced labor schemes are leaving Uyghur children bereft of both parents, they are

being sent to State-run orphanages and raised in Chinese-language environments with standard Han child-rearing methods.

13. **China's Responsibility for Genocide under the Genocide Convention.** China is a highly centralized State in full control of its territory and population, including XUAR, and is a State party to the Genocide Convention. The persons and entities perpetrating the above-indicated acts of genocide are all State agents or organs — acting under the effective control of the State — manifesting an intent to destroy the Uyghurs as a group within the meaning of Article II of the Genocide Convention.

Conclusion

The increased restrictions on the Uighur population, as well as continued and increasing violation of their human rights, is unfortunately not news. Under Xi Jinping the repressions have [drastically increased](#):

"Jewher's father was targeted by the Chinese government for his advocacy of Uighur rights. But in recent years, the Chinese Communist Party has arbitrarily [detained between 1 million and 3 million](#) other Uighurs in so-called "reeducation centers" and forced them to undergo psychological indoctrination programs, such as [studying communist propaganda and giving thanks](#) to Chinese President Xi Jinping. Chinese officials have also reportedly used [waterboarding](#) and other forms of torture,including sexual abuse, as part of the indoctrination process.

Researchers from the Australian Strategic Policy Institute, using satellite imagery and other evidence, have documented more than 380 re-education camp detention centers and prisons in Xinjiang, [with at least 61 having been expanded or updated within the last year](#)."

It is the [largest mass internment](#) of an ethnic-religious minority group since World War II.

The Uighurs are also being used for forced labour: *"The forced labor is happening both within Xinjiang and in other parts of China, according to recent reports. A [March 2020 report](#) from the Congressional-Executive Commission on China also found Uighur forced labor taking place within internment camps."*

The article of Vox elaborates on the forced labour used by the Chinese government.

It is clear that the international community mustn't look away now. Especially Europe, which had to endure the terror reign of the national socialist regime (1933-1945; war started in 1939) and preaches that such things as a genocide should never happen again, must intervene. From sanctions to a reduction of trade, the options need to be taken seriously into consideration. In the long-term, less dependence on China and in general more independence - as much as possible - should be the goal.

It would be a disaster if the Chinese government under Xi Jinping is not being punished. If nothings is done, it essentially signals to other dictatorships that they can do as they please without having to fear interventions from other powers that have once pledged to uphold human rights and prevent atrocities from happening again.

Addendum 2: The Conclusion of the Report (Executive Summary)

This report therefore concludes that China bears State responsibility for an ongoing genocide against the Uyghurs, in breach of the Genocide Convention.

However, the report does not not recommend a course of action. In their words:
"We do not make any recommendations for action, but we do stand prepared to share our information and analysis with relevant institutions or actors interested in these findings."

(Released: 10th March 2021, 19:09 Uhr/7:09 pm)

Equality of Nations

In this entry, I will talk about my vision of a world with a different order.
It's going to be a rather short article, though.

While it is true that some nations are both economically and in terms of populace greater than others, it doesn't justify the exploitation of those which are weaker and didn't have a headstart.

The opposite should be the case: stronger nations should help those which are underdeveloped and help them in gaining more independence from aid programs until they are no longer required. This includes fair trade - treating the trade partner with respect and dignity.

Unfortunately, this isn't the case. Underdeveloped nations are still being exploited - from multinational corporations to their own corrupt governments. The west can introduce a change by stopping the first. That means more transparency and democratization of these corporations.

Human rights must also be adhered by in the private sector. No one shall reign over their employees like a tyrant.

The change won't occur overnight, and it is going to take a while; however, on that front unions like the EU could set a positive example and end the practiced exploitation that went on for centuries.

Cultural respect shouldn't be optional!

Equal treatment also means equal access - from vaccines to clean water. While the societies of western nations are not guilty of the colonial actions of their ancestors, they should recognize a form of responsibility to lift the poorer countries out of their misery.

Of course, some of the issues can only be solved by the natives. We, however, can fix those that are caused by us or heavily influenced by us - trade agreements and vaccine distribution, for instance. And if they need our assistance, then we should listen to them.

There's much to do, and the first step is to recognize all nations as equal and act on that principle.

Addendum 1: More blog entries regarding Equality of Nations are going to be released. The first one serves as an introduction and conveys the core idea.

(Released: 13th March 2021, 04:15 Uhr/04:15 am)

Curious Progress: How The First Female Mayor in the United States Got Elected
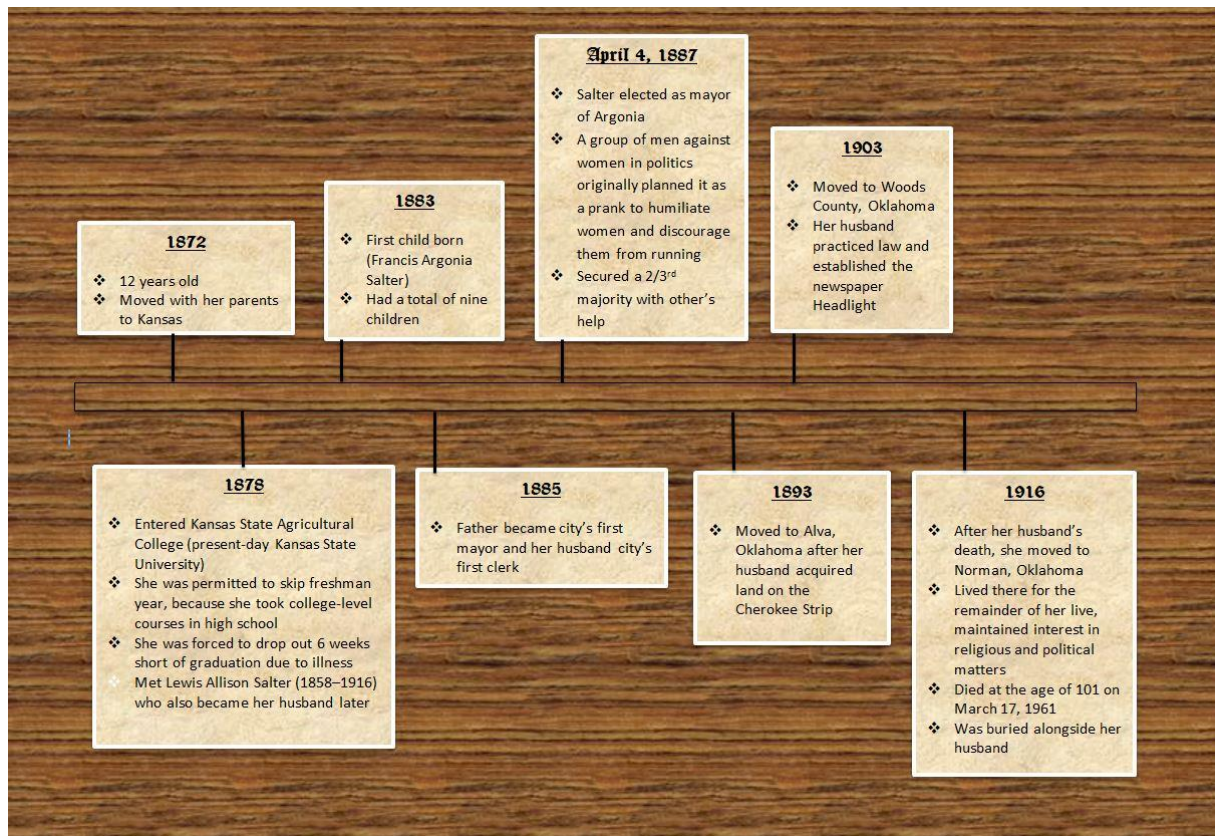
In celebration of the 134th Anniversary of her election

Illustration 9 - Susanna M. Salter in 1887

Introduction

Susanna Madora Salter was born on March 2, 1860, near the unincorporated community of Lamira in Smith Township, Belmont County, Ohio. Her parents were Oliver Kinsey and Terissa Ann White Kinsey, both were descendants of Quaker colonists from England.

Timeline

April 4, 1887
- ❖ Salter elected as mayor of Argonia
- ❖ A group of men against women in politics originally planned it as a prank to humiliate women and discourage them from running
- ❖ Secured a 2/3rd majority with other's help

1903
- ❖ Moved to Woods County, Oklahoma
- ❖ Her husband practiced law and established the newspaper Headlight

1883
- ❖ First child born (Francis Argonia Salter)
- ❖ Had a total of nine children

1872
- ❖ 12 years old
- ❖ Moved with her parents to Kansas

1878
- ❖ Entered Kansas State Agricultural College (present-day Kansas State University)
- ❖ She was permitted to skip freshman year, because she took college-level courses in high school
- ❖ She was forced to drop out 6 weeks short of graduation due to illness
- ❖ Met Lewis Allison Salter (1858–1916) who also became her husband later

1885
- ❖ Father became city's first mayor and her husband city's first clerk

1893
- ❖ Moved to Alva, Oklahoma after her husband acquired land on the Cherokee Strip

1916
- ❖ After her husband's death, she moved to Norman, Oklahoma
- ❖ Lived there for the remainder of her live, maintained interest in religious and political matters
- ❖ Died at the age of 101 on March 17, 1961
- ❖ Was buried alongside her husband

Unexpectedly Elected

As the title of this part implies, Salter wasn't an official candidate for the election. She was put on a slate of candidates as a prank by a group of men against women in politics. At this time, the candidates didn't have to be made public before Election Day; therefore Salter herself didn't even know that she was on the ballot before the polls opened.

On election day, however, she agreed to accept office if elected. The Women's Christian Temperance Union abandoned their own preferred candidate and voted for Salter en masse.
Furthermore, the local Republican Party[1] Chairman sent a delegation to her home and confirmed that she would serve which consequently led to Republicans agreeing to vote for her.
All factors combined resulted in securing the election for her with a 2/3rd majority.

Her term was uneventful, but her election generated national interest from the press and sparked a debate regarding the feasibility of other towns following Argonia's lead. It ranged from "petticoat rule" to a "wait-and-see" attitude.

A correspondent of the New York Sun attended one of the first council meetings. He wrote about the mayor's dress and hat; he also pointed out that she presided with great decorum[2]. She also showed that she was a good parliamentarian by checking several times irrelevant discussions.
It wasn't just news in the US - it extended to newspapers as far as Sweden and South Africa.

For her one year in service, Salter was paid one dollar in compensation (28$ in 2019).
She didn't seek re-election.

[1] The Republican Party was for the longest time a socially progressive party. This changed in the mid-20th when the GOP shifted more towards the right and Democrats shifted left-wing.
[2] Decorum describes the antique principle of a decent and appropriate public rhetoric, poesy and behaviour.

Susanna Madora Salter's House Nowadays

Illustration 10 - Argonia, Kansas

Closing

Salter's unexpected election is a historic event that I came across by pure coincidence. In that case, it was a meme ridiculing the group of men who tried to humiliate the movement for women in politics - the website is known as the "Frontpage of the Internet".

You can also read about her [here](#) (National Women's History Museum).

In the future, I may find more historic events that are not that well-known.

This blog was published on the 134th anniversary of her election as mayor (4th April).

(Released: 4th April 2021, 12:01 Uhr/Midday)

Political Scenario Simulations for Emerging Politicians (PSSEP)

In order to prepare new generations of politicians for the crises of the future, a political simulation designed by historians, economics, scientists and other experts may be the ideal tool to equip future politicians with the necessary knowledge and skills.

(Another Political Idea of mine)
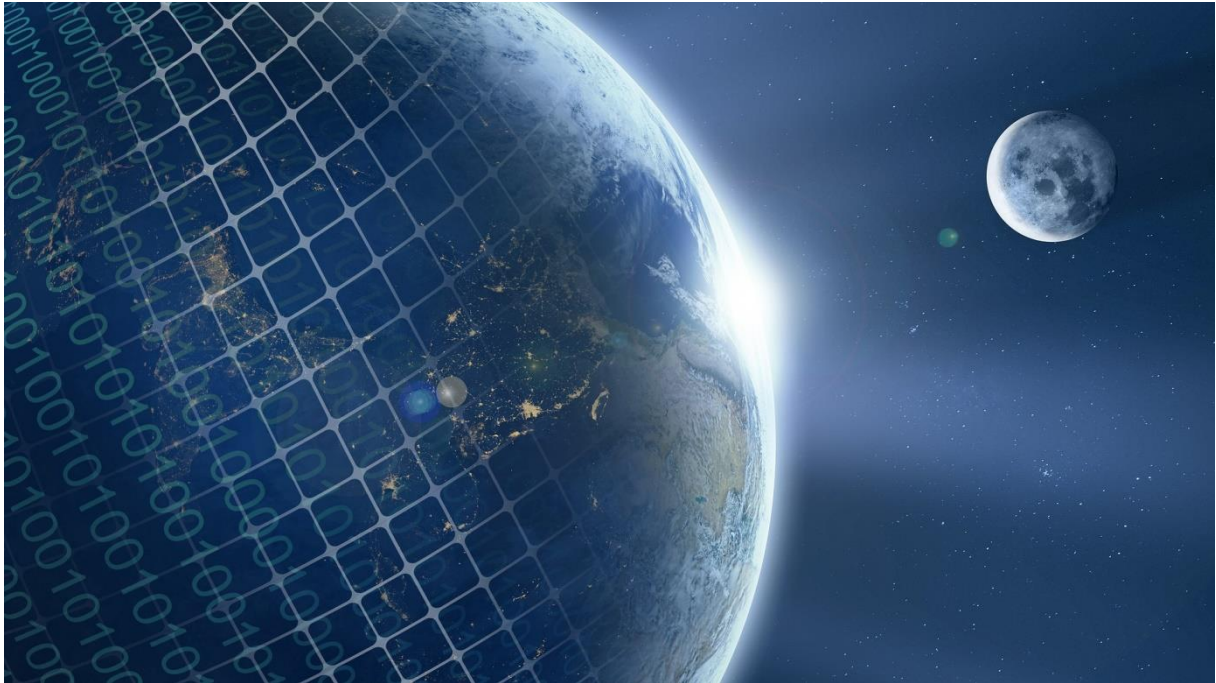
Illustration 11 - Image by Yassay (Pxiabay)

Political and economical crises have existed for centuries, and global warming is going to confront us with even more challenges - from heatwaves to floodings. Consequently, the new generation of politicians should be taught and undergo a training which deals with the issues of crisis and how to manage them.

In this blog entry, I'll present what I have come up with thus far. Now to the PSSEP...

Some jobs require stricter testing which also involves practice in simulated environments (e.g. astronauts are trained under water to simulate gravity of space) and/or with machines specifically designed to simulate an aircraft (e.g. pilots).
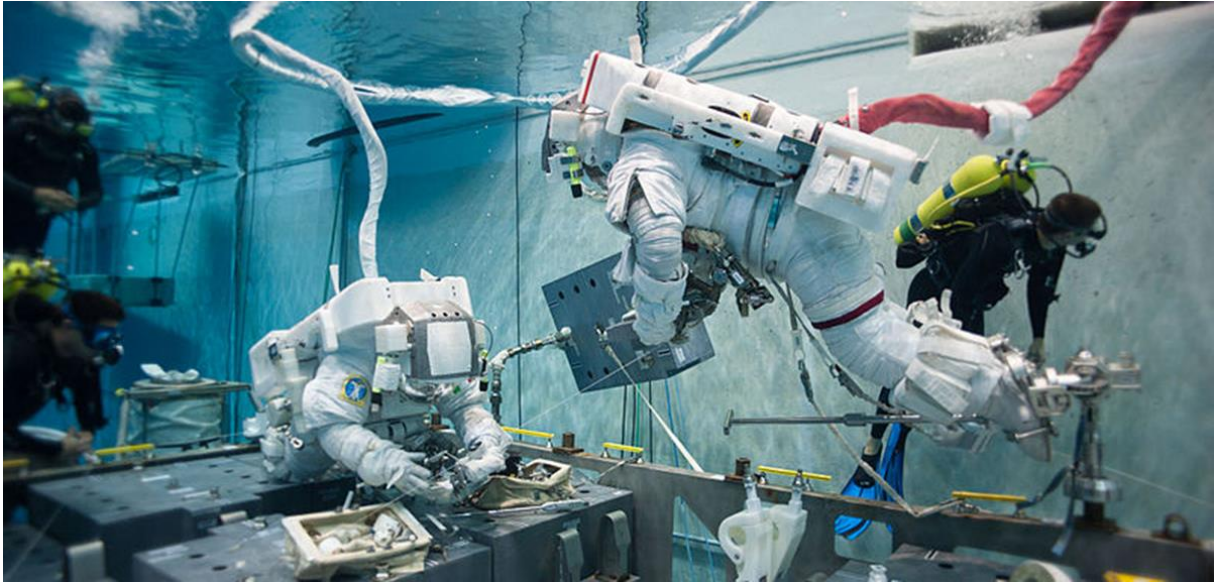
Since politicians bear also a responsibility, especially when in government, it would only make sense for them to undergo a similar training - regardless how conservative or liberal they are.

There are two different kind of simulations:

1. **Past Crisis**
   A crisis of the past, like the economic crash in 1929 or the Great Recession in 2007/2008, is chosen. The participants are given the knowledge that was available at the time and then need to make decisions to avert the crisis or mitigate its effects.
   Historians and other experts then analyse their solution and tell them the results.

It continues until the crisis has been fully averted, the effects mitigated, or the crisis escalated.

2. **Future Crisis**
   A future crisis is based on current trends (e.g. conflicts between two neighbouring nations) and other issues, such as climate change. The politicians-to-be are confronted with a natural disaster or a political conflict, whereas the latter can range from increasing tensions to full-scale war between two nations.
   During the simulated crisis they are allowed to ask historians for background information on the nation involved, or other experts (depending on the scenario).
   As with the Past Crisis, here the crisis is also either fully averted, the effects mitigated or the crisis ecalated.

   Afterwards, a constructive feedback is given to the politicians-to-be and how they can improve in new simulations. I'd recommend at least 3 crisis simulations to be obligatory, here listed shortly why:

   1. The first crisis is from the difficulty the easiest and serves as a settling-in period.
   2. In the second, the standard difficulty (in Past Crisis the historically accurate version) is set. Due to the settling-in period, the participants may react now better.
   3. Lastly, the third crisis simulation is the hardest from the difficulty (e.g. pandemic + corruption affair). After all, one does not know what they mave have to face in the future.

The length between the simulations should be around 1-2 months; otherwise the participants may forget lessons that were learned last time. The simulations themselves take 2-3 days (can be longer if necessary). On the last day the feedback is given.

Crisis Prevention

At the end of the three simulations, the participants are then asked to lay out a plan how they would have prevented the crisis from occuring in the first place. Here, historians and scientists are also allowed to give background knowledge on topics - as they could in real politics with advisors.

Their plan is then analyzed and a feedback given as well (e.g. from "crisis fully prevented" to "crisis merely delayed" or, in the worst case, "crisis worsened").

Certification

Once the training is concluded, the participants receive a certificate that they attended the simulations. Of course, this parts has to be fleshed out.

Local Variations

It isn't just about national politics. Smaller versions could also exist on a regional level that deals with crisis that affected a specific area or even the whole region.
The approach would be the same, however (three simulations, kind of simulations, etc.).

<div align="center">**End**</div>

Thank you for reading! If you have something to add, constructive feedback is welcome!

(Released: 11th April 2021, 00:34 Uhr/ 00:34 am)

AI-assisted Common Ownership (AICO)

If you follow the news, read some of my articles, or did both, you are very likely familiar with the failings and greed of human CEOs and management. And you are also aware about the expensiveness of the two factors I named above. Considering that more and more is being automated, wouldn't it make sense to automate the management then?
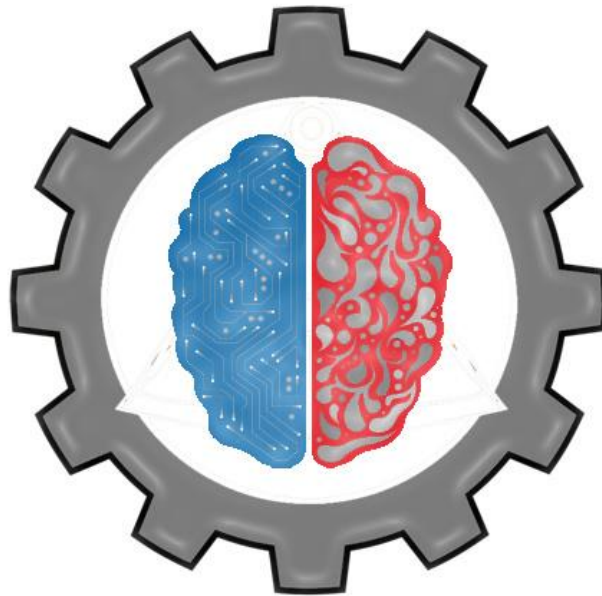
Illustration 12 - Original by Seanbatty (Pixabay)

Starting Point

My inspiration for this idea was ignited by an article of Futurism, displayed here:
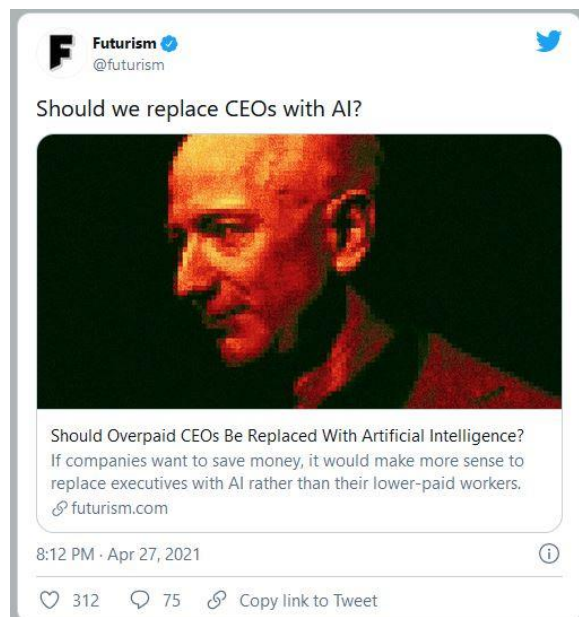
Futurism, on the other hand, cited the New Statesman which began to argue for it.

"According to the Economic Policy Institute's [2020 report](#) on CEO pay, the average American CEO earned 320 times as much as the typical worker, and that number has consistently climbed over the decades.

Excesses like that make a really good case for merely replacing executives with comparatively-inexpensive artificial intelligence, [New Statesman argues](#). Executives are probably far more eager to [automate lower-tier workers](#) out of a job, but replacing themselves with machines could be considerably more cost effective — and make business more sustainable."

If the AI is properly built and maintained, it could take out human biases and blind spots out of the equation. Moreover, putting several people in charge who assess the algorithm's work instead of one individual (i.e. the CEO or manager) may lead to a more collaborative culture and well-thought-out course of action. Consequently, it could democratically revolutionize the workplace as well - especially in multinational companies.

Neither would it be the first that a an algorythm takesover the strategy:

"In fact, it worked out great when Hong Kong's mass transit system put an algorithm in charge of its maintenance schedule in 2004, New Statesman notes.

Now, years later, Hong Kong is known for having one of the best-run transit systems on the planet, in part because it took management out of humanity's error-prone hands."

In order to visualize the wage gap between the average worker and a CEO, here's a graph from Statista:

Ratio between CEO and average worker pay in 2018, by country

Country	Ratio between CEO and worker pay
United States	265
India	229
United Kingdom	201
South Africa	180
Netherlands	171
Switzerland	152
Canada	149
Spain	143
Germany	136
China	127

Sources
BBC World Service; Bloomberg
© Statista 2021

Additional Information:
Worldwide; 2018
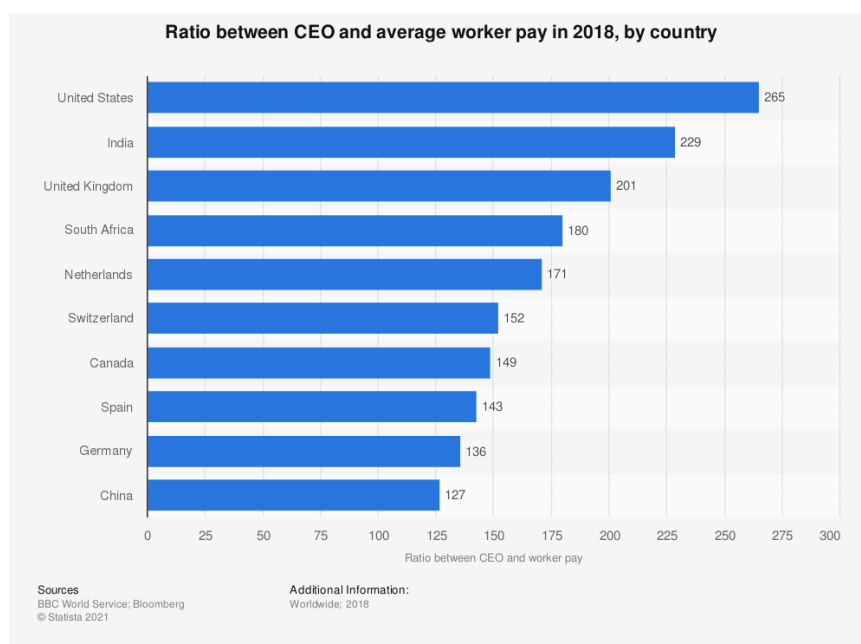
It comes to no surprise either that the increase in CEO pay happened after the 1980s - a time where neoliberalism (free market advocates) was at its peak heights with Margaret Thatcher (Prime Minister of the UK) and Ronald Reagan (President of the US) as the perhaps most prominent heads of the new mindset at that time.

CEO realized direct compensation and the S&P 500 index (2018$), 1965–2018
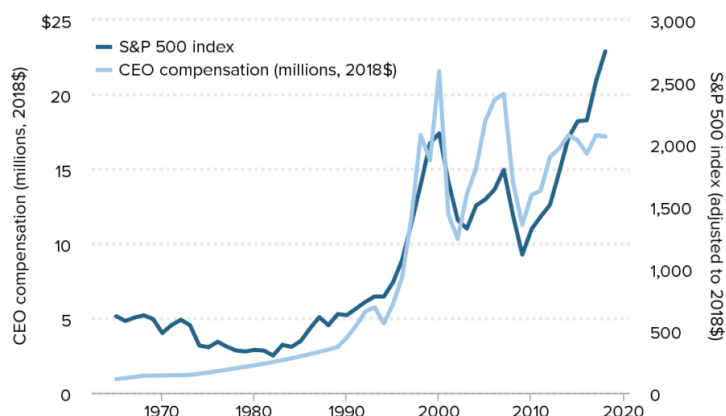
Notes: CEO average annual compensation is computed using the "options realized" compensation series, which includes salary, bonus, restricted stock awards, options realized, and long-term incentive payouts for CEOs at the top 350 U.S. firms ranked by sales. Projected value for 2018 is based on the percent change in CEO pay in the samples available in June 2017 and in June 2018 (labeled first-half [FH] data) applied to the full-year 2017 value.

Source: Authors' analysis of data from Compustat's ExecuComp database and the Federal Reserve Economic Data (FRED) database from the Federal Reserve Bank of St. Louis

Economic Policy Institute

The strong increase in income and wealth inequality subsequently followed.

Inequality is Rising or Staying Extremely High Nearly Everywhere
Share of national income going to top 10% of earners, 1980-2016
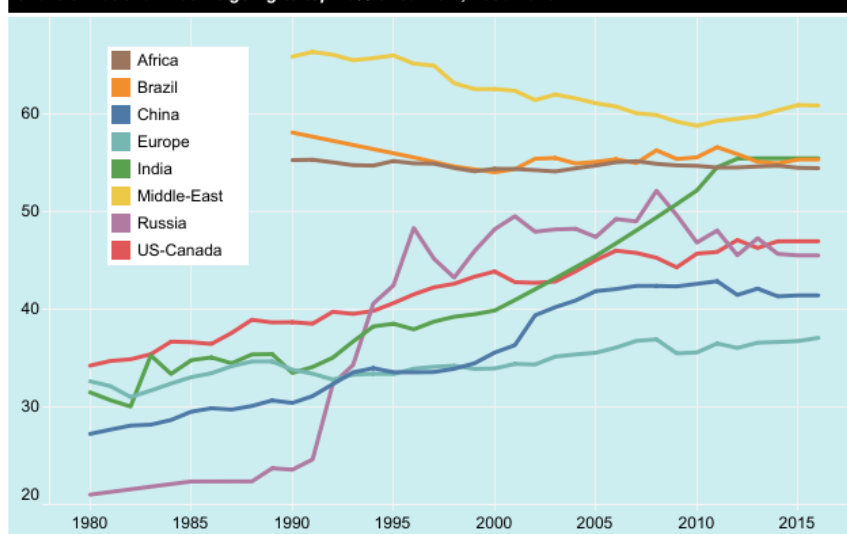
Source: World Inequality Lab, World Inequality Report, 2018

Workplace Democratization and AICO

With all that in mind, it would make sense to cut the highest expenses - the CEOs. Surely, some ask themselves now who - besides the Artificial Intelligence - is going to lead the company.

After all, contracts have to made, humans are still required to react to extraordinary events - such as nature catastrophes - and other more complex issues. This is where Workplace democratization comes into play.

Each worker is given a share of the company, thus creating an incentive to work more if the employee desires so. In this scenario, there's a living wage paid to each worker which ensures that a decent life (e.g. an apartment, food, leisure activities) can be lived. The AI recognizes when someone puts extra effort into the company and, at the end of the month or quartal, said individual is paid a bonus on top of the living wage.

The AI Overseer Council (AI-OC) could be directly elected by the employees themselves. Of course, there's much to consider and taking into account; detailed planning is a top priority.
They are paid a living wage as well, and depending on how well they do their job, the employees can approve with a majority a pay increase of the Overseer Council.
A human resource department, as well as other apartments, are still going to exist. Advisors can still be hired; the decisions, however, are made by more people.

Additionally, since more people are in the OC, it also means more opinions exist. A culture of conflict like in democracies would emerge, and while in the beginning there may certainly be more obstacles in the way, it is going to settle down with the time once everyone got used to it. And, at no point during the process, are the incentives gone.

Note: That only applies to multinational and national companies, since they are also market-listed. Smaller companies are inherently more democratic, due to employee and employer being dependent on each other. They wouldn't be affected by the system I have in mind. Lastly, it is about multinational corporations that already exist. How it will impact new companies that climb the latter is a topic for another day.

Closing

My original workplace democratization idea differs from the one I just elaborated on. It was fun to think about an alternative that may work too, though. In the future, some multinational companies may be democratized like that while others adopt a different model.

(Released: 27th April 2021, 22:45 Uhr/10:45 pm)

Hearing the Voices: Episode 1 – Transgender

In the first episode of this new format, I interviewed two women from the transgender community. Five questions - five answers. (The interview was conducted via chat)

Interview Nr. 1

Name: Nikki
Age: Mid-20s
Nationality: Swiss

Interviewer: When have you noticed that your gender identity didn't align with existing conditions?

Nikki: *"I noticed pretty early in my puberty that something wasnt quite right. I always was drawn towards feminin clothing. As opposed to male clothing. That's the most concrete example I have in mind. However, I didnt know trans was a thing until I was 20."*

Interviewer: I see. After finding out about transgender, how did it shape your social environment?

Nikki: *"Not by much tbh... I am really open about my gender. Nor do I present myself as femme. I feel more uneasy about getting dead named or misgendered tho."*

Interviewer: What could your country do to make it easier for the transgender community to self-develop freely?

Nikki: *"I said it before but I really wished we had transhealthcare that doesnt rely on sheer luck. Also, an anti-discrimination law that forbids discriminate against trans people would be nice. Last but not*

least, gender needs to be talked about during sex-ed in my opinion."

Interviewer: What can transnational organizations like the EU do to protect the community, or if you were in an influential position, what should the objectives of an international movement for transgender rights be?

Nikki: *"Putting money into projects that normalize being trans and also squashing subvention for locations like these LGBT free zones in Poland. And setting legal prescedents that trans rights are human rights."*

Interviewer: Finally, what do you want to tell those who are still in the closet and/or Gen Z?

Nikki: *"It's never too late or too early to transition. You are the one that determines when it's right for you."*

Interviewer: Thank you for your time. Now to Sarah.

Interview Nr. 2

Name: Sarah
Age: n. A.
Nationality: British

Interviewer: When have you noticed that your gender identity didn't align with existing conditions?

Sarah: *"For me personally I see quite a bit of similarity with Nikki, I didn't like puberty at all and something felt really wrong about the changes I was going through, not to mention that I sometimes thought about how much better things would be if I were a girl as young as 10. I used to wear a few dresses here and there at that age, but as I grew up I repressed it until the very start of this year where it all came back out again :)"*

Interviewer: How did it shape your social environment afterwards?

Sarah: *"As for my personal experience, I've been extremely lucky in getting support from so many people particularly online, my family are beginning to shift in the direction of accepting me and I hope to come out to more people irl in the near future. Right now I don't present as female in public yet, although I intend to transition into doing so, but I've had a really positive experience in coming out of a depressive pit I've been in for years to find how much of a beautiful girl I was all along."*

Interviewer: And what could your country do to make it easier for the transgender community to self-develop freely?

Sarah: *"Oh christ, considering I come from the United Kingdom, where do I even start? We're one of the worst countries in western Europe for trans issues, and there's a lot of things that could be done to improve things for all of us. There's been a lot of movement particularly among young people in the right direction, considering how progressive younger people generally are here, but the*

government lags behind consistently.

It's hard to change legal name or gender, both in fees and the insane bureaucracy of the process, not to mention all the requirements attached to it. We're weaponised in national politics often, from the equalities minister claiming that they want to "protect single-sex spaces" to Alex Salmond pushing for "sex-based rights", and practically all parties house transphobes. There needs to be amendments to the Gender Recognition Act, which was a piece of legislation I'm still really happy for that Tony Blair proposed and passed, in order to make things easier for us, and anti-discrimination laws would be desirable as well.

One of the worst things is the trans healthcare system, the waiting lists are so long for the public option that it could take a decade or more if one were to apply now, and there's constant efforts by transphobic organisations and individuals such as LGB alliance to make it even harder. There's a long way to go, I'm just happy that we're starting to see a little bit of development in support of making our lives better."

Interviewer: Regarding transnational organizations like the EU, what could they do protect the transgender community; or if you were in an influential position, what should the objectives of an international movement for transgender rights be?

Sarah: *"I support what Nikki said, there needs to be a wider collective effort of European solidarity on many issues and it includes this one, and the EU must be unequivocally supportive and protective of trans people when their national government attacks them. I admire Vice Commission President Frans Timmermans for this reason, he's been one of the most active people within the commission for providing opposition to Poland, and I'm still sad that he didn't get the top job because he would have been more active in this area. The European Union has already been an engine for human rights, democracy, and the protection of minorities, and their actions should be reflective of this on how they can protect us."*

Interviewer: Lastly, what is your message to those who are still in the closet and the younger generation (Gen Z)?

Sarah: "For all trans young people, and for those still closeted, I just want to say that I'm really proud of you. We live in pretty difficult times right now, and coming out is hard, not just to others but to yourself, and it's a process that can take a while to discover who you truly are. You're beautiful, brave, and strong. I believe in you, and I'm not the only one either."

Interviewer: Thank you for your time Sarah, and that was quite informative. With that, the interview ends.

Closing Remarks

I want to thank both Sarah and Nikki for taking the time and answering my questions. For the readers of this article, I hope that the interview gave you insight into the topic from the perspective of those who are part of the transgender community.

In the future, I'll conduct similar interviews with other groups and communities.

(Released: 30th April 2021, 21:40 Uhr/09:40 pm)

Pandemic Prevention Net (PPN);
Centers for Disease Containment, Control and Cure (CDCCC)

In the following entry, I'll elaborate my political proposal to prevent future viruses from causing a pandemic (PPN) and, along with it, a facility that contains new and old viruses in a strictly controlled environment and is strongly funded to develop cures and treatments for diseases of various kinds (e.g. Malaria).

The Pandemic Prevention Net

Without any further ado, let's go straight to my first proposal: the PPN.

As the name implies, the system I have in mind covers the globe like a net. This "net" is a transnational network of government health agencies, scientists in the field of medicine, biology and other fields related to it, as well as the private sector to some extent.

For decades now, humanity has exploited the resources of Earth more and more. Through that, as well as tourism in exotic regions, humans came more often into contact with exotic animals. Consequently, they are exposed to the viruses that are carried by the animals too.
SARS-Cov-2 (the virus) originated very likely from bats and jumped to another animal at some point, around late-2019 the first cases of Covid-19 (the disease) appeared in Wuhan.

The following infographic of the [Widlife Conservation Society](#) (WCS) may give a better understanding about the transitioning of zoonotic diseases:

WHERE DID THE COVID-19 CORONAVIRUS COME FROM?

HOW WILDLIFE MARKETS SPREAD DISEASE

The spread of zoonotic diseases — those pathogens that jump from the species that it evolved with to a new host — is exacerbated by wildlife trafficking, habitat destruction and climate change. These threats drive humans and animals closer together. Coronavirus is just one example of a string of pathogens that has come from wildlife trafficking, including SARS, Ebola, Bird Flu, and more. | #COVID19

1. WILDLIFE TRAFFICKING & POACHING

Animals are hunted, trapped and taken to markets to be sold for traditional medicine, food and the pet trade.
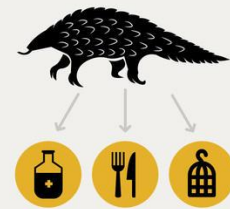
2. RESERVOIRS OF DISEASE

Wild animals that appear healthy can harbor diseases that can make other animals, including humans, sick. When animals are forced into markets, they can spread disease.

3. PATHOGEN EXCHANGE

It's only when humans hunt wildlife or destroy their homes that these viruses and other pathogens jump species. We must combat trafficking of wild animals and change dangerous wildlife consumption behaviors, especially in cities.

STOP THE SPREAD

Ban live animal markets that trade in wildlife. Stop illegal trafficking and poaching of wild animals. Not only will this help prevent the spread of disease, it will address one of the major drivers of species extinction.

GLOBAL WILDLIFE CONSERVATION   WCS

Back on track: What is the goal of the Pandemic Prevention Net?

As the name already implies, the main focus is on preventing another pandemic from occurring. This requires close observation and surveillance of risk areas (such as wet markets). Known viruses also need to be monitored to detect dangerous mutations.

In order to quickly react, the world - and each country - is divided into sectors, as the following image shows:
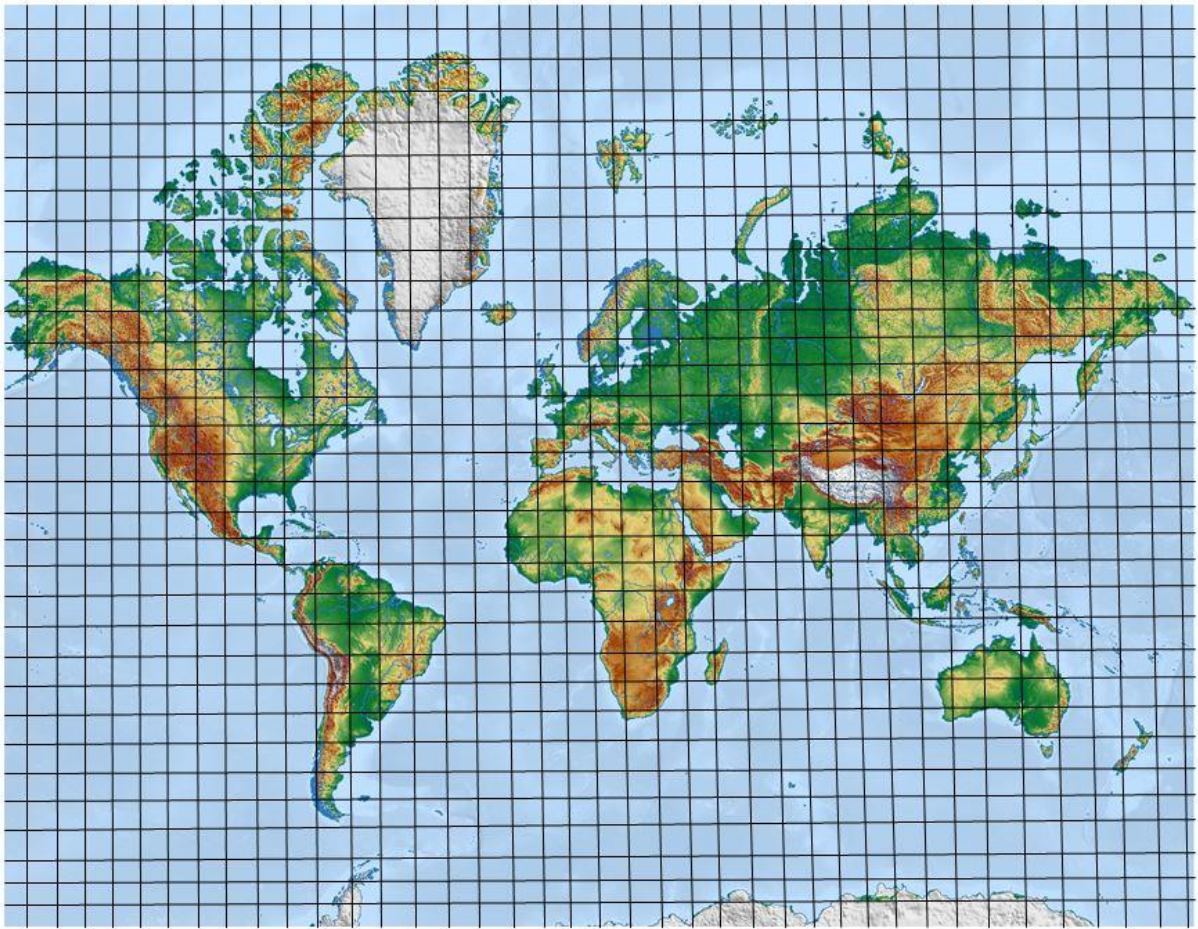
Here the PPN serves as an extension of the WHO, however, it consists of the health agencies of each country and scientists. A separate connection network that makes constant contact possible is to be established. For it to function seamlessly, politics should ideally be not involved at all. Only in case of a newly detected disease or a virus with the potential of causing a pandemic, politicans are informed to quickly react and for outsiders to avoid the area.

In case of an outbreak the sector is coloured red (high-risk), cyan (mediocre-risk) or yellow (low-risk). A computer program automatically sends notifications to scientists and health agencies around the world. Same thing happens if a new virus/bacterium is discovered.

Considering the economic, psychological and social (e.g. unrest) costs a pandemic can cause, it is worth to build it up. The idea is still in its baby shoes, of course.

The Pandemic Prevention Net is only part of the solution. Humanity needs to protect animals and their habitats, if necessary restore them to the furthest extent possible. Regarding wet markets, these must be either be strictly regulated and the laws enforced (countries that fail to do so either need more resources (e.g. third-world) or pressure needs to be applied) or banned in their entirety. **Protection, Restoration and Preservation are key.**

Center for Disease Containment, Control and Cure (CDCCC)

The task to contain new diseases or old diseases that mutated goes to the CDCCC. Naturally, it is part of the PPN and its executive arm. Units with equipment are sent out to capture infected animals (if possible) and quarantine infected humans.

Each CDCCC contains a laboratory (mostly used for the observation - PPN, but also containment of viruses and bacteriums), a hospital (mainly in poorer countries those have to be set-up to deliver quality healthcare), as well as the necessary equipment (from hygiene goods like masks and ventilators to hazmat suits). Pharmaceutical companies stay in touch with the CDCCC, non-discriminatory policies are the guideline to avoid any company from being preferably treated. The funding of a hospital should always align with the focus on the patients - not the profitability.

Another task of the CDCCC is to find cures known viruses like Malaria. Scientists already work on it, and increasing the funding may make it quicker available - as we have seen with the still-ongoing Covid-19 vaccines. Perhaps, a special international government fond is established to fund the researchers.

Furthermore, the whole system requires all countries to be transparent when it comes to disease protection and prevention. The independence from politics is not a suggestion, it is a necessity. As it was - and still is - observable in the Covid-19 pandemic, selfish political decisions lead to mass death and suffering. That's why the connection network between health agencies and scientists is independent too.

Depending on existing infrastructure, some parts need to be either reformed or extended.

End

As it is with many of my ideas, it is still in development and input from outside is always welcome. Keep the criticism constructive and the dialogue polite. Have a nice day!

(Released: 3rd May 2021, 17:42 Uhr/05:42 pm)

United Health Front - Tackling Misinformation

Misinformation about various health aspects - from diseases to treatments - have existed before the pandemic, but during the ongoing Covid-19 crisis the conspiracies and misinformation got worse. Especially due to public figures like the former President Donald Trump, but half-truths and uninformed opinions are damaging to the discourse as well.

In order to combat the false information, there must be a united effort to clarify misconceptions and debunk myths about topics like vaccination.
In this blog entry I explain how I'd approach it.

Illustration 14 - The Prototype Logo for the United Health Front (UHF)

Beforehand, there's a clear distinction I have to make between the online and offline UHF:

The offline UHF is likely going to have an internal structure, similar to an association, along with meetings, conferences, and so on. Not only for conversations about the association itself and the tasks, but also ordinary human interactions.
For instance, they could also help by spreading information about organ donation and blood donation. In-person, as we all have now learned by now, does make a difference.

The online UHF that are operation on forums and social media are more decentralized. While there trustworthy sources (e.g. WHO, Nature, ScienceDaily) they all get their information from, they can also operate on their own or in smaller groups. Meetings can still happen in some form, such as Zoom or Discord, but that's entirely up to the individuals.

Three Layers

The United Health Front covers the entire spectrum of factors that are related to our health. I separated it in three layers:

1. **Layer (Core):** The core of the UHF is to fight against misinformation and misconceptions. It actively debunks myths, lies and fallacies on social media. Additionally, it also corrects information when public officials were unaware of an aspect or deliberately lied.
2. **Layer (Mental Health):** Mental health, and what goes on in the brain in general, is the second layer of the UHF. From common illnesses such as depression to neural divergents (e.g. autism). This category can also be called "Mind & Brain".
3. **Layer (Physical Health):** Physical health covers nutrition, diseases (e.g. the common cold) and medicine. Thus it can also be called "Health, Medicine & Living Well". Of course, it overlaps with mental health. Unlike the core, the second and third layer educate passively (i.e. those who operate in the second and third layer educate people through various ways, such as writing an article about a specific topic or organizing an event with an expert).

It should be understood that these layers are permeable, that means a public health expert is always in his/her right to play an active role in debunking myths, lies and fallacies. Vice versa, one who operated in the core has the right to switch to the second or third layer.

The Approach

But how should one approach it online? This question can be answered, especially since some people already do it actively. On Reddit's largest coronavirus forum are three moderators who fight disinformation, at the time of this writing it got around 2.4 million users.

"The forum has become a one-stop shop for up-to-date coronavirus information, offering up pandemic news, locations of vaccination sites and how to sign up for clinical trials. The community has also hosted Q&A discussions with the likes of Bill Gates and Tom Frieden, former director of the U.S. Centers for Disease Control and Prevention, as well as top researchers. Even Reddit CEO Steve Huffman reached out to the volunteers who moderate the forum to tell them that he starts his day by reading it and to thank them for their work."

The three moderators are Patrick Doherty (biotech research scientist); Jennifer Cole (biological anthropologist at Royal Holloway University of London) and Rohan (M.D./Ph.D. student in molecular biology). If you interested in the full interview, you can find it [here](#).

Here's an important excerpt that shows how one should approach it online (perhaps, it could be applied to offline too):

"*SN:* **How do you distinguish between misinformation that should be taken down versus a genuine question?**"

Cole: *At first, instead of just removing somebody, we engage with them. If their information is wrong, we explain why it's wrong. And certainly the first time that users post something that is wrong, we will try and correct them and push them in the direction of the better information. If they keep coming back obviously trying to push a narrative, that's when we will ban them. You do need to make a distinction between people who might have heard it somewhere and don't understand it very well and need you to explain it to them a bit better, versus people who are trying to push a narrative. Sometimes we'll check on users' posting history and what else they're posting elsewhere.*"

You can't ban someone in real life, that's obvious. However, it serves as a good guide to conversations and how to react if confrontred with a false statement or half-truth.
Those who are trying to push a narrative will reveal themselves by disregarding anything you have said, the ordinary people who have merely understood something false or had a misconception learn from it.

In the media, especially interviews, it is important that the interviewer pushes back when a guest spreads disinformation on Covid-19, for example. As with ordinary people, both the interviewer and the audience notice by the reaction of the guest whether he/she was wrong about it, acknowledges it and doesn't repeat it afterwards; and those guests who do not care about the truth at all and either repeat the disinformation or remain unchanged in their opinion thereafter.

Bit by bit, the disruptors can be filtered out and disinformation effectively and efficiently combatted.

Knowledge

Trustworthy sources are already known, like the WHO or ScienceDaily, and for those who want to learn about it should the information be easily accessible. That can be achieved by listing all serious sources on a website that redirects the user to the websites.
Additionally, books and magazines which report factually correct can be recommended on the website as well.

Perhaps, online courses by experts (from teachers/university professors to scientists) can be made available as well.

End

Another idea of mine. As always, constructive criticism and respectful discussions are welcome.

(Released: 9th May 2021, 19:41 Uhr/07:41 pm)

New Patriotism

Patriotism can be expressed in various forms - some are easily noticeable (such as Ancient Patriotism) whereas others are more quitely expressed (such as civil patriotism).

In the following entry I'm going to elaborate on my categorization and what connects all of these forms in a modern western/democratic nation.

(**Note:** This blog entry is a translation of the German entry: Neuer Patriotismus)

Categorization

Form	Definition
Ancient Patriotism	Ancient Patriotism describes the kind of patriotism that builds on the national identity and therefore on the history of the country, the language(s), and the culture in general. In regard to the values it leans more towards conservatism. While it focuses mainly on its own culture, it doesn't exclude paying respect to foreign cultures.
Civil Patriotism	Civil Patriotism is also by nature cultural, however that can also include current/modern culture. Contrary to Ancient Patriotism, it is mostly in the background. The writings of poets and philosophers (i.e. that also includes scientists, politicians, etc.) are being valued whereby modern authors are also included. There's an interest in preserving social-political achievements. In the 21st century, it can also include the appreciation of foreigncultures - like it is done by proletarian patriotism.
Proletarian Patriotism	Proletarian patriotism has its roots in the year 1907. As it is described by Karl Kautsky in the issue "Patriotismus und Sozialdemokratie": *"The patriotism of the proletariat includes the idea of international solidarity, the idea that prosperity and culture of one's own nation can only flourish if they go hand in hand with the prosperity and culture of other nations."* (page 8, paragraph 3) Along with that comes a support of the extension of the welfare state and support of social reforms. A common ground with Civil Patriotism and Ancient Patriotism is the appreciation of culture, with the difference that the cultures of other nations are also included. The patriotism of the proletariat also opposes the exploitation and oppression of other people and the own people by multinational companies and governments.

The Connecting Ribbon

While there are already common elements, the fundament of each category is democracy.

The preservance and protection of the democratic constitution, the institutions and the individual and collective rights are at their core. There are still conflicts between the different forms of patriotism, but such conflicts are normal and even desired in a vivid democracy.

End

The most important thing is mutual respect between the people of different nations.

If one's identity is strongly rooted in the country of birth, it also implies that the identity of other peoples are respected and recognized. After all, no one can decide in which nation they are born into.

While the categorization hopefully helps as an orientation for some, it is important to add that it doesn't mean that there isn't a spectrum of patriotism (i.e. one can more strongly identify with civil patriotism but still have characteristics of proletarian patriotism).

(Released: 8th June 2021, 19:06 Uhr/07:06 pm)

Science News #2

In today's science news you find out more about the origins of Covid-19, how the Antarctic is doing and what the plans for plant-based food are.

Covid-19: Findings from the WHO Report, More Research still Required

Nt-Date: 30 March, 2021 (Nature article)
Et-Date: 10 June, 2021 (Blog entry)
Summary: In late January and early February a team of 34 scientists consisting of various nationalities went to Wuhan and gathered and assessed Data. The WHO report concluded that it is highly unlikely that the coronavirus escaped from the laboratory in Wuhan.

Method of Research

A team of 34 scientists from nations including China, Japan, the USA and the UK gathered in Wuhan and assessed data. It ranged from investigating the wet markets to interviewing the researches at the Wuhan laboratory.

Findings

- 2/3rds (~ 67%) of the 170 people who had symptoms reported that they were exposed to live or dead animals shortly beforehand
- 10% of the 170 people travelled outside of Wuhan
- The genomes of SARS-CoV-2 that were sequenced by Chinese researchers revealed that eight (8) of the earliest sequences were identical and the infected people were linked to the Huanan market
- The findings thus suggest an outbreak on the Huanan market
- The researchers also looked into the death certificates in China; a spike first in Wuhan and then two weeks later in the wider province of Hubei, suggests that the outbreak began in Wuhan

Other Hypothesis

The researchers, however, also found genomes that varied slightly from the findings described above. While some of them were linked to the market, others were not.

Hypothesis 1: The variants that couldn't be linked to the market suggest that they may have been spreading under the radar in communities, evolving over time, and then occuring in people linked to the market.

Hypothesis 2: An outbreak may have occured on a farm that delivered animals to the Huanan market. There, several infected animals - each with a slightly different variant of SARS-CoV-2 - might have been sold at the markets in Wuhan. Thus sparking multiple infections in humans.

Market or Laboratory?

As of now, the laboratory theory falls apart and a majority of scientists say that the evidence for a natural spillover (animal to human) is far greater.

First of all, a deliberate attempt to spread the virus can be ruled out. No one in the lab had antibodies against SARS-CoV-2.
Secondly, it couldn't have been accidentally spreaded, since they hadn't kept any live virus strains similar to SARS-CoV-2.
Lastly, the scientists of the institute visited by the research team pointed out a Nature Medicine paper[1] that showed that similar viruses existed in animals.

"We were allowed to ask whatever questions we wanted, and we got answers," says Daszak, who collaborates with researchers at the Wuhan institute. "The only evidence that people have for a lab leak is that there is a lab in Wuhan," he adds. (quote from the Nature article)

Reference

[1] Andersen, K. G. *et al. Nature Med.* **26**, 450–452 (2020) - [on the website of Nature]

Antarctic ice sheet retreat could trigger chain reaction

SD-Date: 13 May, 2021
Et-Date: 11 June, 2021

ScienceDaily Summary: *"The Antarctic ice sheet was even more unstable in the past than previously thought, and at times possibly came close to collapse, new research suggests. The findings raise concerns that, in a warmer climate, exposing the land underneath the ice sheet as it retreats will increase rainfall on Antarctica, and this could trigger processes that accelerate further ice loss."*

Method of Research

The research was carried out by the Met Office, the universities of Exeter, Bristol, Cardiff and Stockholm, NORCE and the Bjerknes Centre for Climate Research. It is *"based on climate modelling and data comparisons for the Middle Miocene (13-17 million years ago) when atmospheric carbon dioxide and global temperatures reached levels similar to those expected by the end of this century"*.

Findings

Important: *"Dr Bradshaw stressed that conditions now are not identical to those in the Middle Miocene, and the model used in the study does not include the impact of feedbacks from the carbon cycle or the ice sheet itself."*

❖ The ground beneath ice sheets is less reflective which means that after it melted away, the local temperatures become warmer
❖ If the continent continues to warm, the wind that is usually blown from the continent out of the sea will be reversed -> extra rainfall that leads to more fresh water flowing into the sea
❖ Due to freshwater being less dense than saltwater, it cannot sink and circulate thus breaking the connection between the deep ocean and surface ocean -> warmer water accumulates at the deep
❖ Unlike in the Middle Miocene, the Earth isn't in a favourable orbital position that likely played an important role in preventing the ice sheet from collapsing

Quote from the ScienceDaily Article:

Dr Petra Langebroek, a Senior Researcher from NORCE and the Bjerknes Centre for Climate Research, another co-author, added: "These findings imply a shift in ocean sensitivity to ice sheet changes occurs when ice sheet retreat exposes previously ice-covered land."

Professor Carrie Lear from Cardiff University said that further researched is required to have a clearer picture of the long-term effects it is going to have on modern Antarctic ice sheet.

Food scientists aim to make plant-based protein tastier and healthier

SD-Date: 4 June, 2021
Et-Date: 11 June, 2021
ScienceDaily Summary: "*As meat-eating continues to increase around the world, food scientists are focusing on ways to create healthier, better-tasting and more sustainable plant-based protein products that mimic meat, fish, milk, cheese and eggs.*"

Background

In 2019, the plant-based food market in the US alone was valued at around $5 million.

It is an increase by 29% from 2017. The reasons for the increasing interest, according to McClements (a leading expert in food design and nanotechnology), are improved sustainability, health and ethical reasons.

Challenges

Unlike products from animals - such as milk, meat and eggs -, plant-based food has to be fortified with micronutrients that are naturally present in their counterpart. Among these micronutrients [PDF] are Vitamin D, calcium and zinc.

Furthermore, they have to be disgestible and provide the body with all essential amino acids.

Illustration 16 - In case you don't know what amino acids are, here a quick info (source: Britannica)

Current Problems

In the article, McClements says that many of the current plant-based meat products are unhealthy due to saturated fat, salt and sugar that is added to them.
However, that doesn't have to be case for ultra-processed food.
He elaborates: *"We aim to design them to have all the vitamins and minerals you need and have health-promoting components like dietary fiber and phytochemicals so that they taste good and they're convenient and they're cheap and you can easily incorporate them into your life. That's the goal in the future, but we're not there yet for most products."*

Conclusion

The current meat consumption is already unsustainable and, as the concern of ethics is pointed out, most of the time cruel factory farming is involved. Plant-based food could be another key for a more environmentally friendly, healthy and sustainable world - if the investments and research continues, of course.

Source
https://www.sciencedaily.com/releases/2021/06/210604135425.htm

(Released: 11th June 2021, 17:47 Uhr/05:47 pm)

Reorganisation of the Capitalistic Production Process through Community-Owned Manufacturing Facilities

In the capitalistic process of production profit is a fundament, however, with the mindset of maximization of profit - which reigned for decades and still reigns - this can easily be the death sentence for goods that are needed but are not profitable enough to be produced.

Modern technology could solve this issue and cover the needs - and even wants - that are unprofitable - 3D-printers.

Illustration 17 - Image by geralt from Pixabay

Background

I already thought for a while about 3D-printers and how they could be integrated into our day-to-day life and on an economic level. Then, while reading a passage of an article by Rosa Luxembourg (March 5, 1871 - January 15, 1919) this morning around 11 am, the idea jumped into my mind.

It shouldn't be seen as a replacement of a production method, it is more a complementary process of production that isn't covered by either private entities or the government.

Without any further ado, we shall now begin with the elaboration.

Analysis of the Organizational Problem

In order to find a solution to a problem, one must first analyze the problem and find the cause. As the introduction on the very top of the entry points out, the main cause is the unprofitability. This is also what Rosa Luxembourg explained in "*The Accumulation of Capital, Section One: The Problem of Reproduction, Chapter 1: The Object of Our Investigation*":

"Societies which produce according to capitalist methods present a different picture. We observe that in certain periods all the ingredients of reproduction may be available, both labour and means of production, and yet some vital needs of society for consumer goods may be left unfulfilled. We find that in spite of these resources reproduction may in part be completely suspended and in part curtailed. Here it is no despotic interference with the economic plan that is responsible for the difficulties in the process of production. Quite apart from all technical conditions, reproduction here depends on purely social considerations: only those goods are produced which can with certainty be expected to sell, and not merely to sell, but to sell at the customary profit. Thus profit becomes an end in itself, the decisive factor which determines not only production but also reproduction. Not only does it decide in each case what work is to be undertaken, how it is to be carried out, and how the products are to be distributed; what is more, profit decides, also, at the end of every working period, whether the labour process is to be resumed, and, if so, to what extent and in what direction it should be made to operate." (Passage 4)

In economics this is known as marginal costing (Teilkostenrechnung). Elimination of a product may be the case when technology advances (such as it is the case with old-timers where spare parts are hard to find) or the product isn't even produced in the first place, because there's not enough demand. Since not everyone chose or has chosen to attend economy school, here a quick example of marginal costing and why it is different from full costs accounting (Vollkostenrechnung):

Let's assume there's a company with the following data:

Costs	Total	Apiece (2,000 total)
Variable (k_v)	€50,000.00	€25.00
Fix (k_f)	€30,000.00	€15.00

The retail price (p) apiece is €30.00.
Now to the calculations:

If we calculate with full cost accounting, we get the following result:

Income = $p - K_f - K_v$ = €60,000.00 - €30,000.00 - €50,000.00 = - €20,000
Apiece = $p - k_f - k_v$ = €30.00 - €25.00 - €15.00 = - €10.00

However, if we calculate with marginal costing we get a different result:

Income = $p - K_v$ = €60,000.00 - €50,000.00 = €10,000.00
Apiece = $p - k_v$ = €30.00 - €25.00 = €5.00

According to the first calculation, the company should immediately stop producing the good.
Whereas the second calculation says that it is beneficial to continue the production.
If the company were to not continue the production, it would lose €30,000.00 (fix costs).
If the company continues to produce, it will only lose €20,000.
Even though a situation may be hopeless, the worst could still be prevented.

With that in mind, it is now easier to imagine why a company would stop to produce at a certain point. Once the variable costs cannot be covered anymore, the product is eliminated for good. This, of course, doesn't help the perhaps thousands of people who still needed or wanted the good. Neither can it be expected that the company keeps producing these goods if it continues to lose money and cannot cover the losses with the gains of other goods (or isn't interested due to profit-orientated reasons).

The same applies for new or current goods that are useful, but which demand - as Luxembourg pointed out - is too small to be produced by the private manufacturers (e.g. as it was the case with solar collectors before government subsidies).
However, it is clear that the government cannot always interfere either, since there's a difference between potential for a new good (such as solar collectors) and a good only being needed by a few (e.g. repair parts for owners of old-timers or people who own old technological devices).

Modern Technology as a Solution: 3D-Printers

By now, most people probably already know what 3D-printers are. You cannot just print 3-Dimensional objects with plastic, it is also possible to use other materials such as metal.
The downside is that they may be quite expensive, depending on the material that is being used, and it is very likely that several printers are needed depending on the size of the community (e.g. several villagers or a town).
Moreover, it does require knowledge to handle a 3D-printer, though that can be self-taught (tutorials like this) or an experienced person teaches others how to use a 3D-printer.

While 3D-printers are not able to mass produce, they fulfil their function by producing the goods that are currently required. No shipment required. And depending on the complexity, it can done within several hours or a day (unless several complex parts have to be combined).

In short: The means of production for specific items, that are otherwise not available, are now in the hands of the community.

Community-Owned Manufacturing Facilities (COMF)

Once a community got the 3D-printers they needed, the production can start. The materials must still be ordered, and the companies that produced them should inform the community about the supplier to ensure that there's no loss in quality.
The operators of the 3D-printers in the COMFs need the correct models, therefore the government

may have to step in to ensure that the downloadable files meet the safety standards. Regulations in that regard will still be required.

As community-owned facilities, the retail price should exactly reflect the material costs (whereby it is left to the community how they want to handle it). The factor profit ceases to apply, since the COMFs are not traditional companies that seek to compete with others to gain a foothold in the marketplace. If at all, they cover the costs of the material that was required to manufacture a product.

In its essence, it is a small on-demand factory controlled by the people of a community.

A variety of other goods can also be produced, if needed. Depending on the situation.
As long as the right materials are in stock and the right plans at hand.

Final

Not only would it fix the issue that was pointed out by Rosa Luxembourg, it may also be very useful to abolish the throwaway society that causes a lot of waste (e.g. electronic devices) and closes a gap that can neither be filled by the government nor companies.

As it is with all ideas, this one need to ripe like apples on a tree. Perhaps, there's even more that could be done but that didn't come into my mind yet. Time will tell.

Constructive criticism is welcome, as always.

(Released: 13th June 2021, 15:59 Uhr/03:59 pm)

Equality of Nations – II

Equality among nation's means showing respect to the people, being aware of cultural differences, taking the environment into consideration and letting them actively shape their economy. In this entry, I present some thoughts of mine on the right approach.

Illustration 18 - The dark-green colour stands for harmony; the four golden sickles stand for culture, people, environment and economy

Respecting the People

Respect, to me, means that the natives are not only given a voice by covering their side on an issue. It means that they are involved in decision-making, negotiations, and so on.

During the whole process all parties (e.g. that means different ethnicities/religious groups) within the country are involved, especially when it comes to regional reforestation and other projects. Inclusion also means access to resources - from knowledge to the materials needed to implement a project. The more autonomy, the better.

Cultural Awareness

As I elaborated in my entry *"Economy of Culture"*, one is able to see the differences clearer the more time is spent on understanding a foreign culture. From social norms to work behaviour, there's a lot that should be taken into account when cooperating with natives (e.g. some may work slower with different work ethics, but they still get the job done).

A fundament build on honesty and throughout communication needs to be established to avoid misunderstanding and resolve misinterpretations (**in short:** avoid blunder through carefulness and politeness).

Environment (Nature)

It's also necessary to understand how the environment shaped the people in a country and how it influences their culture and economy (e.g. do they depend on fishing?).
Consequently, projects such as climate change mitigation should take the flora and fauna into account. That means that native plants and widlife are to be prioritized to avoid an invasive species from taking over or damaging the local ecosystem otherwise.
Luckily, it is already part of the discussion, and the more people know about it the better. Environmental protection is very important, but it needs to be done in a mindful manner.
As always: exchange with the natives and knowing how their economy relies on the environment is extremely helpful in building a sustainable economy and fair future.

Actively shaping the Economy

With all that in mind, the points above are crucial in reshaping the economy where possible. As I have said before in other entries I wrote, the economy should be build around the people and shaped by the people - not profit maximization. From a decent standard of living to job security and sustainability.

On a political level that means representation, as point one about respecting the people already implies. Multinational companies need to be strictly controlled to prevent exploitation in developing countries. Trade treaties should be negotiated in a fair way that builds up and protects worker rights instead of undermining them. The developing countries should be given the opportunity to diversify their economy and keep the profit that is made within their own borders.

That, of course, is going to be a long way also due to internal corruption and other problems, but at some point the fundaments have to be laid - and in some countries probably already have been laid - to ensure that a road to the future can be build.

End

There's likely going to be another part of Equality of Nations in the near future. This one, so I hope, gives a clearer picture on the framework conditions to ensure equality among nations.

Constructive criticism and amendments are welcome!

(Released: 17th June 2021, 14:45 Uhr/02:45 pm)

Science News #3

In Today's Science News, we learn about the importance of Wasps; that, in hunter-gatherer societies, women also participated in hunting; and how vaccine clinical trials work.

Wasps are valuable for ecosystems, economy and human health (just like bees)

Phys-D: April 29, 2021
Entry-D: June 20, 2021
Summary: *Wasps are understudied compared to other insects such as bees. A study published in Biological Reviews compiles evidence of 500 academic papers that reviewed about 33,000 species of stinging wasps. Due to their predatory nature, they help to control the population of arthropods thus acting as a sustainable form of pest control.*

Background

Unlike other insect species, such as bees, wasps are understudied. The hatred for wasps is reflected by their role being poorly understood by society at large.

In a study that was published in Biological Reviews, evidence compiled of 500 academic papers that reviewed 33,000 species of stinging wasps shed more light on this issue.

Findings

- Wasps are top predators of other insects. They regulate the population of arthropods[1] like aphids and caterpillars, thus serving as a sustainable form of pest control.
- Solitary wasps tend to be specialists and therefore may be suited for managing specific pests.
- Social wasps are generalist predators and therefore may be especially useful as a local source of control for a range of crop-eating pests.
- This form of biocontrol is worth at least $416 billion per year worldwide
- In Brazil, common wasp species are able to manage pest on two high-value crops (maize and sugarcane)
- Wasps also play a role in pollination: evidence was found that they visit 960 plant species. 164 (17.09%) of whom depend entirely on wasps. For other plants, they could serve as "backup pollinators" if a plant loses its primary pollinator.
- Other uses are wasp-deprived medications: their venom and saliva have antibiotic properties, those of yellowjacket wasps have even shown promise in treating cancer.
- Lastly, in some tropical countries their larvae are already harvested for food

[1] Arthropods (phylom Arthropoda) have an exoskeleton. Their distinguishing feature is the presence of a jointed skeletal covering that is composed of chitin (a complex sugar) bound to protein. Members of the phylum Arthropoda include spiders, centipedes, crabs and lobsters. Moreover, ~84% of all known species of animals belong to this phylum.
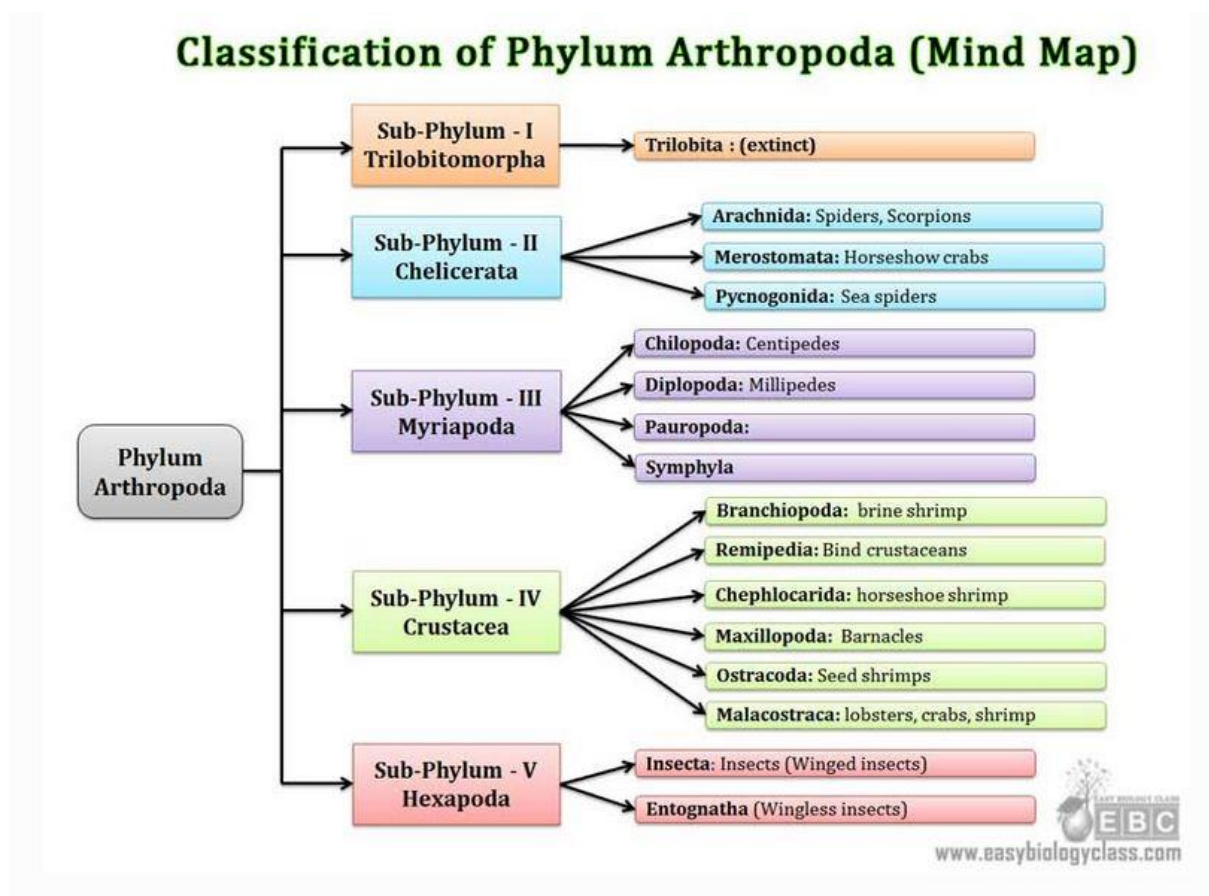

Illustration 20 - Arthropods Classification by EasyBiologyClass

End

I conclude the first article with a quote from Co-author Dr. Alessandro Cini:
"The value of wasps in supporting our crops remains poorly understood; we hope that by rehabilitating their bad reputation, we can collectively get the most value out of these fascinating creatures."

Like other animals, they are also threatened by climate change and habitat loss. By learning more about wasps and valuing their role in our ecosystems, we can also push forward conservation.

Source

Early big-game hunters of the Americas were female, researchers suggest

SD-Date: 5th November, 2020
En-Date: 21st June, 2021
ScienceDaily Summary: *"For centuries, historians and scientists mostly agreed that when early human groups sought food, men hunted and women gathered. Not so, say researchers."*

Background

It was a long held believe that men were the hunters and women the gatherers in the early period of humanity. An archeological discovery and analysis of the remaints, however, overturned said conception.

The study was published on November 4th, 2020, in *Science Advances*.

Findings & Methods

- The remaints of a woman were found in a burial that contained a hunting toolkit with projectile points and animal-processing tools
- Objects that accompany people in death tend to be those that accompanied them while they lived, the researchers said
- A dental protein analysis - conducted by UC Davis postdoctoral researcher Tammy Buonasera and Glendon Parker, an adjunct associate professor - confirmed the gender
- In order to find out whether there was a pattern, the researchers looked at late Pleistocene and early Holocene burials throughout North and South America
- 429 individuals from 107 sites were identified; 27 were associated with big-game hunting tools. 11 were female, 15 were male
- According to the researchers, the sample was sufficient to conclude that female participation in early big-game hunting was *'likely nontrivial'*
- Statistic analysis have shown this period, 30 to 50 % of hunters in these populations were female; a stark contrast to recent hunter-gatherers, farming and capitalist societies with low-levels of participation (*'certainly under 30 %'*, Haas explained)

The sex was identified through a new method by Parker, as the article explains:

"Parker, a forensic expert in the Department of Environmental Toxicology, helped determine sex through a proteomic technique he recently developed."

Source

Explaining vaccine clinical trial phases

ME-Date: 27th August, 2020
En-Date: 21st June, 2021
Summary: *In order to ensure safety and efficacy of a new vaccine, clinical trials are conducted. It starts by **Pre-clinical** (before human trials; safety and effectiveness are tested and it is overseen by an independent ethics committee), then moves on to **Phase 1** (small trials, around 100 volunteers; safety is the main objective, immune response test), **Phase 2** (1,000 to 2,000 volunteers; still mostly safety, but also effectiveness included), **Phase 3** (final trial before a vaccine is approved, about 10,000 volunteers; primarily focus on efficacy and whether the vaccine actually lowers infection), **Phase 4** (data is still being collected on its safety and how well it works).*

Detailed Summary

The summary above should already give a clear picture, however, now to the more detailed information on each clinical trial phase.
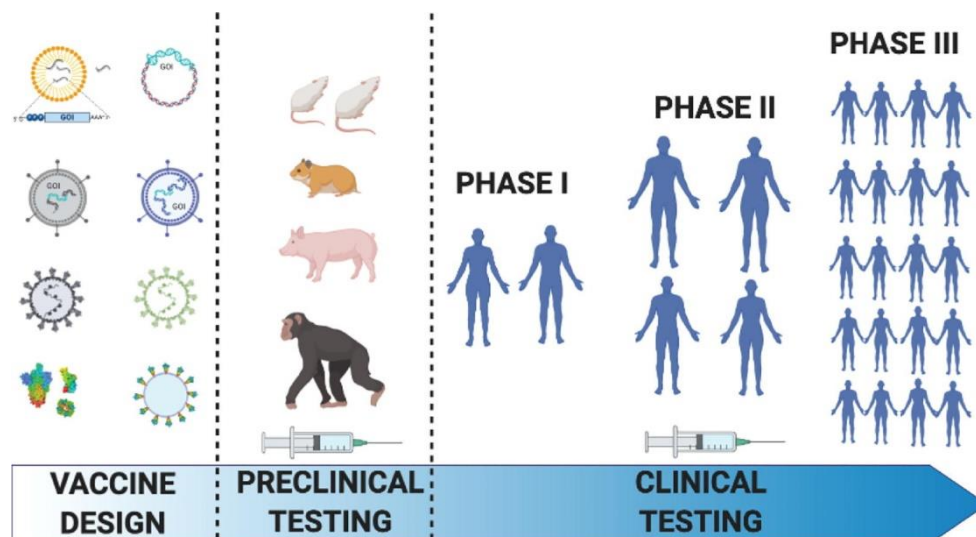

Illustration 21 - Image from ScienceDirect

Phase	Summary
Pre-Clinical	**Before Human Trials** - Robust data from laboratory required - Investigators and an independent ethic committee must be confident that is is both very likely to be safe and effective
Phase 1	**Volunteers:** ~ 100 **Primary Objective:** Safety - It is expected to be safe from the animal testings - Blood tests are collected from the volunteers to test the efficacy of the vaccine (did a immune response occur?) - Multiple doses used to find the ideal dose for later trials - Subjects are healthy with no comorbidities to ensure safety and avoid confounders
Phase 2	**Volunteers:** 1,000 to 2,000 **Primary Objective:** Safety (studies of effectiveness also conducted) - The volunteers begin to be more diversed (e.g. broad age range) to better resemble the population - While it gives first insights into the actual protection from a pathogen, these studies are not large enough to confirm that it provides protection
Phase 3	**Volunteers:** 10,000 + **Primary Objective:** Efficacy (safety still remains a focus) - Shows whether the vaccine significantly lowers infectiosity - Size of volunteers depends on how wide-spread the disease is - In any phase a vaccine can fail to show that it provides sufficient protection; a number of vaccines candidates fail in phase 3 studies
Phase 4	**Vaccine has been approved** - The approved vaccine is being widely used - Data is still being collected on its safety and how well it works

With all that mind, some of you may wonder how the Covid-19 vaccines went through the phases seemingly so quickly. That is answered by the Medical Express article as well:

"In the case of COVID-19, we have been fortunate to see sufficient investment that has enabled planning for all phases of clinical trials to take place at the beginning, allowing the next phase of clinical trials to commence quickly, so as soon as the data from the previous phase supports it. This has meant that we are seeing vaccine development happen at a rate much faster than ever before without compromising at all on any of the usual processes required to be certain about the vaccine's safety, as well as how well it is likely to work."

Source

https://medicalxpress.com/news/2020-08-vaccine-clinical-trial-phases.html

(Released: 21st June 2021, 12:26 Uhr/12:26 pm)

Confronting the Dark Chapters

Caput

Coming to terms with the dark chapter of one's country history is not always easy, but it is necessary. The memory must be kept alive in order to prevent history from repeating itself.

From education to an open public discourse - both, and everything inbetween, is part of it.

In German it is called "Vergangenheitsbewältigung", and while there are differences from country to country - some may have darker periods than others -, the importance remains the same. It is not about guilt, it is about responsibility. We cannot undo what happened, but we can ensure that such things do not occur again.

This entry reflects my personal thoughts and experiences while dealing with the darkest chapter of Germany's history: the third Reich (1933-1945).

I don't know how long it is going to be, but maybe you'll find the thoughts written down by some random German interesting enough to stick around until the end.

Corpus

The earliest memories, at least those who jump into my mind and are quite vivid, are from my early teenager years (14 years old). In Germany you learn about the Second World War in schools; you read about the Weimar Republic, how the First World War influenced it, and how the first democracy on German soil was defeated by its enemies.

There, my hatred for Nazism formed intensively and it increased the more I learned about the war crimes, the ideology and else - it would continue to this day (and it is only going to increase), and I couldn't possibly put in words how much I despise National Socialism.

As I climbed up the letter of education, I also started to watch documentaries about the Weimar Republic, the rise of Nazism, the third Reich and Second World War. I was eager to learn more about this dark chapter of my nation, wanted to know how something like that could happen, and what kind of people were the main drivers behind it. The material given in school was good, though a year only allows a limited amount of hours spent on history lessons. Consequently, I looked for documentations and, if I recall correctly, the first I saw was either on N24 or n-tv. Over time, I moved on to ZDF and Arte (the latter also has a Youtube channel and I'm highly interested in their other content).

In the documentaries, you learn not just about the perpetrators. The perspective of those who were prosecuted, imprisoned and murdered were also in the spotlight. Through old recordings and the evidence the Nazis themselves piled up, I got more and more a whole picture of the atrocities committed by the third Reich. The nightmarish conditions in the concentration camps, the extermination camps, the firing squads at the very beginning of the war, the human experiments and all the other horrifying aspects were revealed to me.

Overall, the documentaries I have watched over the years - along with school education - have educated me quite well. Each horrific act that I learned also left its marks in my memory, and sometimes it feels like an endlessly heavy weight that rests on my soul.

I get sad, frustrated and extremely angry about what happened during these phases - though I keep my thoughts to myself when it happens. I'm still in deep shock when thinking about what was allowed to happen and the unbelievable amount of passiveness.

Not to mention the centralized effort the Holocaust was - so many people actively participating in the worst war crime in human history. Not just NSDAP and SS members, but also accountants, conductors, scientists, the military, and so many more.

Every level of society has failed. The resistance within the German population was only very small (e.g. Weiße Rose, Kreisauer Kreis, Georg Elser), even as it was clear that the war was lost. It perplexed me, and I doubt that will ever be gone.

It was, and still is, a vivid experience. I feel a strong inner pain when I see the recording of the mountains of corpses of extermination camps, the starved prisoners in the concentration camps, and all the destroyed cities across Europe.

The inability to do anything about suffering when I see it is extremely saddening and frustrating - even if it happened several decades ago. Considering the large amount of suffering that was caused tenfolds the inner pain I already feel. It is an overwhelming condition when it occurs, especially when it is something new that devastates me internally.

As mentioned before, I only write down how I feel and experienced it. I'm not here to arouse pity. Just a very personal perspective.

Pes

As difficult as it was sometimes, I'm still glad that I learned about it. While not everyone has to have an exact detailed picture of the past, acknowledging the cruelties and wrongdoings is important. Reconciliation is a long process, and it starts with accepting responsibility. The responsibility to prevent such things from happening again.

Prevention happens, as I mentioned in the beginning, with education in the schools. The public discourse, from the media to society and politicians, is another important factor.
It is a painful process regardless, but a necessary one. Accepting that the dark chapters exist, and confronting them, is a sign of strength. It means that you are willing to have a nuanced picture of your home country.

The Vergangeheitsbewältigung in Germany didn't go smoothly, that needs to be said. In the post-war period there was a taboo in the beginning, only over time - around the 1960s - through questioning the roles of the parents and grandparents the icy crust was broken.
It took long, and there was also opposition, but it continued nevertheless.

How other nations do it is up to the people living there, of course. Some may be more willing to face their dark chapters, while others are slower to process it. And you may already have started with confronting your people with the dark side of their nation's history. If so, or you intend to start learning about it, then I wish you the best of luck!

Hopefully, my personal story wasn't entirely useless to you.

(Released: 15th July 2021, 23:36 Uhr/11:36 pm)

Science News #4

In today's science news, we learn about the impact air quality has on office employee's performance, the worsening vital signs of our planet and approaches to combat it, and finally how we benefit from a living fossil that lives in the waters of Michigan.
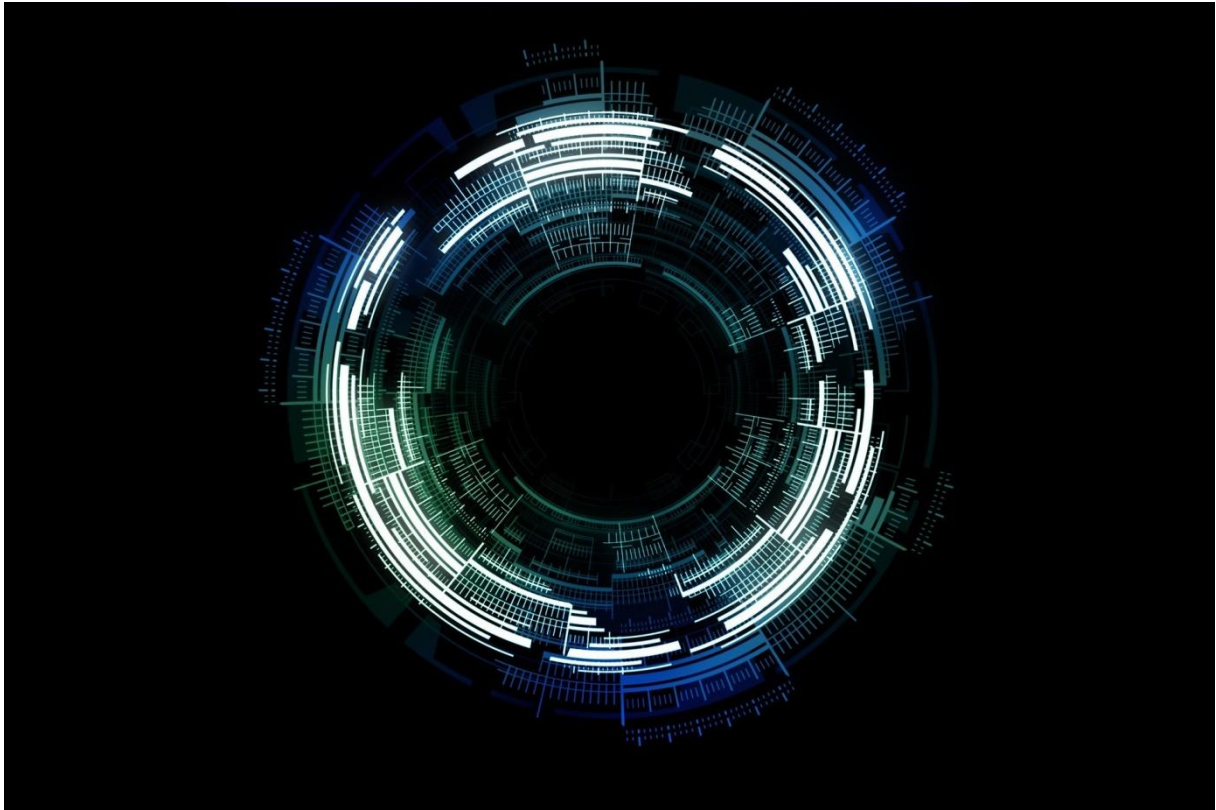

Illustration 23 - Image by xresch (Pixabay)

Article Nr. 1: Office air quality may affect employees' cognition, productivity

SD-Date: 9th September, 2021
Et-Date: 13th September, 2021
ScienceDaily Summary: *"The air quality within an office can have significant impacts on employees' cognitive function, including response times and ability to focus and it may also affect their productivity, according to new research."*

Method of Research

A one-year study was conducted across six countries with more than 300 office workers enrolled in it. The participants were between the ages 18 and 65, worked at least three days a week in an office building and had a permanent workstation within the office.

In their workspace, an environmental sensor was placed that monitored in real-time concentrations of PM2.5 (particulate matter, very small particles in the air that measure 2.5 micrometers) and Co2, as well as temperature and relative humidity. Each participant was also equipped with a custom-designed app on their mobile phones through which cognitive tests and surveys could be administered.

The tests and surveys were conducted at prescheduled times or when the environmental sensors detected levels of PM2.5 and CO_2 that fell below or exceeded certain thresholds.
There were two different tests; **(1)** to evaluate cognitive speed and inhibitory control, meaning the ability to focus on relevant stimuli when irrelevant stimuli are also present.
(2) to assess cognitive speed and working memory through basic arithmetic questions.

Findings

- ❖ In the first test, the response time was slower as the PM2.5 and Co2-levels increased. The accuracy was affected by PM2.5 and Co2 as well.
- ❖ The arithmetic test received slower response time when the Co2-level increased, but not PM2.5.
- ❖ As both pollutants increased, however, the participants completed fewer questions in their assigned tests.

Source

https://www.sciencedaily.com/releases/2021/09/210909123919.htm

Article Nr. 2: Earth's vital signs worsen amid business-as-usual mindset on climate change

SD-Date: 28th July, 2021
Et-Date: 13th September, 2021
ScienceDaily Summary: *"Twenty months after declaring a climate emergency and establishing a set of vital signs for the Earth, a coalition of researchers says the updated vital signs "largely reflect the consequences of unrelenting business as usual.""*

Background

The paper by William Ribble, Christopher Wolf and collaborators came out shortly before the sixth IPCC report on August 9. As the title has already given away, it is about the vital signs of our planet which worsen in the business-as-usual mindset on climate change. However, in the paper they also propose objectives to combat it and adhere to the 1.5 °C goal set by the Paris Climate Agreement.

Earth's Vital Signs

- ❖ 2020 was the second hottest year in history, with the five hottest years occuring since 2015
- ❖ The three greenhouse gases carbon dioxide, methane and nitrous oxide set records in atmospheric concentration in 2020 and 2021
- ❖ The highest global average concentration of carbon dioxide was recorded in April 2021 (416 parts per million)
- ❖ Ribble also said that *"there is growing evidence we are getting close to or have already gone beyond tipping points associated with important parts of the Earth system, including warm-water coral reefs, the Amazon rainforest and the West Antarctic and Greenland ice sheets"*

Next to the already mentioned vital signs, the authors highlight these as well:

- Ruminant livestock now number more than 4 billion, and their total mass is more than that of all humans and wild animals combined.
- Brazilian Amazon annual forest loss rates increased in both 2019 and 2020, reaching a 12-year high of 1.11 million hectares deforested in 2020.
- Ocean acidification is near an all-time record. Together with thermal stress, it threatens the coral reefs that more than half a billion people depend on for food, tourism dollars and storm surge protection.

Objectives

From the text, I extracted following measurements that should be taken:

- Halt unsustainable exploitation of natural habitats to reduce zoonotic disease transmission risks, protect carbon stocks and conserve biodiversity
- Focus on social justice to reduce inequality and prioritize basic human needs
- Climate change education to be included in the curriculums of schools around the world for greater awareness of the 'climate emergency' and 'empower the learners to take action'
- 'Three-pronged near-term policy approach' which includes a 'serious' carbon price that is implemented globally, phasing out of fossil fuels and eventually banning them, as well as strategic climate reserves to 'safeguard and restore natural carbon sinks and biodiversity'
- Including new climate policies in Covid-19 recovery plans

And to finish it with a quote of Ripple: *"It's time for us to join together as a global community with a shared sense of cooperation, urgency and equity."*

The researchers of the Oregon State University are joined by Thomas Newsome of the University of Sydney; Timothy Lenton of the University of Exeter; Ignacio Palomo of the University of Grenoble Alps; Jasper Eikelboom of Wageningen University and Research; Saleemul Huq of Independent University Bangladesh; Philip Duffy of the Woodwell Climate Research Center; and Johan Rockström of the Potsdam Institute for Climate Impact Research.

Addition

About a week ago, at the time of this writing, an article was published that also fits in here.
It's title: *"Over 200 health journals call on world leaders to address 'catastrophic harm to health' from climate change"*, you can read it here.
ScienceDaily Summary: *"Over 200 health journals across the world have come together to simultaneously publish an editorial calling on world leaders to take emergency action to limit global temperature increases, halt the destruction of nature, and protect health."*
And the following paragraph seems important to include: *"The editorial is published in leading titles from every continent including The BMJ, The Lancet, the New England Journal of Medicine, the East African Medical Journal, the Chinese Science Bulletin, the National Medical Journal of India, the Medical Journal of Australia, and 50 BMJ specialist journals including BMJ Global Health and Thorax."*

Source (of Article Nr. 2)

https://www.sciencedaily.com/releases/2021/07/210728105720.htm

Article Nr. 3: Learning from a 'living fossil'

SD-Date: 30th August, 2021
Et-Date: 13th September, 2021
ScienceDaily Summary: *"As we live and breathe, ancient-looking fish known as bowfin are guarding genetic secrets that that can help unravel humanity's evolutionary history and better understand its health."*

Background

Before, the researcher had only the pieces of the Bowfin's genome, or as Braasch - an assistant professor of integrative biology in the College of Natural Science - described it: *"If you think of the genome like a book, what we had in the past was like having all the pages ripped out in pieces. Now, we've put them back in the book."*

Method of Research

Ingo Braasch and Andrew Thompson from the Michigan State University led a project that included more than two dozen researchers and spanned three continents.
They were able to decode some of it by completing the genome picture of the Bowfin.

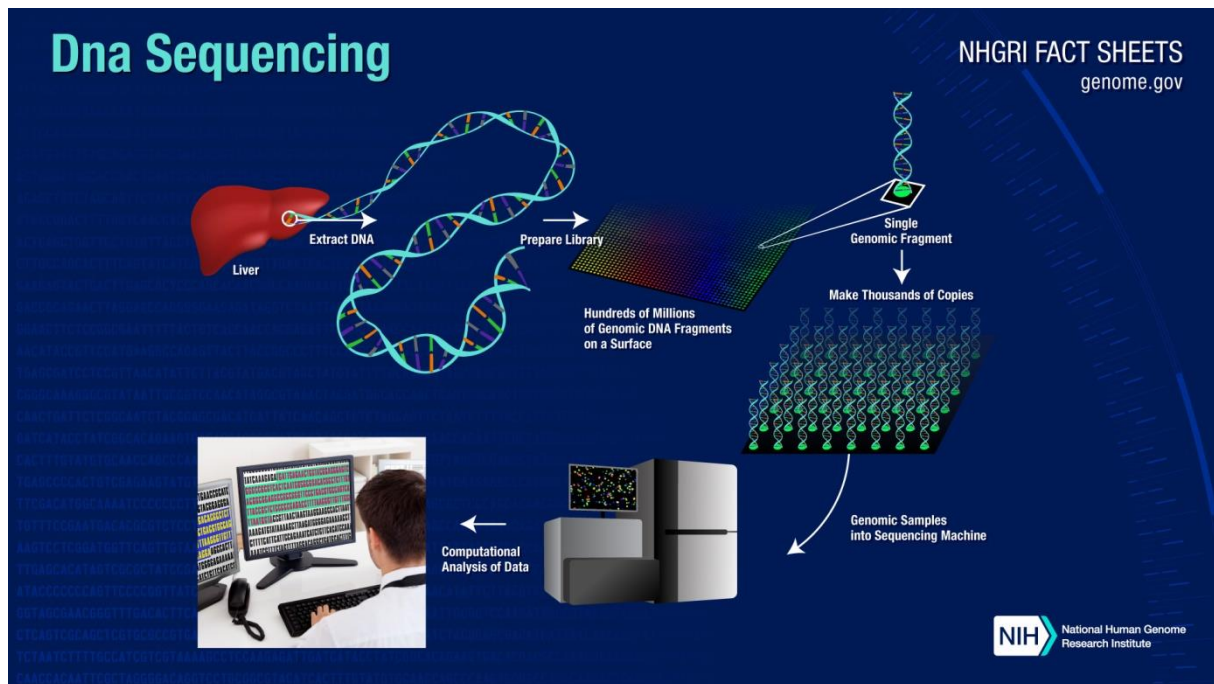Bowfins are native to Michigan and were caught there for <u>genome sequencing</u>.

Illustration 25 - How genome/DNA Sequencing is done

Decoded Secret

- **Gas Bladder**

Due to the research done by the international team, the 'Spartan researchers' were able to see that a certain genetic process has triking similarities to what's known about human lung development. The gar is another 'living fossil', and with both of them they were able to locate where the genetic elements linked to gas bladder and lung formation were hiding out in the modern teleost fishes.

Through that, the researchers were able to improve the bridge between the established modern fish model organisms and the biology of humans. As it is pointed out by Braash in the article: "*"You don't want to base that bridge on one species," said Braasch, who added this finding also strengthens the implications for evolutionary history. "This is another piece of the puzzle that suggests the common ancestor of fish and humans had an air-filled organ and used it for breathing at the water surface, quite similar to what you see in bowfin and gar."*"

Meaning

As you may already know, lots of research is done on model organisms regarding human health (such as therapies and vaccines). The mice and zebrafish (a teleost fish), for instance.
The difficulty arises when an important gene is identified in a zebrafish and the elements that regulate said gene, because it can be hard to find their equivalents in humans.
Here, the bowfin comes into play. It is easier to go from zebrafish to bowfin to human, due to the bowfin's slow evolution and therefore greater similarity.

Illustration 26 - Zebrafish

Source

(Released: 13th September 2021, 19:09 Uhr/07:09 pm)

Regulation of the Financial Sector - Sustainability, Stability and Safety

One sector in the economy that benefited greatly from the digitization and globalization is the financial sector, that includes especially financial transactions on a national and international scale. While the benefits for said sector are clearly visible, a fair contribution in form of a tax to maintain the infrastructure is missing (a few exceptions being Italy, France and the UK). Regulations, on the other hand, exist for market stability and decrease the volatility. Sustainability, Stability and Safety - to put it in three words.

Introduction

First of all, you may want to know what the financial sector consists of. As defined by Investopedia: It provides financial services to people and corporations. It includes banks, investment houses, lenders, finance companies, real estate brokers and insurance companies. While large conglomerates dominate the sector, it also includes a diverse range of smaller businesses.

KEY TAKEAWAYS

- Financial services make up one of the economy's most important and influential sectors.
- Financial services is a broad range of more specific activities such as banking, investing, and insurance.
- Financial services are limited to the activity of financial services firms and their professionals, while financial products are the actual goods, accounts, or investments they provide.

As you can imagine, the financial sector therefore makes up a significant part of a country's economy and the global economy overall. It's importance is indisputable. With that being said, the stability of this sector is therefore of particular importance (failure example: the Great Recession in the early 2000s).

Moreover, there are three overlapping components the financial services sector has in each country, as elaborated by the ILO (International Labour Organization, affiliated with the UN): *"[...] financial enterprises (such as banks) and regulatory authorities; the financial markets (for instance, the bond, equities and currency markets) and their participants (issuers and investors); and the payment system – cash, cheque and electronic means for payments – and its participants (e.g. banks)."*

And, a part you may not be aware of yet, the shadow banking system. Quite frankly, it sounds ominous and villainous, that were the exact same thoughts I had. Anyways.
From Investopedia (link above): *"Despite the higher level of scrutiny of shadow banking institutions in the wake of the financial crisis, the sector has grown significantly. In May 2017, the Switzerland-based Financial Stability Board released a report detailing the extent of global non-bank financing. Among the findings, the board found that non-bank financial assets had risen to $92 trillion in 2015 from $89 trillion in 2014."*

KEY TAKEAWAYS

- The shadow banking system consists of lenders, brokers, and other credit intermediaries who fall outside the realm of traditional regulated banking.

- It is generally unregulated and not subject to the same kinds of risk, liquidity, and capital restrictions as traditional banks are.

- The shadow banking system played a major role in the expansion of housing credit in the run up to the 2008 financial crisis, but has grown in size and largely escaped government oversight even since then.

Furthermore, the ILO elaborates on it as well: *"The last decade also saw the spectacular rise of a financial infrastructure, entities and practices collectively referred to as a shadow banking system, comprising among others such businesses as hedge funds, private equity funds, money market funds and special investment vehicles. Many observers believe this shadow banking system, operating outside any national supervisory framework but closely interwoven with the regulated financial system, may have contributed significantly to the onset of the global financial and economic crisis that erupted in the last part of 2008."*

Lastly, while it is difficult to measure the exact size of the global financial services due to inconsistent definitions depending on the data source, no regularly available reports and the World Bank only collecting data from 189 countries while estimating the rest; most put the financial service sector at around 20-25% of the world's economy.
In numbers: $93,863 billion in 2021 means that the financial sector contributed between $18,772.6 billion to $23,465.75 billion. As already mentioned, it is not precise.
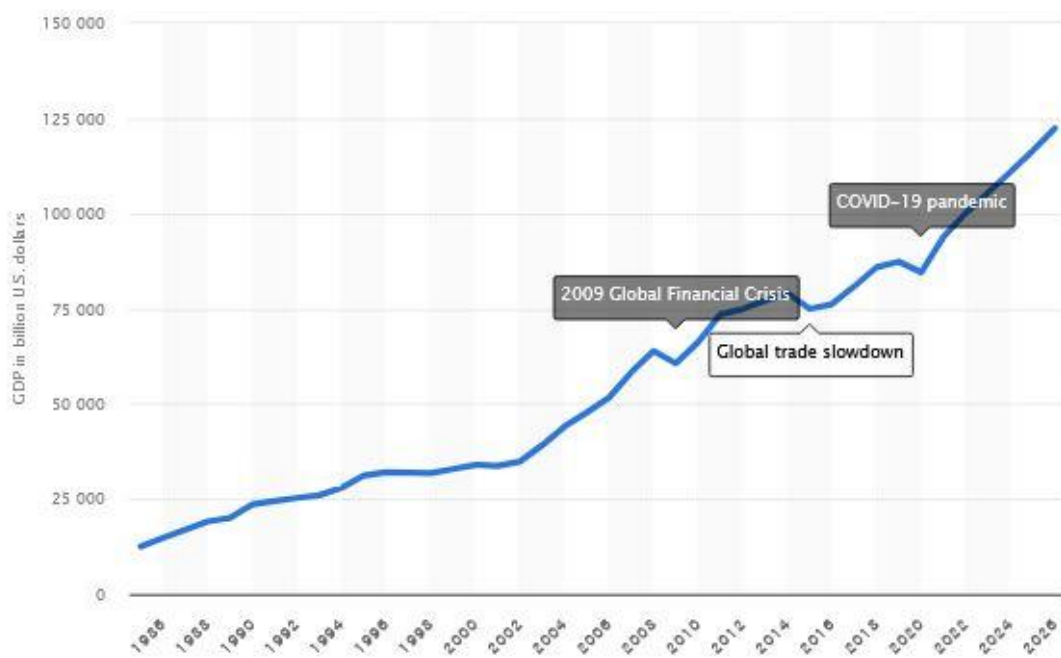
Illustration 27 - Global gross domestic product (GDP) at current prices from 1985 to 2026 (in billion U.S. dollars)
Graph by Statista

Finally, now that we know what the financial sector consists of - while already learning about a more unregulated an unsupervised part of it - we shall continue with the three S - Sustainability, Stability and Safety.

The Three S

Due to the importance of the financial sector and its size, it is only reasonable to pursue continuity through a sustainable system, stability through regulations and safety by implementing a fail-safe system. The latter requires more expertise thought that I cannot provide; an impuls at best by explaining how I'd approach such a fail-safe system.

Sustainability

In this context, sustainability means continuity. Since the financial sector relies on international organisations such as the WTO and UN, it would only be fair if it contributed to it as well. By that, I mean a financial transaction tax. Said tax, even in a conservative scenario, would provide significant revenue. Ideally, on a global level.

I strongly recommend reading [the study](#)(PDF)
"A Global Financial Transaction Tax - Theory, Practice and Potential Revenues" by Atanas Pekanov and Margit Schratzenstaller.

Who bears the burden of a financial transaction tax?

Likely the first question that arises when talking about the FTT.
The burden would be similar to a corporate income tax increase, and following the assumptions of the Tax Policy Center 80% of the burden will fall on capital owners and 20% on labour (Burman et al. 2016, Matheson 2011; p. 17). Furthermore, a microsimulation done by Burman as well shows that, for the US, 75% of the burden would fall on the highest-income quintile while 40% would fall on the Top 1%.

How does the tax affect regular investors?

That's explained on the same page as well: *"[...] most ordinary investors would not be significantly affected by an FTT, as they do not make transactions very frequently, but rather buy assets and instruments to hold them for a longer period based on long-term investment strategies."* Therefore, the tax would be progressive and spare those who do not engage in high-frequence trading.
"Altogether, it can be assumed that an FTT would not have undesirable distributional consequences."

Has there been an FTT before?

Yes. In the USA, there was a financial transaction tax from 1914 to 1965, during the Great Depression in 1932 it was doubled.

The United Kingdom has a stamp duty tax which has been in place since 1694 and remains to this day. The tax only focuses on stocks and imposes a levy of 0.50%. While it still allows market participants to avoid it, the tax consistently generated £1 to £1.5 billion monthly in the last 5 years.

Japan abolished its FTT in 1999 and 9 Member States of the EU since the end of the 1980s.
In Sweden it was abolished due to its poor design.

Italy and France recently introduced an FTT.

Table 1: Overview of existing financial transaction taxes

Argentina	0.6% on stocks, corporate/government bonds, and futures
Australia[1]	N/A at a federal level, states may levy transaction taxes
Belgium	0.27% stock exchange transaction tax on purchase/sale of Belgium or foreign listed shares, bonds and other securities (maximum of € 1,600)
Brazil[2]	0.38% on foreign exchange, 6% on short-term foreign loans and bonds (180 days of less)
China[1]	0.1% on stocks
Cyprus	0.15% stock exchange transaction tax on purchase/sale of shares, bonds and other securities
Finland	1.6% on OTC purchase/sale of shares, bonds and other securities
France	0.3% on sale of listed shares of firms located in France with a market capitalisation of above € 1 billion, 0.01% on certain high-frequency transactions
Greece	0.2% stock exchange transaction tax on purchase/sale of listed Greek or foreign shares
India[3]	0.1% on stocks assessed on buyer and seller (total 0.2%), 0.017 to 0.025% on sale of options, 0.01% on sale of futures
Indonesia[4]	0.1% on stocks
Ireland	1% stamp duty on purchase/sale of listed shares of firms registered in Ireland
Italy	0.2% on purchase/sale of shares of firms located in Italy with a market capitalisation of above € 500 million and 0.1% on purchase/sale on the stock exchange, 0.02% on domestic high frequency transactions, lump sum tax of € 0.01875 to € 200 for OTC derivative trades and € 0,00375 to € 40 for derivative trades on stock markets
Malta	2% stamp duty on purchase/sale of marketable securities
Poland	1% on OTC purchase/sale of shares, bonds and other securities with a relationship to the Polish market
Russia	0.2% on value of new share and bond issues
South Africa	0.25% on stocks
South Korea	0.3% on stocks and corporate bonds
Switzerland	0.15% stock exchange transaction tax on purchase/sale of domestic securities, 0.3% stock exchange transaction tax on purchase/sale of foreign securities if transaction is performed by a domestic trader
Turkey	0.2% stock issuance fee, 0.6 to 0.75% bond issuance fee
United Kingdom	0.5% stamp duty on purchase/sale of shares or marketable securities
United States[5]	0.00184% on stocks, $ 0.0042 per futures transaction

Notes: N/A=not applicable, OTC=over the counter.

[1]Matheson (2011), [2]PricewaterhouseCoopers (2014), [3]National Stock Exchange of India (2014), [4]Pomeranets (2012), [5]U.S. Securities and Exchange Commission (2015)

Source: Hillman – Ashford (2012); Bundesministerium der Finanzen (2018); Burman et al. (2016).

Note: While in Sweden it was abolished due to poor design (see Schulmeister et a. 2008 for more detailed analysis), the motivation in many other countries was to increase competitiveness due to *"pressures resulting from the increasing mobility of financial market participants and the decreasings costs of re-locating transactions"* (p. 24).

What would be the potential revenues?

There are three different scenarios that were explored in the study. In case you want to know how it was estimated, you can read it on p. 33 where the formula is as well.
The data sources for *Equity Trading* was the World Federation Exchange (WFE); for *Bonds Trading* were used the Federation of European Securities Exchanges (FESE), Securities Industry and Financial Markets Association (SIFMA); *OTC Derivative Trading* used Bank for International Settlements (BIS) and Triennial Survey; *Interest Rate Derivatives* and *Exchange Traded Derivatives* data were from the Bank for Internatioanl Settlements (BIS) as well.

Now to the three estimations.

Conservative Scenario.

Tax rate: 0.1% (trading stocks & bonds instruments), 0.01% (transactions derivatives)
Elasticity: -1.50
Assumption: highest possible evasion and relocation effect (90%) + 15% evasion on bonds and equities (unrealistically high)

Table 5: Potential Revenues from a global FTT; Conservative Scenario

Summary Table	Revenues				
	Global	North America/USA	Europe/EU	Asia	Other
			Million $		
Equities	65,644.00	36,840.84	19,684.30	9,118.86	-
Exchange Traded Derivatives	18,168.03	12,870.92	4,548.60	513.40	235.11
ETD Options	4,068.79	3,389.86	623.75	14.39	40.78
ETD Futures	14,099.24	9,481.06	3,924.85	499.00	194.32
OTC Derivatives	15,628.18	3,051.89	7,445.22	-	-
Interest Rate Derivatives	1,729.21	580.45	189.82	15.29	-
Bonds	136,693.50	130,858.06	5,835.44	-	-
Total	237,862.92	184,202.16	37,703.39	9,647.55	235.11

Source: Authors calculations based on data given in Table 4; Assumptions: evasion effects for equities and bonds: 15%; evasion effects for derivatives: 90%; elasticity of trading volumes: -1.50. For the Asian region and Rest of the world (Other) region data was not available for all financial instrument types.

This scenario delivers around $ 237.9 billion overall for the whole global economy, which corresponds to 0.31% of global GDP. Of these, $ 184.2 billion will accrue to the North America/United States region, $ 37.7 billion to the European/EU region, and $ 9.7 billion will accrue to the Asian region.

Baseline Scenario.

Tax rate: 0.1% (trading stocks & bonds instruments), 0.01% (transactions derivatives)
Elasticity: -1.00
Assumption: 70% evasion and relocation effect + 15% evasion on bonds and equities

(next page)

Table 6: Potential Revenues from a global FTT; Baseline Scenario

Summary Table	Revenues				
	Global	North America/USA	Europe/EU	Asia	Other
			Million $		
Equities	70,903.63	39,792.66	21,261.48	9,849.49	-
Exchange Traded Derivatives	55,405.05	39,251.03	13,871.38	1,565.65	716.98
ETD Options	12,408.15	10,337.69	1,902.19	43.90	124.37
ETD Futures	42,996.89	28,913.34	11,969.19	1,521.75	592.61
OTC Derivatives	47,659.54	9,307.01	22,704.86	-	-
Interest Rate Derivatives	5,273.39	1,770.14	578.88	46.64	-
Bonds	147,645.85	141,342.86	6,302.99	-	-
Total	326,887.46	231,463.70	64,719.59	11,461.79	716.98

Source: Authors calculations based on data given in Table 4; Assumptions: evasion effects for equities and bonds: 15%; evasion effects for derivatives: 70%; elasticity of trading volumes: -1.00. For the Asian region and Rest of the world (Other) region data was not available for all financial instrument types.

This scenario delivers around $ 326.9 billion overall for the whole global economy, which corresponds to 0.43% of global GDP. Of these, $ 231.5 billion would accrue to the United States/Americas region, $ 64.7 billion to the European/EU region, and $ 11.5 billion to the Asian region.

Optimistic Scenario.

Tax rate: 0.1% (trading stocks & bonds instruments), 0.01% (transactions derivatives)
Elasticity: -0.50
Assumption: 50% evasion and relocation effect + 15% evasion on bonds and equities

Table 7: Potential Revenues from a global FTT; Optimistic Scenario

Summary Table	Revenues				
	Global	North America/USA	Europe/EU	Asia	Other
			Million $		
Equities	76,584.67	42,980.98	22,965.02	10,638.67	-
Exchange Traded Derivatives	93,101.82	65,956.86	23,309.26	2,630.90	1,204.80
ETD Options	20,850.48	17,371.30	3,196.42	73.76	209.00
ETD Futures	72,251.34	48,585.55	20,112.85	2,557.13	995.81
OTC Derivatives	80,745.59	15,768.09	38,466.95	-	-
Interest Rate Derivatives	8,934.27	2,999.01	980.75	79.02	-
Bonds	159,475.74	152,667.73	6,808.01	-	-
Total	418,842.10	280,372.67	92,530.00	13,348.59	1,204.80

Source: Authors calculations based on data given in Table 4; Assumptions: evasion effects for equities and bonds: 15%; evasion effects for derivatives: 50%; Elasticity of Trading Volumes: -0.50. For the Asian region and Rest of the world (Other) region data was not available for all financial instrument types.

This scenario delivers around $ 418.9 billion overall for the whole global economy, which corresponds to 0.55% of global GDP. Of these, $ 280.4 billion would accrue to the United States/Americas region, $ 92.5 billion to the European/EU region and $ 13.4 billion will accrue to the Asian region.

Moreover, there may be an additional 14% of potential revenues from financial instruments such as Exchange Trade Funds (ETFs), Undertakings for the Collective Investment in Transferable Securities (UCITs), and Alternative Investment Funds (AIFs). However, the authors of the study didn't have globally comparable data on said instruments.
In the baseline scenario it would be an additional global revenue of $45 billion.

Other reasons why the revenues may be underestimated can be found on page 40 (only half of a page long); a lack of data in the Asian region and some in the rest of the world is mentioned as well.

In case you are interested in a country-by-country revenue, there's table 8 and table 9 on page 41, respectively page 42.

What about tax evasion?

In order for a financial trans action tax to work with minimal tax evasion, international cooperation is necessary. As the authors said it: *"Global and multilateral cooperation will thus be essential for the FTT to be successfully implemented by overcoming fruitless technical discussions and agreeing upon a common design that can raise substantial revenue and ensure it does not disproportionally distort market efficiency."* (p. 46)

On a national level it can still deliver revenue that is not negligible, as the UK has shown, but there still remain limitations to enforce it due to evasion.

Lastly, this section of sustainability ends with the conclusion of the authors of the study:
"The FTT can raise significant revenues globally. If policymakers and international institutions follow the optimal design of such a tax with a very broad base and a relatively low rate of the tax, the distortionary effects should be quite small. In addition to that, the predominant burden of the tax would be on top wealth groups, which are most active on financial markets. The tax will have a progressive nature, which can also address growing concerns about inequality and distributional fairness. Finally, the FTT enjoys public support and the broad alliance between NGOs and civil society organisation in its favour might make it more feasible to be implemented.

The additional revenues from a global FTT can contribute to the duly needed resources for a number of specific global priorities, where multinational cooperation is essential. In any case, with this amount of potential revenues, an FTT, if designed properly and imposed globally, could help address public calls for the financial sector to contribute more to government budgets and show that international cooperation and multilateral institutions can deliver significant and efficient solutions to the issues of our time." (page 47)
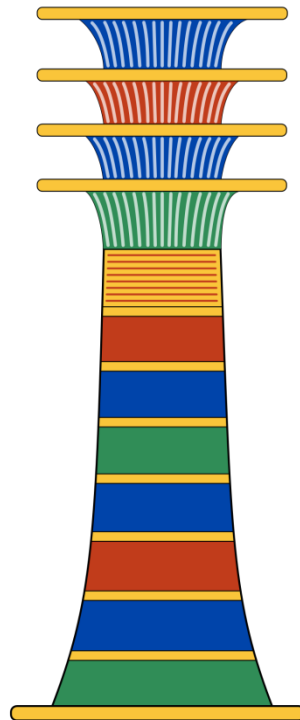
Stability

A stable financial sector requires regulations; not only to avoid crises suchs as the Great Depression (1929) and the Great Recession (2007/2008), but to protect the consumers' interests, prevent financial fraud and limit the risks a financial institution can take with the money of their investor.

An effective oversight by the government prevents companies from taking excessive risks as well. A real-world example, where tighter regulations would have helped, is Lehmann Brothers. The regulations would have stopped them from engaging in risky behaviour which in turn could have prevented or curbed the 2008 financial crisis.

Regulations and Regulators Examples

- Sherman Anti-Trust Act (prevention of monopolies which abuse their power)
- Federal Deposit Insurance Corporation (FDIC), (examines and supervises more than 5,000 banks)
- Dodd-Frank Wall Street Reform and Consumer Protection Act (strengthened the FED's power over financial firms)
- The Office of the Comptroller of the Currency (supervisor of all national banks and federal savings associations)
- The National Credit Union Administration (regulates credit unions)
- The Securities and Exchange Commission (SEC), (federal financial regulations, also investigates and prosecutes violations of securities laws and regulations)
- The Consumer Financial Protection Bureau (CFPB), (ensures banks don't overcharge for credit cards, debits cards and loans)
- 1933 Glass-Steagall Act (regulate banks, after the 1929 stock market crash)

However, this one was overturned 66 years later by the Gramm-Leach-Bliley Act and allowed banks to to invest in unregulated derivatives and hedge funds, and also made it possible for banks to use depositors' funds for their own gains;

[These](#) are all US examples, but you will find similar/same regulations in other countries.

In recent history, the former President Donald Trump deregulated in 2018:

"The rollback meant the Fed can't designate these banks as too big to fail. They also aren't subject to the Fed's "stress tests. And they no longer have to comply with the Volcker Rule. Now banks with less than $10 billion in assets can, once again, use depositors' funds for risky investments."

The need for regulations won't change in the future either and, as the Lehmann Brothers example has shown, they can even prevent or curb a crisis. However, it doesn't stop by simply implementing these regulations. In a democracy, it is also of importance to emphasize the importance of them and keep the politicians in check as well. A constant back and forth between rollbacks that lead to a crisis, only to re-implement it afterwards by another party, is anything but sustainable and stable. For it both hurts the private sector and the people, especially the working class who has to deal with unemployment and the negative effects that come with it.

Safety

Illustration 33 - Image by TheDigitalArtist (Pixabay)

Unlike the other two S's, the fail-safe is of more theoretical nature. After all, the financial sector is not like a computer file that can simply be restored by making a copy prior once the original has been corrupted.

While we cannot fail-safe the sector in a strict sense, what we do can is preparing politicians for a (looming) crisis. I already explained it thoroughly in my entry called *"Political Scenario Simulations for Emerging Politicians (PSSEP)"*, here a summary:

- In these simulations, experts are present which evaluate how well the participants responded to it. The participants are allowed to talk to the experts, as they'd naturally do (ideally of course) in the real world.
- There are 3 tests which are conducted, but they are not tested one after another. There's time in-between (e.g. 2-3 months).
- Various crises can be simulated and, at the end, a certificate is given to the participants.

- The culture of a country also plays a role, if it is implemented in other nations or involves problem-solving with politicians of other nationalities.

Thus, new politicians can gather experience and are better prepared for a crisis. They also learn how to prevent one in the first place.

Even if we implement all regulations that are necessary, as well as the global financial transaction tax, there will still be other threats that can lead to destabilization to some part and which must be prepared for (perhaps most of them already have been prepared for):

- Nature catastrophes and weather extremes due to climate change
- Terrorism
- War
- Humanitarian crisis

Unless there's been an error in the "file" before it got corrupted, the goal will be to restore the financial sector (and with it the economy) to its condition before the crisis.

Perhaps, there can even be policies designed that serve as an emergency cord. Thus allowing for a quick response depending on the kind of crisis that a country faces.

Basically, imagine it like an emergency provision: it may not taste well, but it ensures your survival until you get better food.

(The analogy is very likely not ideal, but you get the idea)

End

That's it from my part, and as always: constructive criticism and polite discussions are welcome! Have a nice day!

(Released: 25th September 2021, 22:03 Uhr/11:03 pm)

Science News #5

In Today's Science News, we learn about the improvement of AI learning by adding variability as it already exists in the neurons of our brain; a new wireless wearable that can be 3D-printed and is useful for gathering health data; the impact of the Australian wildfire on the natives bees; and lastly, a bonus article about space to celebrate the 10th Science News entry.
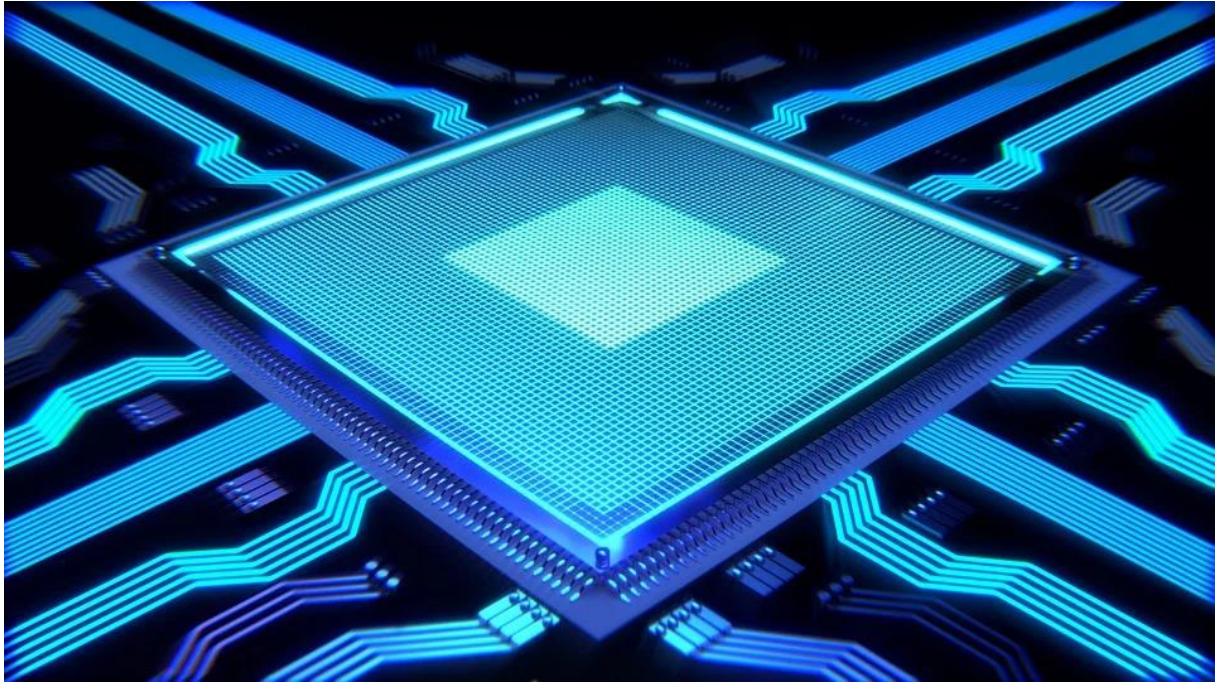

Illustration 34 - CPU by CloiN00b (Pixabay)

Article 1: Brain cell differences could be key to learning in humans and AI

SD-Date: 6th October, 2021
Et-Date: 9th October, 2021
ScienceDaily Summary: *"Researchers have found that variability between brain cells might speed up learning and improve the performance of the brain and future AI."*

Background

The brain is made up of billions of [neurons](#) which are connected by a vast neural network. They allow us to learn about our environment and are also quite efficient when it comes to energy consumption. Bioelectric processes are used for signal processing (which are subdivided into gradual and all-or-none processes) which in turn are created by differing distributions of ions inside and outside of the neural cell. As it is explained by the [NIH](#):

"Neurons are information messengers. They use electrical impulses and chemical signals to transmit information between different areas of the brain, and between the brain and the rest of the nervous system. Everything we think and feel and do would be impossible without the work of neurons and their support cells, the glial cells called astrocytes (4) and oligodendrocytes (6)."
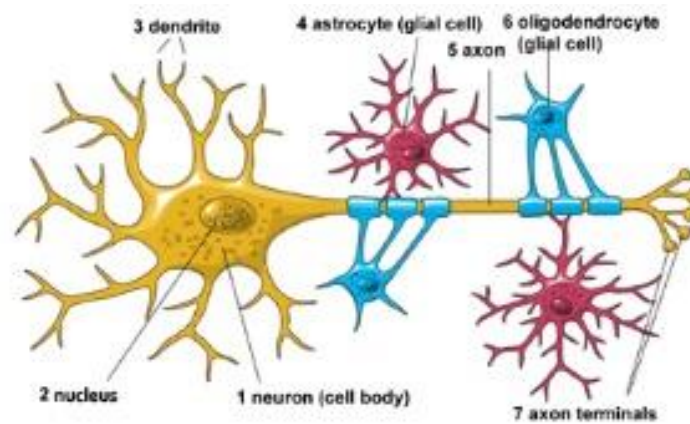
Illustration 35 - Structure of a Neuron

Now to the study and why I've told you about the function of neurons in the first place.
The authors explain that neuron cells are like snowflakes - they look identical from afar, but on further inspections it becomes clear that no two are exactly alike. That's in contrast to artificial neural networks where each cell is exactly identical. Only their connectivity is varying. While their speed continues to advance, these artificial neural networks do not learn as accurately or quickly as the human brain (for instance: an AI has a harder time to recognize a fruit under various circumstances, whereas humans learn it through a few samples -> that's also why AIs are highly specialized). Said variability is suspected to be the culprit of the slower and inefficient learning.

Method of Research

For the study, the researchers decided to focus on tweaking the "time constant". *"[...] that is, how quickly each cell decides what it wants to do based on what the cells connected to it are doing"*. There are two types of cells: those which act quickly by only looking at what the connected cells have just done; and those which act slowly and base their decision on what cells have been doing for a while.

Then, after adding the varying time constants to the artificial cells, the network was tasked with performing some benchmark machine learning tasks: *"to classify images of clothing and handwritten digits; to recognize human gestures; and to identify spoken digits and commands."*

Findings

Thanks to the ability of processing information similar to the human brain in a slow and quick manner, the artificial network was better able to solve tasks in more complicated, real-world settings.

Furthermore, the closer the variability of the network was to the brain's variability, the better they performed. Thus suggesting that the brain has evolved *"just the right amount of variability for optimal learning"*.

Lastly, a statement from the researcher Nicolas:

"We demonstrated that AI can be brought closer to how our brains work by emulating certain brain properties. However, current AI systems are far from achieving the level of energy efficiency that we find in biological systems.

"Next, we will look at how to reduce the energy consumption of these networks to get AI networks closer to performing as efficiently as the brain."

Source

Article 2: Engineers 3D-print personalized, wireless wearables that never need a charge

SD-Date: 8th October, 2021
Et-Date: 10th October, 2021
ScienceDaily Summary: *"Engineers have developed a new type of wearable with several unprecedented benefits. Not only are the devices custom 3D-printed based on body scans of wearers, but they can operate continuously using a combination of wireless power transfer and compact energy storage."*

Background

The devices that are currently available to monitor the body face a variety of limitations. Smartwatches, for instance, have to be charged and can only gather a limited amount of data due to their placement on the body (the wrist). Other wearable sensors that stick to the skin come off when the skin goes through its normal shedding process, or sometimes when a subject sweats.

Then there are the sophisiticated wearables used in clinical settings. While they are able to gather a lot more data, they face also issues such as not being wireless which in turn means limited mobility. It prevents the patient from going about their normal daily routines due to the bulkiness of devices such as the ECG monitor.

Illustration 36 - ECG-Monitor

Solution of the Engineers

Gutruf and his team developed devices that can be 3D-printed and then wrapped around the body where needed. They are custom-fitted to the wearer and biosymbiotic. It receives power from a wireless system with a range of several meters. A small energy storage unit ensures its function even if the wearer goes out of range or outside the house. Neither do they need any adhesives to stick to the body.

"These devices are designed to require no interaction with the wearer," Gutruf said. *"It's as simple as putting the device on. Then you forget about it, and it does its job."*

A video from the the University of Arizona, where the device is explained, was also linked:

https://www.youtube.com/watch?v=MhSeWGbuVTU

Illustration 37 - The 3-D printed wireless sensor

Testing

The device's ability to monitor various parameters was tested, among the parameters were temperature and strain while a person jumped, walked on a treadmill and used a rowing machine. In the rowing machine, multiple devices were worn to track exercise intensity and the way muscles deformed with fine detail. Its accuracy was high enough to measure body temperature changes induced by walking up a single flight of stairs.

Source
https://www.sciencedaily.com/releases/2021/10/211008160450.htm

Article 3: Wildfire bees on the brink

SD-Date: 4th October, 2021
Et-Date: 10th October, 2021
ScienceDaily Summary: *"The number of threatened Australian native bee species is expected to increase by nearly five times after the devastating Black Summer bushfires in 2019-20, new research has found. With 24 million hectares of Australia's land area burnt, researchers say the casualties are clear among bee fauna and other insects and invertebrates after studying 553 species (about one-third of Australia's known bee species) to assess the long-term environmental damage from the natural disaster."*

Background

The wildfires in Australia in 2019/2020 destroyed approximately 3,000 homes and killed or displaced an estimated 3 billion (3,000,000,000) animals. 24 million hectares of land were burned.

As the ScienceDaily summary already pointed out, about one-third of Australia's known bee species were subject to the study to assess the long-term environmental damage from the natural disaster.

Method of Research

The study at hand was a collaborative study and included researchers from Flinders University's Laboratory of Evolutionary Genetics and Sociality, the South Australian Museum, University of Adelaide, Curtin University, University of Sydney, University of Melbourne, Murdoch University and Charles Darwin University.

553 species (ca. 1/3rd of Australia's known bee species) were studied to determine the damage that was caused by the wildfire. It also revealed the casualties among other insects and invertebrates (animals with neither a backbone nor a bony skeleton).

Findings

- ❖ 11 Australian bees (2% of those analyzed) are recommended to be set as priority taxa for listing as IUCN Threatened species (9 were assessed as vulnerable and 2 as endangered)
- ❖ The study also warns about widespread wildfire and forest fire damage around the world which have a catastrophic impact on biodiversity
- ❖ Additionally, the study serves as a foundation to assess the likely impact of natural disasters on poorly studied species
- ❖ Preservation of the native bees in Australia is also important, because of their very important role in pollination and the still unknown role of most others

"Our research is a call for action, from governments and policymakers, to immediately help these and other native populations most in danger," says lead author Flinders University PhD candidate James Dorey [...].

Source

https://www.sciencedaily.com/releases/2021/10/211004130542.htm

Mars' surface shaped by fast and furious floods from overflowing craters

SD-Date: 29th September, 2021
Et-Date: 10th October, 2021
ScienceDaily Summary: *"On Earth, river erosion is usually a slow-going process. But on Mars, massive floods from overflowing crater lakes had an outsized role in shaping the Martian surface, carving deep chasms and moving vast amounts of sediment, according to a new study."*
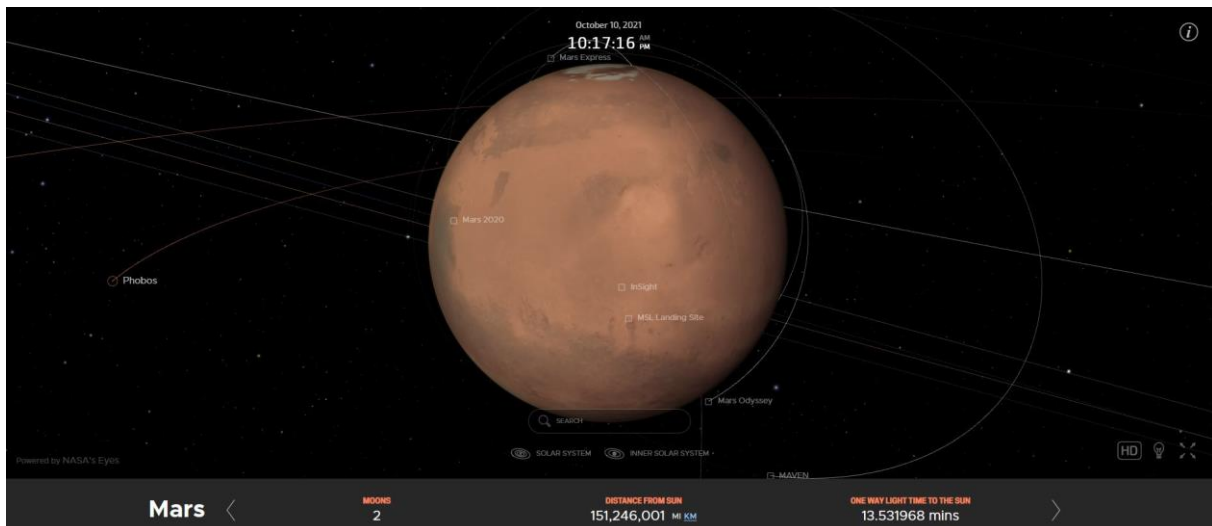

Illustration 38 - Mars is the fourth Planet of our Solar System
The image is from NASA (+ Overview of the Red Planet)

(**Note:** You can interact with Mars on the NASA website, for everyone who's interested)

Method of Research

By using remote sensing images that were taken by satellites orbiting Mars, scientists were able to study the remains of breached Martian crater lakes. Before, - according to lead author Tim Goudge - the crater lakes and river valleys had mostly been studied on an individual basis. In this study, they investigated how the 262 breached lakes across the planet shaped the Martian surface as a whole. Moreover, the research entailed a review of a preexisting catalog of river valleys on Mars and classified the valleys into two categories:
"[V]alleys that got their start at a crater's edge, which indicates they formed during a lake breach flood, and valleys that formed elsewhere on the landscape, which suggests a more gradual formation over time."

With this data, they compared the depth, length and volume of the different valley types.

Following Researchers were involved: lead author Tim Goudge, an assistant professor at the UT Jackson School of Geosciences; study co-author Alexander Morgan, a research scientist at the Planetary Science Institute; as well as other co-authors: Jackson School postdoctoral researcher; Gaia Stucky de Quay and Caleb Fassett, a planetary scientist at the NASA Marshall Space Flight Center.

Findings

- ❖ Nearly 1/4th of Mars' river valley volume was created by crater lake breaches (the furious floods mentioned in the title) despite making up only 3% of the total valley length
- ❖ The median depth of a river valley created by a crater flood is 559 feet (170.5 meters)
- ❖ Those created gradually over time have a median depth of about 254 feet (77.5 meters)
- ❖ Moreover, the unique topography of Martian river valley may also be the result of these strong crater floods

From the findings of the study can be concluded that lake breach river valleys played an important role in shaping the Martian surface. Goudge says that it is a lesson in expectations, as well: *"The Earth's geology has wiped away most craters and makes river erosion a slow and steady process in most cases. But that doesn't mean it will work that way on other worlds."*

Source

https://www.sciencedaily.com/releases/2021/09/210929112849.htm

(Released: 10th October 2021, 22:23 Uhr/11:23 pm)

G20 Summit & COP26 - The UN Climate Change Conference

Today, the 26th UN Climate Change Conference begins. However, the leader of Russia - Vladimir Putin - and the leader of China - Xi Jinping - do not attend. I summarized the results of the G20 summit before moving on to the Climate Change Conference. The first being not very conclusive about the climate.

**Illustration 39 - The hourglass of Earth's climate continues to run
(Image: Pixabay)**

The G20 Summit

For the first time in two years, the G20 leaders met in person to discuss a range of topics - from climate change to taxes to Covid vaccines. Here are the results:

Climate Change

- Commitment to 1.5°C goal, the key objective of the Paris Agreement. No clear date was set in 2050, instead pledged "by or around mid-century" for zero carbon emissions

- Stop the funding of dirty coal plants abroad by the end of 2021

- Mobilization of $100 billion for developing countries for climate adaptations costs

- Carbon pricing mechanisms and incentives as a possible tool considered

Taxation

- The global minimum tax of 15% to combat tax evasion is backed by 136 countries which represent 90% of the world GDP. It is meant to come into effect in 2023, deadline apparently is "at risk of slipping"

- National legislation must be passed in each country, Biden facing domestic opposition

Vaccines

- Support of WHO goal to vaccinate at least 40% of the worlds population by 2021 and 70% by the middle of next year (that would be June 2022)

- Cooperation to recognize Covid-19 vaccines which are deemed safe and efficacious by the WHO (Putin complained about the lack of international approval of Sputnik V)

COVID-19 vaccine doses administered per 100 people

All doses, including boosters, are counted individually. As the same person may receive more than one dose, the number of doses per 100 people can be higher than 100.

| No data | 0 | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | 200 | >220 |
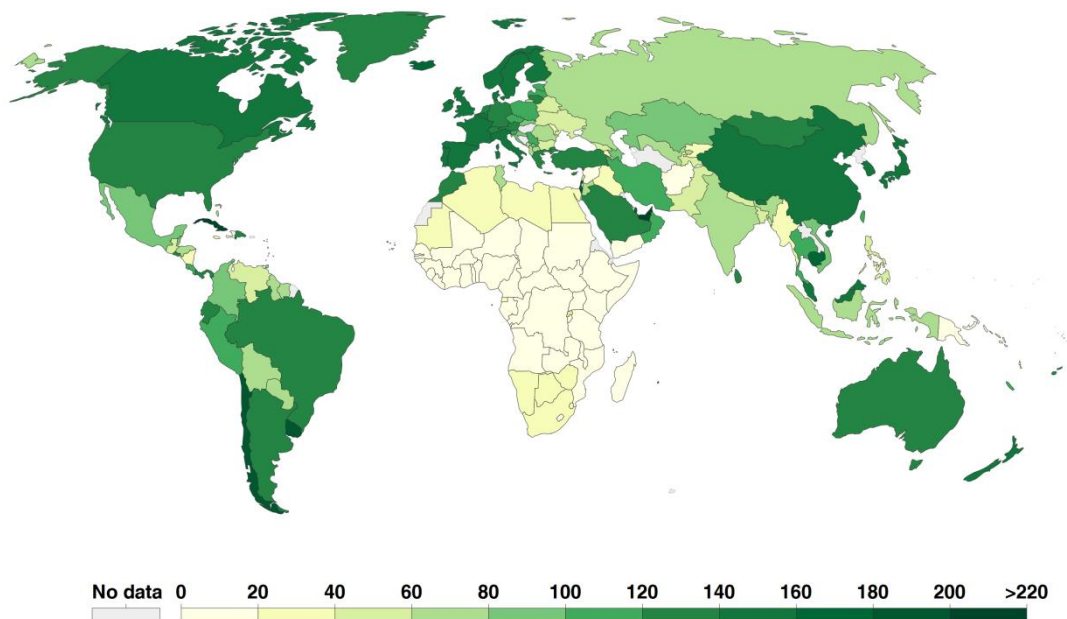
Source: Official data collated by Our World in Data – Last updated 1 November 2021, 11:20 (London time)
OurWorldInData.org/coronavirus • CC BY

"49.5% of the world population has received at least one dose of a COVID-19 vaccine.
7.07 billion doses have been administered globally, and 26.65 million are now administered each day.
Only 3.6% of people in low-income countries have received at least one dose." ([OWD](OWD))

Global Economy
- Continuation of Covid-related economic stimulus measures
- Inflation said to be closely monitored by central banks and remain committed to clear communication of policy stances
- A pledge by G20-leaders to remain 'vigilant' in regard to the challenges faced by the global economy (e.g. supply chains)

Development Aid
- $100 billion for the poorest nations which come from the $650 billion pot from the International Monetary Fund (IMF) backed by its Special Drawing Rights (SDR)
- SDR is not a currency; it can be used as a reserve currency to stabilise value of domestic currency or converted into stronger currencies to finance investments
- Also exists to obtain 'hard currency' without substantial interest rates

KEY TAKEAWAYS

- Special drawing rights (SDR) are an artificial currency instrument created by the International Monetary Fund, which uses them for internal accounting purposes. [2]

- The value of the SDR is calculated from a weighted basket of major currencies, including the U.S. dollar, the euro, Japanese yen, Chinese yuan, and British pound. [1]

- The SDR interest rate (SDRi) provides the basis for calculating the interest rate charged to member countries when they borrow from the IMF and paid to members for their remunerated creditor positions in the IMF. [1]

Source

https://www.theguardian.com/world/2021/nov/01/g20-what-did-world-leaders-agree-at-the-summit-in-rome

COP26 - The 26th United Nations Climate Change Conference

The 26th Climate Change Conference begins on 1st November and ends on the 12th November. It is co-hosted by Italy and more than 30,000 people are expected to attend.
Prime Minister Boris Johnson will play a key role, since the UK is hosting the event.
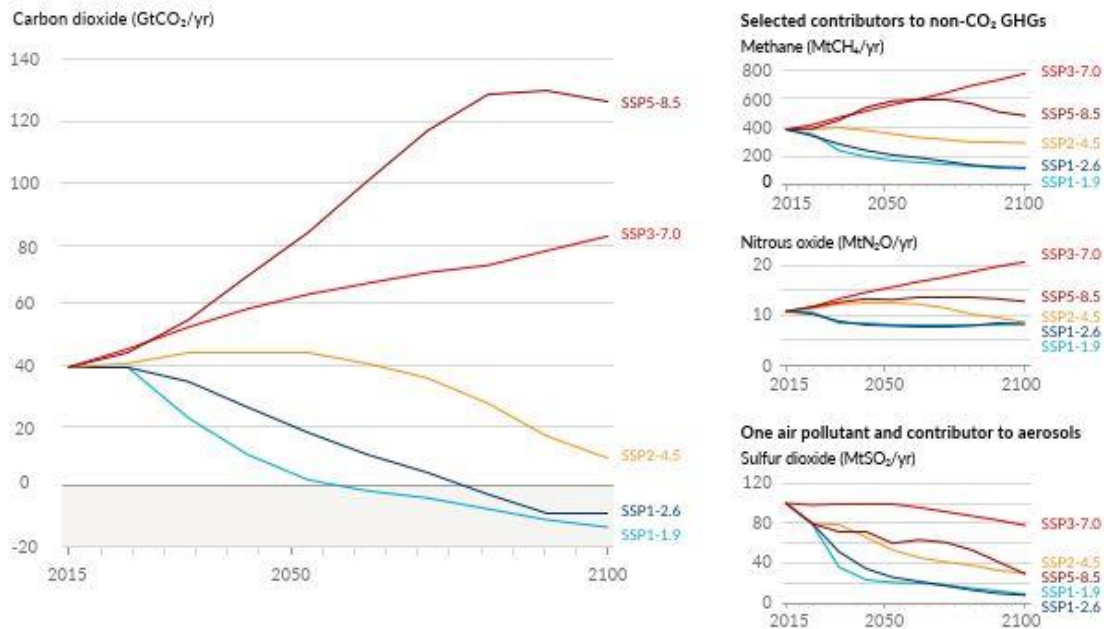Xi Jinping and Vladimir Putin won't attend.

The attendees of COP26 are depicted in this Infographic:

The Different Scenarios

Illustration 40 - From the 6th IPCC Report

Depending on what is not only agreed upon but also achieved, one of the five scenarios could play out. As it is explained by CBS as well: *"Before the Paris Agreement, the global economy was on track to, by the year 2100, warm the planet at least 3.7 degrees Celsius above 1900's pre-industrial levels. Today, existing policies will lead to a 2.9-degree increase and announced targets would lessen the increase to 2.4 degrees — still hotter than the Paris Agreement's objective of less than 2 degrees warmer."*

What an increase to 2.4 degrees means is shown by the following graphs, also from the 6th IPCC Report:
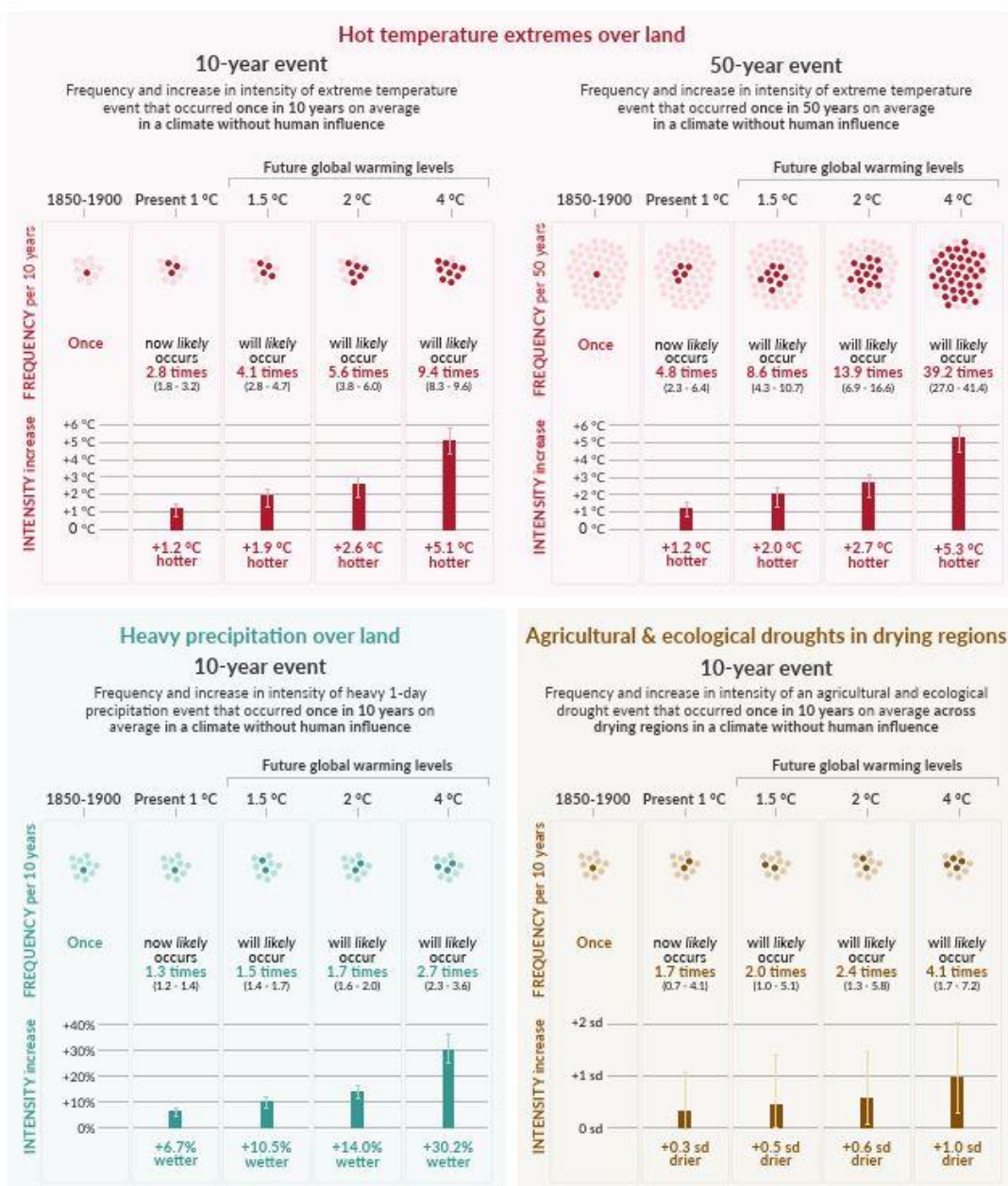
The proportion of CO₂ emissions taken up by land and ocean carbon sinks is smaller in scenarios with higher cumulative CO₂ emissions

Total cumulative CO₂ emissions **taken up by land and oceans** (colours) and remaining in the atmosphere (grey) under the five illustrative scenarios from 1850 to 2100
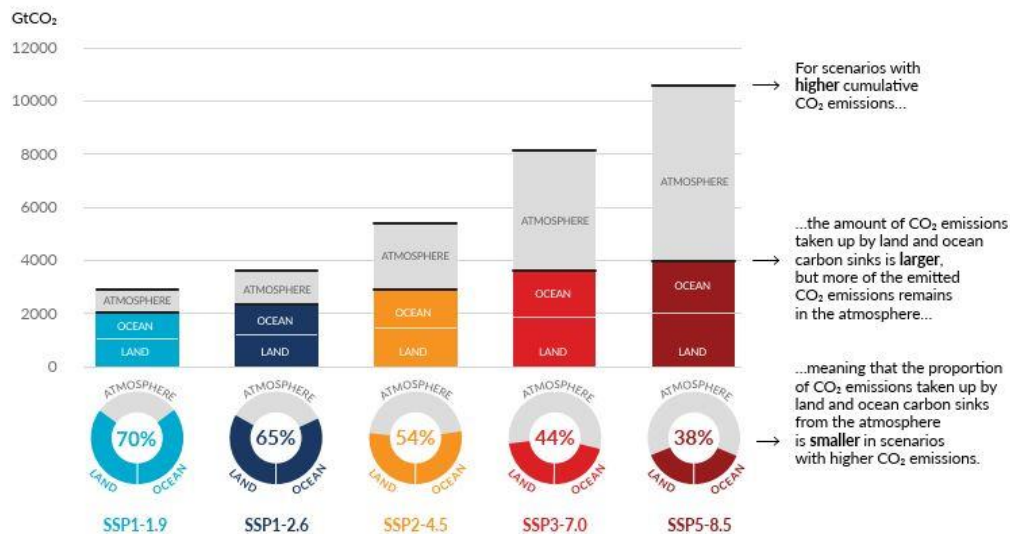

Figure SPM.7: Cumulative anthropogenic CO₂ emissions taken up by land and ocean sinks by 2100 under the five illustrative scenarios.

Increased heat waves with stronger intensity, floodings, droughts, ocean acidification, melting of the polar ice caps - these are some of the consequences of climate change, and the less is done the more severe it gets. Then there's the damage due to adverse weather conditions which only increase the costs for all economic players. Investments to protect the environment and mitigate global warming therefore not only prevent the economy, but also human loss due to extreme weather events. Furthermore, the destabilization of ecosystems is going to hurt us in the long-run as well (e.g. fishing).

In this global climate system, each country contributes either more or less to the rising carbon emissions. While the overall picture matters and the big players must be held accountable, it is also important that individual countries - given they have the resources both monetarily and production-wise - set their own goals and serve as a role model.

For instance: a country like Germany has the means to implement such large changes. Unfortunately, as the years have shown, the governments under Angela Merkel only achieved little. And while it is true that one nation alone cannot change this climate crisis, it can still reduce its own emissions and serve as a role model for other nations.
When the political will lacks, pressure must be applied from outside (as Fridays for Future has already done, for example) and all democratic means explored to remain on course.
However, in the end it is only the government that can implement large-scale changes and it must therefore be held accountable, put under pressure and existing progress monitored.

On the 12th November we are going to see the results of the 26th Climate Change Conference. I finish this entry by presenting the Top 10 Co2-contributors (67.44%):

#	Country	CO2 Emissions (tons, 2016)	1 Year Change	Population (2016)	Per capita	Share of world
1	China	10,432,751,400	-0.28%	1,414,049,351	7.38	29.18%
2	United States	5,011,686,600	-2.01%	323,015,995	15.52	14.02%
3	India	2,533,638,100	4.71%	1,324,517,249	1.91	7.09%
4	Russia	1,661,899,300	-2.13%	145,275,383	11.44	4.65%
5	Japan	1,239,592,060	-1.21%	127,763,265	9.70	3.47%
6	Germany	775,752,190	1.28%	82,193,768	9.44	2.17%
7	Canada	675,918,610	-1.00%	36,382,944	18.58	1.89%
8	Iran	642,560,030	2.22%	79,563,989	8.08	1.80%
9	South Korea	604,043,830	0.45%	50,983,457	11.85	1.69%
10	Indonesia	530,035,650	6.41%	261,556,381	2.03	1.48%

End

I'm not optimistic about COP26, given the lack of political will in the past decades.

We definitely have the potential to turn it around; don't get me wrong - we only need to unlock it.

(Released: 1st November 2021, 15:37 Uhr/03:37 pm)

Results of COP26, the Importance of Reducing Co2 and on the Future

Last week on Friday ended the climate conference in the UK. Here are the results summarized, as well as a steady reminder on the effect each tone of Co2 has on the planet's climate. We close the entry by talking about the future of cooperation and aid.

Illustration 41 - (Image from Pixabay)

Summary of COP26

Nearly 200 countries participated in the negotiations, along with them came many of the world's top CEOs, mayors, and leaders in industries (from finance to agriculture to infrastructure). And, present outside of the summit, climate activists took on the street with one among them being Greta Thunberg.

Now to the summary:

Goal of 1.5 C°

o The commitment to contain global warming at 1.5 °C has been reaffirmed (decreasing emissions by 45% until 2030 compared to 2010)

o Financial firms with $130 Trillion in assets have pledged to adjust their business in order to meet the net-zero goal

Carbon Markets

o A framework was put in place for a global trading system which may lead to a worldwide price on carbon one day

o By 2030, deforestation is to be halted and reversed (pledged by 100 global leaders)

o Investors and companies said they plan to boost forest protection efforts as well

Fossil Fuels

o   And end to "inefficient fossil fuel subsidies" was announced, however, what inefficient exactly means wasn't specified

o   Due to pressure by India and China (as well as other coal-dependent nations) the phasing-out of coal was changed to phase-down

o   The US and China have planned to cooperate on climate action (e.g. decreasing the greenhouse gas methane)

o   22 countries pledged to halt all public financing of fossil fuel projects overseas

o   23 nations promised to phase-out coal

Other

o   Insufficient climate protection plans for 2030 are to be toughened til the end of 2022

o   Financial aid for poor countries is to be doubled by 2025 (€35 billion)

o   From 2021 onwards, all countries have to report to the UN on their emissions balance every two years

o   Encouragement to make 5-year climate plans

o   Other initiatives include the protection of forests, reduction of methane greenhouse gases and emission-free road traffic

Sources
Reuters:
https://www.reuters.com/business/cop/cop26-message-business-clean-up-cash-2021-11-14/
Tagesschau (a German public broadcaster, founded in 1952):
https://www.instagram.com/tagesschau/

What The Science Says

The 6th IPCC report on the subject of Co2-emissions:

*"This Report reaffirms with **high confidence** the AR5 finding that there is a near-linear relationship between cumulative anthropogenic CO2 emissions and the global warming they cause. Each 1000 GtCO2 of cumulative CO2 emissions is assessed to **likely** cause a 0.27°C to 0.63°C increase in global surface temperature with a best estimate of 0.45°C. This is a narrower range compared to AR5 and SR1.5. This quantity is referred to as the transient climate response to cumulative CO2 emissions (TCRE). This relationship implies that reaching net zero anthropogenic CO2 emissions is a requirement to stabilize human-induced global temperature increase at any level, but that limiting global temperature increase to a specific level would imply limiting cumulative CO2 emissions to within a carbon budget."*

Every tonne of CO₂ emissions adds to global warming

Global surface temperature increase since 1850-1900 (°C) as a function of cumulative CO₂ emissions (GtCO₂)
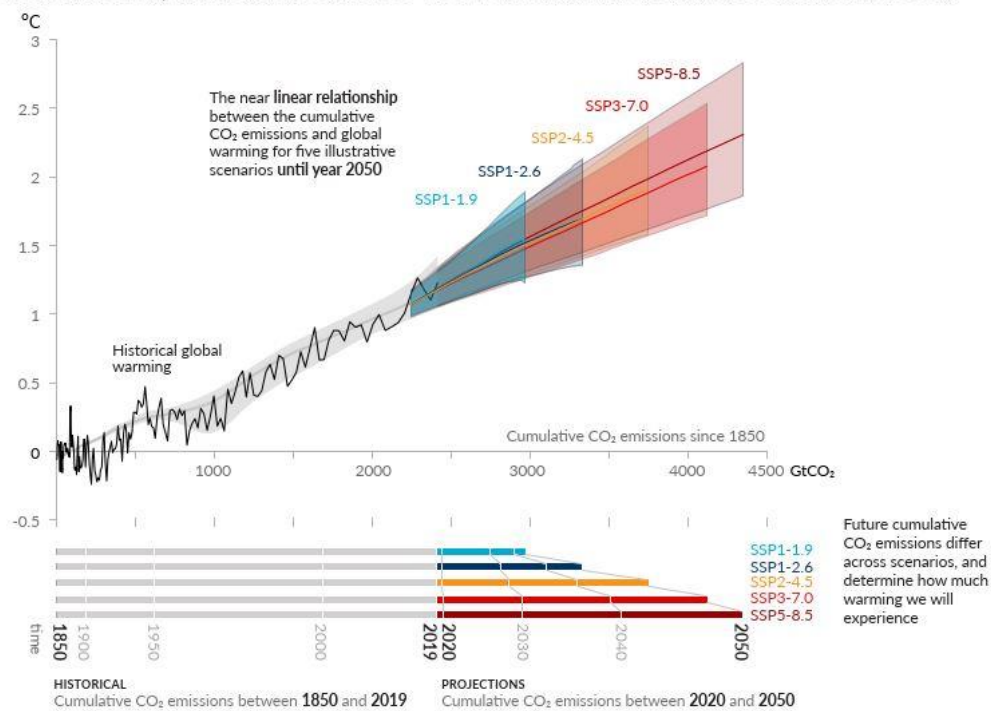

Figure SPM.10:   Near-linear relationship between cumulative CO2 emissions and the increase in global surface temperature.

Illustration 42 - Page 38, Figure SPM 10

With that in mind, it should be now even more clear why a phasing-out of fossil fuels is a necessity in the fight against climate change. The later it is done, the more emissions are added which in turn leads to a worst scenario and ultimately to worse conditions around the world (e.g. severe droughts, heatwaves with greater intensity, ocean acidification).

Severe Droughts lead more easily to crop failure, in poor countries that means an increased risk of hunger or even famine. Dry regions will experience such events more often. As it is explained by LiveScience, there are four types of droughts (meteorological, hydrological, agricultural and socioeconomic). Such events are very costly too: *"According to NOAA, droughts cost the United States around $9 billion a year. As the human population increases in arid regions as well as wet ones, so will the demand for water, and — with water supplies dropping at a faster rate — so will the likelihood of drought."*

Heatwaves pose a danger as well: *"[W]hen the weather gets hot, the vulnerable are at risk. They include infants, people who are elderly, homeless or poor, and people who have a chronic or mental illness. Factors that increase the risk of hyperthermia during heat waves include social isolation, alcohol consumption, prolonged physical exertion, use of certain drugs (neuroleptics, antipsychotics, tranquilizers, anticholinergics) and lack of air conditioning."* (NCBI)

Ocean Acidification happens when seawater absorbs Co2. A series of chemical reactions results in increased concetration of hydron ions. Consequently, a higher acidity causes carbonate ions to be

less abundant. For the ecosystem it means the following:

"Carbonate ions are an important building block of structures such as sea shells and coral skeletons. Decreases in carbonate ions can make building and maintaining shells and other calcium carbonate structures difficult for calcifying organisms such as oysters, clams, sea urchins, shallow water corals, deep sea corals, and calcareous plankton.

These changes in ocean chemistry can affect the behavior of non-calcifying organisms as well. Certain fish's ability to detect predators is decreased in more acidic waters. When these organisms are at risk, the entire food web may also be at risk." ([NOAA](#))

Both droughts and ocean acidification threaten the food supply, the latter will be experienced more intensively by communities around the globe that live near the coast and rely on their local fishing industry. Poorer nations, which already struggle, are going to suffereven more if the intensity and frequency of droughts increases. This, in turn, leads to more refugee movements and possibly famines.

Aid & Self-Reliance

Lastly, we shall end this entry with a focus on the poorer nations.

As mentioned in the summary, the aid to poor countries is to be doubled by 2025 (€35 billion). However, financial aid alone won't solve the problems. In order for these nations to finally stand up and participate more actively on the world stage, they have to build up their own industry. Through technology transfer (knowledge/expertise and technical abilities) and cooperation, it can be guaranteed that they not only move to a green economy but also require less financial aid over the time. Their dependency decreases while their self-reliance increases, and the only thing wealthier nations have to do is to provide the means to do it. Once on equal footing, cooperation and progress can continue.

Native flora and fauna - whether it is a European country or a country in Africa - need to be taken into account for when implementing reforestation plans, for instance. A focus on what captures the most carbon is misguided and exposes native wildlife to potentially invasive species which would endanger the local ecosystem. Here, it is once again important to let the natives decide and take charge, while still cooperating.
Multinational companies must also be held responsible for their actions and inactions. In an economic sense with profit (what is gained in a country remains there and is taxed, eliminating child labour, etc.), environmental sense (e.g. implementing regulations) and societal sense (accountability, transparency, etc.).

Motto: Equality of nations, a world made for generations.

(Released: 17th November 2021, 22:06 Uhr/10:06 pm)

Science News #6

In Today's Science News, we learn about the impact mechanical tools have on our language skills, find out about an increase in storm activity in the North Atlantic and how social distancing measures in the spring of 2020 effectively curbed the pandemic in Germany.

Illustration 43 - Image from **Pixabay**

Article Nr. 1: Using mechanical tools improves our language skills, study finds

SD-Date: 11th November, 2021
Et-Date: 4th December, 2021
ScienceDaily Summary: *"Research has revealed a correlation between being particularly proficient in tool use and having good syntactic ability. A new study has now shown that both skills rely on the same neurological resources, which are located in the same brain region. Furthermore, motor training using a tool improves our ability to understand the syntax of complex sentences and -- vice-versa -- syntactic training improves our proficiency in using tools."*

Background

A link between our use of tools and certain linguistic functions has been suggested by research, though brain imaging* didn't provide any evidence of such links.
The reason for this suggestion of a possible link comes from our own history: during times of technological boom, our ancestor's language increased as well. This led to the question whether specific tools, which involve complex movement, relies on the same mechanism as understanding complex linguistic functions such as syntax does.

*Brain imaging is a technique to directy or indirectly image the structure, function or pharmacology

of the nervous system. There are two categories: structural imaging and functional imaging. It's also known as Neuroimaging.

Method of Research

In collaboration with CNRS researcher Véronique Boulenger, the research team developed a series of experiments which relied on brain imaging techniques and behavioural measurements. Their study was conducted in two parts with different tests and a control group.

Part 1)
Various tasks were completed by the participants; linguistically, they performed syntax exercises in French, and for motoric skills they were given 30 cm-long pliers.
This allowed the scientists to identify specific and common tasks in the brain networks.

Part 2)
During these tests, the participants performed a syntatic comprehension task before and after 30 minutes of motor training with the pliers.
With this, the researchers showed that motor training with the tool leads to improved performance in syntactic comprehension exercises.

Findings

- Participants of the experiment did better with sentences that were considered to be more difficult
- Brain activations in common areas were observed when handling the tool and performing the syntax exercises - the spatial distribution was the same (the region where it occurred is called "*basal ganglia*")
- It also works vice versa (i.e. training of language improved motor performance with the tool)
- These improvements didn't show up in groups who only used their bare hands or had no training at all
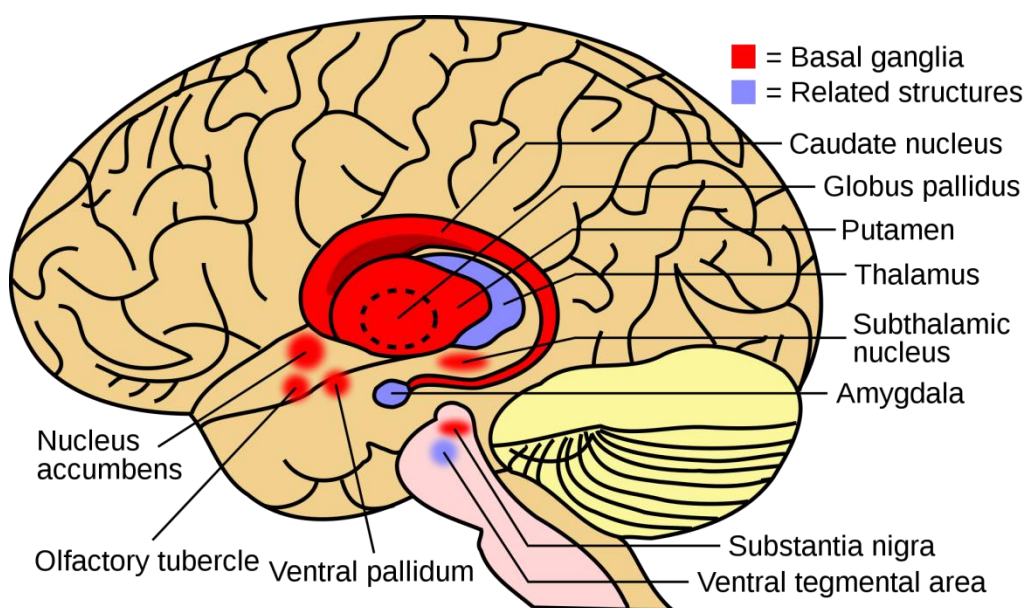

Illustration 44 - The Basal ganglia is part of the Cerebrum (also known as endbrain)

Meaning in a Clinical Setting

The study conducted by the scientists is also beneficial for those who have lost some of their language skills, thus open a possibility to rehabilitate these patients:
"The scientists are now thinking about how to best apply these findings in the clinical setting."We are currently devising protocols that could be put in place to support the rehabilitation and recovery of language skills of patients with relatively preserved motor faculties, such as young people with developmental language disorders. Beyond these innovative applications, these findings also give us an insight into how language has evolved throughout history. When our ancestors began to develop and use tools, this proficiency profoundly changed the brain and imposed cognitive demands that may have led to the emergence of certain functions such as syntax," concludes Brozzoli."

Source

Article 2: Climate modeling confirms historical records showing rise in hurricane activity

SD-Date: 2nd December, 2021
Et-Date: 4th December, 2021
ScienceDaily Summary: *"Scientists have now used climate modeling, rather than storm records, to reconstruct the history of hurricanes and tropical cyclones around the world. The study finds that North Atlantic hurricanes have indeed increased in frequency over the last 150 years, similar to what historical records have shown."*

Background

The reason for the new approach on studying storm patterns is connected with doubts of measurements taken that far back in time (1850s onwards). While nobody denies what the historical records show, the uncertainty comes from the amount of storms that may hadn't been recorded due to the limited technology back then. As a consequence, this uncertainty has kept scientists from relying on storm records, and with it their patterns, for indications how climate influences storms.

Recently, a statistical approach was used to identify storms that were missing from the historical records. As it is elaborated in the article: *"To do so, they consulted all the digitally reconstructed shipping routes in the Atlantic over the last 150 years and mapped these routes over modern-day hurricane tracks. They then estimated the chance that a ship would encounter or entirely miss a hurricane's presence. This analysis found a significant number of early storms were likely missed in the historical record."* They concluded that there was a chance that, over the last 150 years, storm activity did not change.

Kerry Emanuel, author of the study, pointed out that the hurricane paths in the 19th-century may have looked different from today's. Moreover, the scientists who conducted the research may have missed shipping routes in their analysis that have not been yet digitized. He explains: *"All we know is,*

if there had been a change (in storm activity), it would not have been detectable, using digitized ship records. So I thought, there's an opportunity to do better, by not using historical data at all."

Method of Research

Emanuel used dynamical downscaling (a technique developed by his group), a method already used for 15 years to study the climate's effect on hurricanes. The technique first starts with a coarse worldwide climate simulation which is then embedded with a finer-resolution model that simulates features as small as hurricanes. These combined models are then given real-world measurements of atmospheric and ocean conditions. Lastly, Emanuel disperses the realistic simulation with hurricane "seeds" and then runs the simulation to see which of these "seeds" become full-grown storms.
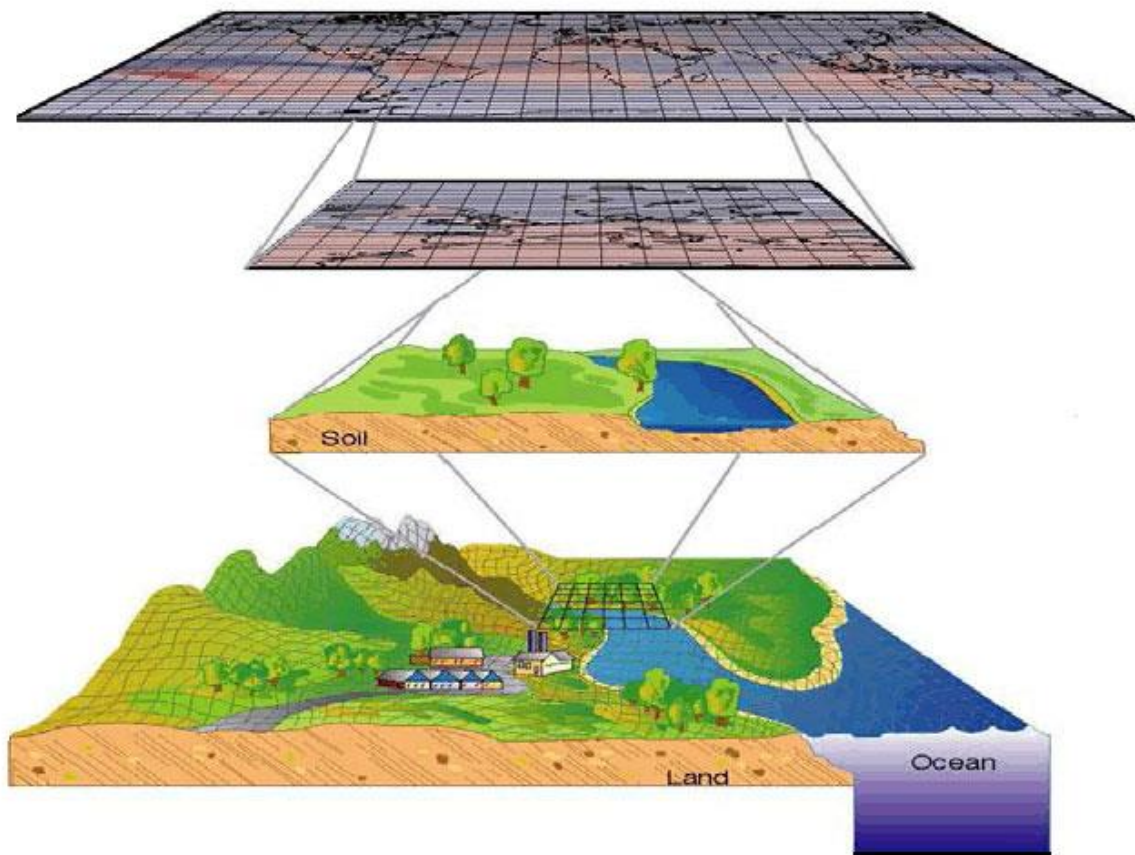

Illustration 45 - Dynamic Downscaling - A schematic showing how it can go from large-scale to local information
Image by Khan and Pilz (2018), source: Indiana University Bloomington

A climate reanalysis was used for this study. It combines observations made in the past with climate simulations *"to generate accurate reconstructions of past weather patterns and climate conditions"*. In this instance, he only used observations collected from the surface due to the specific subset of climate reanalysis. In the article, he also explained why:
"We chose to use this approach to avoid any artificial trends brought about by the introduction of progressively different observations."

He then ran the model on three different climate reanalyses over the past 150 years.

Findings

- There's been an "unequivocal increase" across all three models in North Atlantic Hurricane activity
- A hurricane drought occurred during a period in the 1970s and 1980s, also observable on historical records. Emanuel's group proposes that it may have been due to sulfate aerosols, which were byproducts of fossil fuel combustion, which likely set off a cascade of climate effects that resulted in cooling which in turn suppressed hurricane formation

Overall, except for the hurricane drought, there has been an increase in storm activity according to the research of Emanuel and his group. However, he also says that the drought is easier explained than the long-term increase in activity since the 19th-century.

This mystery, as he calls it, bears the question how global warming might affect future Atlantic hurricanes.

Source

https://www.sciencedaily.com/releases/2021/12/211202092959.htm

(found independently why looking for an image of the dynamic downscaling technique, that's why I include it now for those interested. It can also be found at the end of each ScienceDaily article, though)

https://www.nature.com/articles/s41467-021-27364-8

Article 3: Social distancing measures in the spring of 2020 effectively curbed the COVID-19 pandemic in Germany, study finds

SD-Date: 28th September, 2021
Et-Date: 4th December, 2021
ScienceDaily Summary: *"Early contact restrictions and school closures prevented over 80 per cent of COVID-19 infections and over 60 per cent of deaths in Germany within three weeks, a new study finds."*

Background

The strict restrictions implemented in mid-March 2020 after the Conference of Federal State Prime Ministers (Ministerpräsidentenkonferenz), before testing was widely available and masks were mandatory, was still criticized in some parts despite a sharp drop in infections as claimed by the article. One argument was that people would change their behaviour even if the measures hadn't been enacted.

Hence, the team of authors led by Junior Professor Dr Emanuel Hansen studied the impact the restrictions had on the infections and death toll in the early phase of the pandemic.

Method of Research

The research team used detailed figures from the [Robert Koch Institute](#) (founded in [1891](#), it is one of the oldest biomedical institutes in the world) and anonymized movement data from private mobile phone providers from the more than 400 German districts. Districts with late and early outbreaks were compared and the researchers then estimated how the behaviour of the citizens and the infection rate would have evolved in Germany if social distancing measures hadn't been implemented.

Through this the causal effect of all measures thus corresponds to the difference between the inferred hypothetical development (no social distancing measures) and the actual development.

Findings

The findings are separated in two steps and a further analysis; first one being based on the mobile phone data, and the second on evidence of effective containment of the pandemic.

- **Step 1**
  The people's spatial movement was in fact reduced by the policies, 30% on average.
  As it was intended.
- **Step 2**
  Within the first three weeks, the contact restrictions already showed effectiveness.
  More than 80% of Covid-19 infections were prevented (about 500,000).
  More than 60% of Covid-19 deaths were prevented (about 5,400).
- **Further Analysis**
  Said restrictions slowed the rate of infections in all population groups.
  Only in the group of 60-year old was the containment rate somehwat weaker.
  One plausible explanation: the closing of schools and childcare facilities had a stronger effect on children and their parents than on the generation of grandparents.

"With no other tools available in the early stages of the pandemic like vaccination or rapid testing, there was no viable alternative, Hansen added, despite the economic and social costs of closing schools and businesses."

Note: the study focuses exclusively on the first Covid-19 wave in Germany. It does not allow for any conclusions on policies in later waves of the pandemic.

Source

https://www.sciencedaily.com/releases/2021/09/210928102237.htm

(Released: 4th December 2021, 17:02 Uhr/5:02 pm)

History: John Brown - The Abolitionist

About 160 years ago, on the 2nd December 1859, John Brown was executed after an attempt to incite a slave rebellion through violent means. In this entry, we will learn about his life and how he became what he is now known for.
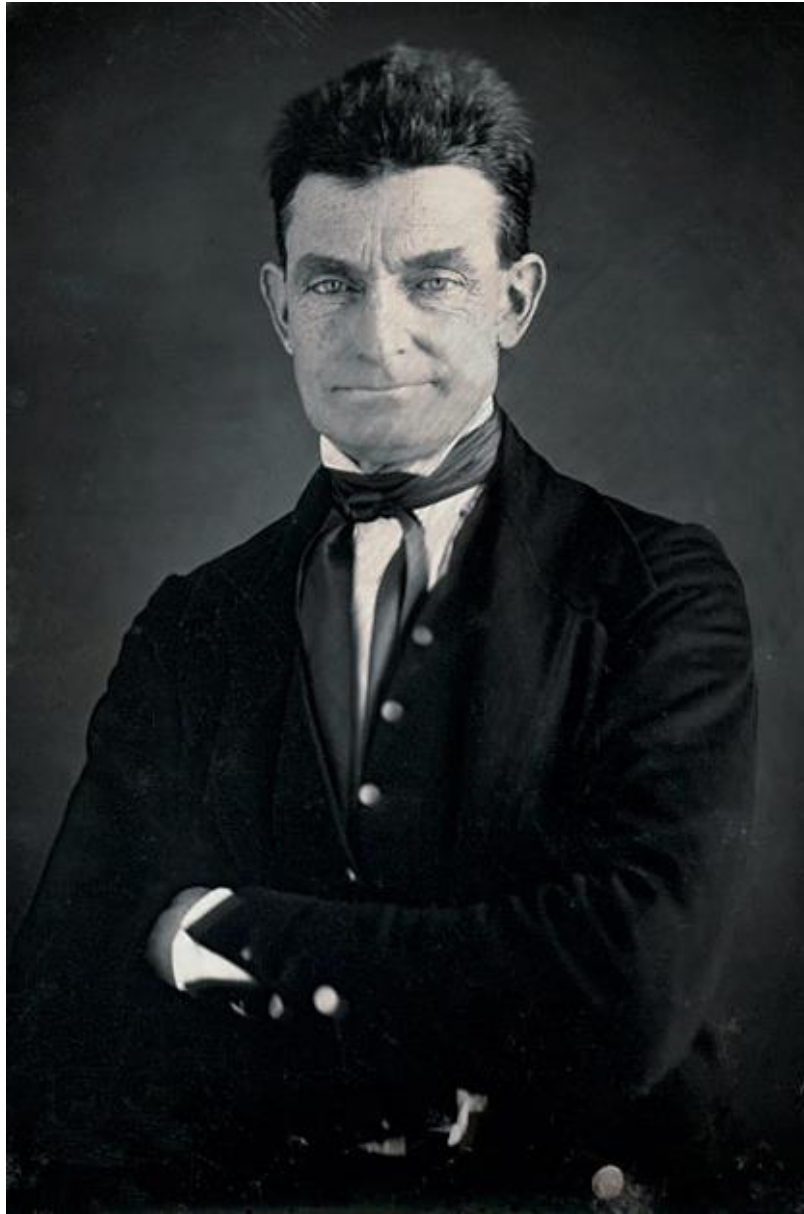

Illustration 46 - John Brown around 1846

Timeline

In May 1800, John Brown was born in Torrington, Connecticut. His father, Owen Brown, was a strict Calvinist* who hated slavery and believed that holding humans in bondages was a sin against God.

*Calvinism is the theology advanced by John Calvin (1509-1564) who was a protestant reformer in the 16th century. It is also used for doctrines and works derived from Calvin and his followers.

Illustration 47 - Brown's birthplace, photographed in 1896. In 1918 it was destroyed by fire.
*Image: **Wikipedia***

During the War of 1812, the 12-year old John Brown travelled through the Michigan wilderness to deliver a herd of cattle. He then lived with a man who owned a boy as a slave, and while he was treated well the enslaved boy was beaten before his eyes with an iron shovel. This experience haunted him forever.

War of 1812: There were two leading causes for the war between the British Empire and the US (which gained its independence in 1783); the British Order-in-Council which limited trade with Europe and impressment (forced recruitment), the practice of taking seamen from American vessels to fill out the crew of the undermanned ships of the Royal Navy.
From 1807 to 1812, the British were able to seize 400 American merchant ships and their cargoes. Since the British Navy was too strong (16 warships vs 500 ships), the United States decided to invade Canada due to the population advantage (7.7 million to 500,000).

The war ended in a draw on the battlefield, reflected by the peace treaty as well. The Treaty of Ghent was signed in modern-day Belgium on December 24, 1814 and went into effect on February 17, 1815, after both sides ratified it. All conquered territory was restored as it had existed before the war, making it a *status quo ante bellum*.

Note: The War of 1812 was a byproduct of the war between the British Empire and Napoleonic

France (May 1804 - 11th April 1814 and 20th March 1815 - 7th July 1815) who fought over the domination of Europe as well as the wider world.

Illustration 48 - Amédée Forestier - Signing of Treaty of Ghent (1814)
Image: Wikipedia

On June 21, 1820, John Brown married Dianthe Lusk. Six years later both move to the wilderness of Pennsylvania where Brown built a tannery. In 1832, his wife died shortly after the death of her newborn.

One June 14, 1833, Brown wedded the 16-year old Mary Day. She takes care of his five children and will give birth to 13 more. His expanding family increases their economic hardships.

In January 1836, land speculation reached extreme heights. With his family he then moved to Franklin Mills, Ohio and borrowed money to buy land in the area - only later to be crushed by the economic turmoil of 1837.

Panic of 1837: The economic turmoil was the result of land speculation through easy credit, encouraged by "pet banks" (a derogatory term used for state banks selected by the U.S. Treasure Department to receive surplus Treasury funds in 1833, see *The Bank War*).
Andrew Jackson (7th Presiden of the United States) attempted to correct it through his executive order Specie Circular which forced banks to accept payment for land purchase only in gold or silver. However, a lot of banks didn't have the necessary gold and silver reserves to exchange it for the enormous amount of paper currency. As a result, banks routinely failed to implement it. It was partially responsible for the economic crisis.
On May 21, 1838, Congress repealed Specie Circular in a joint resolution.

On November 7th, 1837, Elijah Lovejoy (1802-1837), a publisher of an anti-slavery newspaper, was shot by a proslavery mob and subsequently died. During his memorial service, John Brown made a vow to end slavery.

Illustration 49 - Elijah Parish Lovejoy

On 28th September 1842, a federal court decided Brown's bankruptcy. All but the essentials needed to live were taken from his family and him. The climax of *"poor business decisions"* made by Brown.

In 1854, the Kansas-Nebraska Act allowed the people of the newly settled territories to decide by popular vote whether they want to tolerate slavery. It was an attempt by President Franklin Pierce (presidency: 1853-1857) and Stephen A. Douglas to end the slavery debate. At the end, it led to the opposite: the Northerners were highly upset over the Act and the Republican Party emerged as an anti-slavery party.

In June 1855, John Brown moves to his sons in Kansas.

On May 24, 1856, he directs his men in the murder of five proslavery settlers along Pottawatomie Creek. This was carried out as a revenge attack after a raid of pro-slavery men in an abolitionist town of Lawrence on May 21.

In January 1857, Franklin Sanborn introduces him to influential abolitionists in the Boston area in order to advance the antislavery fight in Kansas. Said acquaintances will later form the members of the "Secret Six".

1. **Thomas Wentworth Higginson** — a minister and amateur boxer, Higginson was from one of the oldest families in New England. He had little tolerance for hesitation or weakness.

2. **Gerrit Smith** — a nervous, eccentric, and very wealthy man, he was already Brown's benefactor, having given him land on which to live in the Adirondacks.

3. **Reverend Theodore Parker** — an eloquent and controversial Unitarian minister.

4. **Dr. Samuel Gridley Howe** — a highly respected pioneer of educational reforms for the blind, insane and feeble-minded.

5. **George Luther Stearns** — one of the chief financiers of Emigrant Aid Company, which facilitated the settlement of Kansas by anti-slavery homesteaders.

6. **Franklin Sanborn** — a young, idealistic Concord schoolmaster, and friend of Thoreau and Emerson
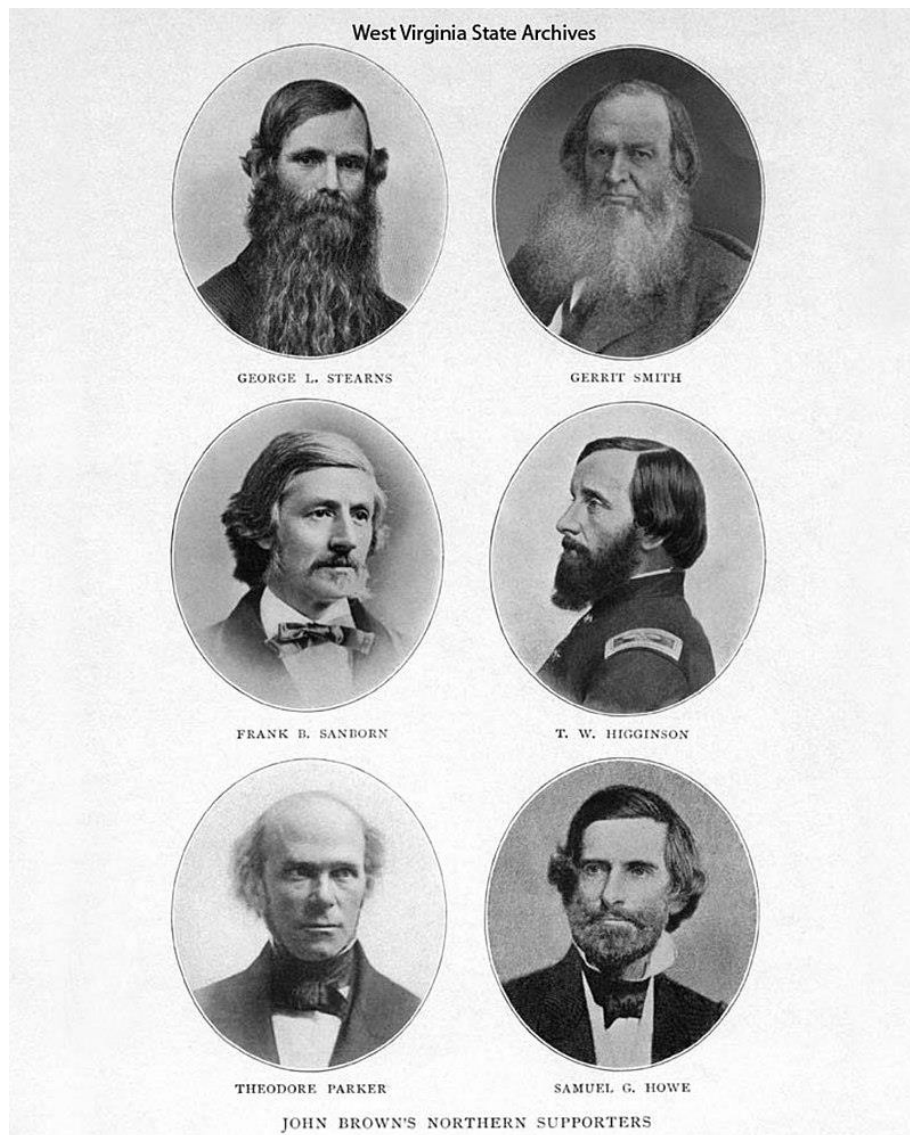

Illustration 50 - The Secret Six who supported John Brown, especially in financial aspects

In January 1858, John Brown attacked two proslavery homesteads in Missouri. He confiscated property and freed eleven of their slaves. He then travelled for 82 days and covered a thousand miles to get the slaves to Canada.

On July 3rd, 1859, he rented a a farmhouse under the name "Isaac Smith" just a few smiles away from Harpers Ferry.

August 16, 1859: John Brown met Frederick Douglass at a rock quarry at Chambersburg. He tried to convince Douglass to join him at Harpers Ferry. Douglass refused, because he believed the raid would fail.

October 16, 1859: Brown attacked Harpers Ferry. His army of 21 men took over the federal armory, arsenal and army factory. The raid was intended to be the first phase in a plan to establish an independent stronghold of free slaves. John Brown was captured during the raid.

Illustration 51 - 1862 photograph of the Harpers Ferry arsenal; the "engine house", later called "John Brown's Fort", is on the left.
Wikipedia

November 2, 1859, the Virginia Jury finds him guilty of murder, treason and inciting a slave insurrection. The trial lasted one week and 45-minutes of deliberation.

December 2, 1859, before his execution, John Brown handed a slip of paper to his guard that read: *"I, John Brown, am now quite certain that the crimes of this guilty land will never be purged away but with blood. I had, as I now think, vainly flattered myself that without very much bloodshed, it might be done."* He then was executed by hanging.

On April 12, 1861, Confederate batteries opened fire on Fort Sumter - the first shots of the Civil War.

In 1865, after the defeat of the Confederacy, the US abolished slavery with the 13th Amendment.

Lastly, an extract from his Provosional Constitution and Ordinances (1958):

"Slavery, throughout its entire existence in the United States, is none other than the most barbarous, unprovoked and unjustifiable war of one portion of its citizens against another portion, the only conditions of which are perpetual imprisonment and hopeless servitude, or absolute extermination, in utter disregard and violation of those eternal and self-evident truths set forth in our Declaration of Independence."

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