

United in a Fragile World

Jörg Habich | Verena Nowotny | Philip Remete

I Introduction

Unpredictability is on the rise. We live in a global village with international exchange and relationships in which misinformation spreads faster than true facts.¹ Governments, organizations and individuals must be flexible in order to adapt to ongoing changes in their environment and plan ahead. The acronym that has been used to describe this state of affairs in the last two decades is VUCA. It stands for a world marked by volatility, uncertainty, complexity and ambiguity, one in which not only knowledge but also communication is essential due to more and more networks and interest groups.²

The many problems we face every day vary in their size and importance, depending on how VUCA the environment is. Some are relatively small and local, for example whether a speed limit will be established on the German Autobahn. But if anyone still doubted that our current world is volatile, uncertain, complex and ambiguous, we have received indisputable confirmation at the latest with the outbreak of the COVID-19 pandemic, the drought in Canada and the flooding in Western Europe and China. There are many problems and challenges that require urgent action – our world, nature and environment, our coexistence and our solidarity seem increasingly fragile. Some challenges affect the whole planet, such as the current pandemic and climate change. But in the end, VUCA is just a description of how things are and nothing more – because humanity will always be confronted with new challenges or problems. As we can see, these challenges continuously put our social system to the test; in the past, moreover, exogenous and endogenous shocks have caused existing systems to collapse.

There are certain factors that characterize our fragile world right now. A **multitude** of global challenges exist that need to be solved immediately: environmental pollution, population growth, poverty, resource consumption, climate change, desertification, unemployment, hunger, terror, (trade) wars, migration, epidemics, biodiversity – the list could be extended through the addition of many more aspects.

Some of these problems are singular, others are directly interrelated. In addition to the number of problems, the **simultaneity** of global crises is also increasing – ranging from wars, military conflicts and terrorist threats to economic and financial crises, epidemics, earthquakes, floods, volcanic eruptions, and other natural catastrophes. One crisis **reinforces** another. Challenges can no longer be solved one by one. Consequently, societies are increasingly required to deal with the broad spectrum of emerging challenges.

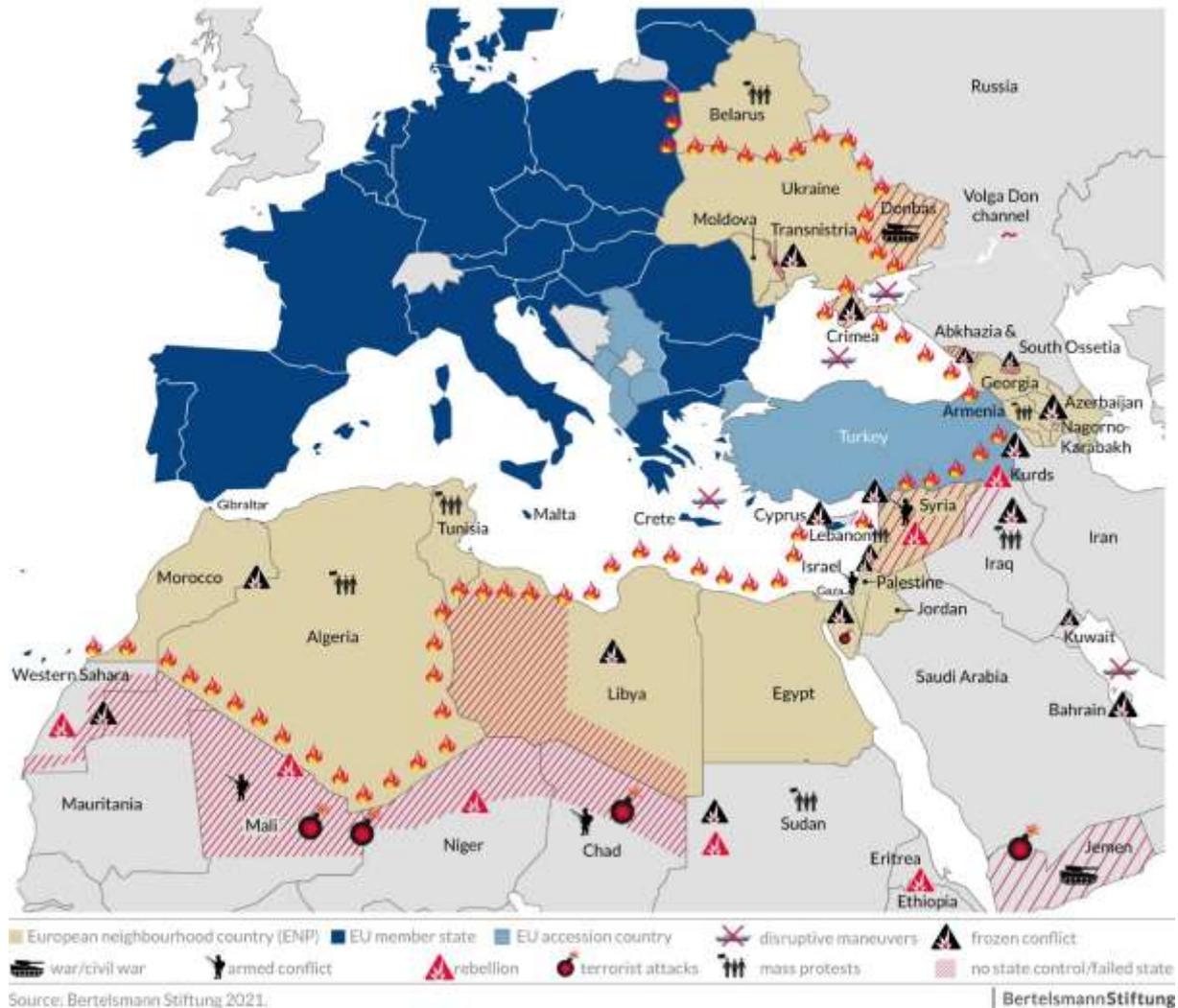
In some cases, the challenges can be seen by just looking out the window or by reading a newspaper. By changing the focus to a bird's eye view and analyzing the macro-level, the dimensions of the challenges become visible. For example, fragility – at least for the European Union – can be seen simply by looking at a map (see Figure "Europe's Ring of Fire 2021"). The

¹ Vosoughi, Soroush, Deb Roy and Sinan Aral. The Spread of True and False News Online. In: Science, Vol. 359, Issue 6380, pp. 1146-1151.

² Magee II, Roderick R. (ed.). Strategic Leadership Primer, Carlisle Barracks, PA: US Army War College, 1998, p. 1.

European Union is surrounded by a ring of fire, where only a few decades ago, Europe was encircled by a ring of friends.

Europe's Ring of Fire 2021



But more and more often, it is no longer just a region, a society or a country that is affected. The challenge is not local anymore and therefore needs **global action**. Corona, of course, is not a regionally limited virus, but just one problem confronting the world as a whole.

However, these are all just the known challenges in an **unpredictable journey** into the future. Additionally, there are aspects that we are not aware of today and that we will have to deal with in the future or, to put it in Donald Rumsfeld's words:

Reports that say that something hasn't happened are always interesting to me, because as we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns – the ones we don't know we don't know. And if one looks throughout the history of our country and other free countries, it is the latter category that tends to be the difficult ones.³

In view of the unknown, increasing, international, “untemporal,” amplifying challenges, it seems appropriate to call it a truly fragile world. Perhaps this fragility is the only constant when it comes to the future of our planet.

II Increasingly Fragile?

Planet earth is spinning faster than ever before. Billions of news items and bits of information are being sent out into the physical and digital world on a daily basis. The Internet – an innovation that came to life not much more than 30 years ago – has sustainably shaped how we live today. Every second, decisions are being made that can have massive impacts on a macro and on a micro level, be it the president of a country who might decide whether or not to impose punitive tariffs against another country; the CEO who is thinking about taking over a competing company; or even the judge who decides whether a person might go to jail or not.

The butterfly effect in chaos theory illustrates the sensitive dependence on initial conditions, where a small change in one state of a deterministic nonlinear system can lead to large differences in a later state.⁴ The details of a tornado (the exact time of formation, the exact path taken, etc.), are affected by small disturbances, such as a distant butterfly flapping its wings a few weeks earlier. Accordingly, decisions by individuals or societies, but also non-action by people or entire societies, sometimes have major impacts. This action or inaction always affects a system – whether it is a planet, a society, an organization or an institution.

The factor that determines how many shocks a system can withstand before it collapses can be called fragility. The term “fragile” is borrowed from Middle French and Latin “fragilis” from “frag-“ ,variant stem of “frangere” “to break, shatter” and “-ilis” “subject to, susceptible to (the action of the verb).”⁵ Antonyms include firmness, robustness, stability, rigidity, trauma, paralysis.

In recent years, fragility as a word has been used more frequently.⁶ It describes “the quality or state of being easily broken or destroyed.”⁷ The range of this state can vary widely: On a micro level the amount of red blood cells in a body can determine how healthy or fragile the living being is and whether it is closer to life than death. On a macro level, fragility can apply when weak governments are not able to fulfill their responsibilities (provision of public safety, education, healthcare and law

³ Rumsfeld, Donald. News Briefing. February 12, 2002, <https://archive.ph/20180320091111/http://archive.defense.gov/Transcripts/Transcript.aspx?TranscriptID=2636> [retrieved July 20, 2021].

⁴ Lorenz, Edward N. Predictability – Does the Flap of a Butterfly's Wings in Brazil Set off a Tornado in Texas? Speech at American Association for the Advancement of Science. See: Science, Vol. 320, No. 5879, 2008, p. 1025.

⁵ <https://www.merriam-webster.com/dictionary/fragile#synonyms>, [retrieved Aug. 2, 2021].

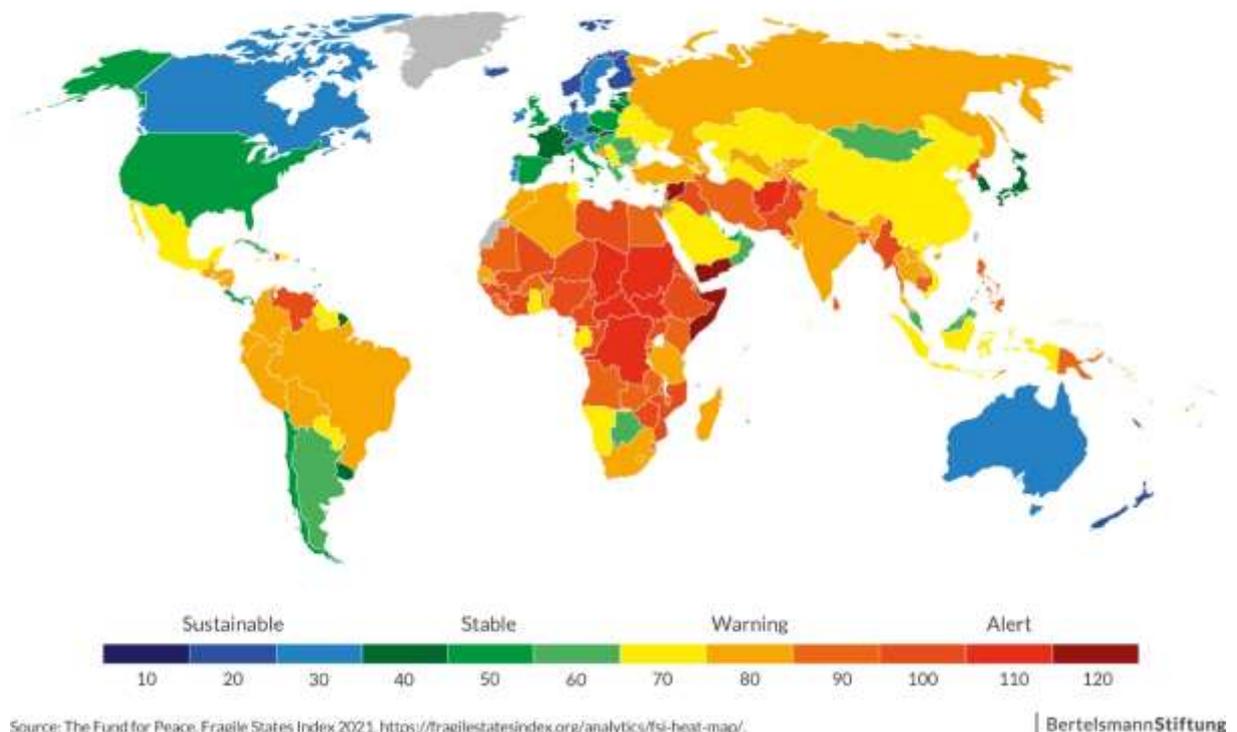
⁶ <https://www.dwds.de/r/plot/?view=1&corpus=zeitungen&norm=date%2Bclass&smooth=spline&genres=0&gran d=1&slice=1&prune=0&window=3&wbase=0&logavg=0&logscale=0&xrange=1946%3A2021&q1=Fragilit%C3%A4t>, [retrieved July 21, 2021].

⁷ <https://www.merriam-webster.com/medical/fragility>, [retrieved July 21, 2021].

enforcement) and whole countries begin to fall apart because of internal conflicts, corruption, violence or terrorism.⁸

The confrontation between fragility and stability makes it easy to illustrate the vulnerability of systems such as states (see for example Figure “Fragile States Index Heat Map”).

Fragile States Index Heat Map
The World in 2021



But “fragility” can also have different meanings regarding its complexity: When we see the words “Caution! Fragile!” on a box, we simply know that it should not be tossed around or dropped. Whereas nowadays whole systems – such as a computer, smartphone or the production and transportation of goods – are becoming more and more fragile due to the interconnectedness of their components.

Fragility and stability – two poles – have always characterized systems. But the globalization that has taken place in the past decades has stretched the meaning of these poles to cover nearly everything on this planet. The main reason why we care about fragility is because we want to prevent things from falling apart or being destroyed – the preservation of the status quo.

On the one hand, we know from the past that interconnected, complex and often untransparent systems can pose a risk, as they did to the financial sector. In 2008, the real estate bubble in the United States burst, causing a global financial crisis and demonstrating that transparency and comprehensibility of information are essential when decisions are to be made in such systems.⁹ On the other hand, we nowadays see that the interconnectedness of systems (like agriculture and

⁸ Lambach, Daniel. Fragile Staatlichkeit als Konfliktursache und Möglichkeiten der Bearbeitung. May 2, 2016. See also <https://fragilestatesindex.org/>, [retrieved July 21, 2021].

⁹ Barth, Mary E. and Wayne R. Landsman. How Did Financial Reporting Contribute to the Financial Crisis? In: *European Accounting Review*, Vol. 19, No. 3, 399-423.

information technology or healthcare and technology) has also brought much progress and improved our lives.

In the past decades, mathematicians and other experts tried to become fortune tellers and develop crystal balls – to get a view of what the future will look like, to plan, formulate strategies and align actions based on statistically sophisticated models. But as Makridakis and Taleb point out, “History never repeats itself in exactly the same way.”¹⁰ It is not possible (anymore) to use data from the past to accurately predict the future, because:

- events are not independent – the world has become a global village and what happens in one corner of the world can (thanks to the globalization) now easily affect international systems;
- experts do not seem to forecast more accurately than knowledgeable individuals;
- there are always new and unforeseen events that cannot be predicted beforehand and that lead to cataclysmic events (like Black Mondays and Tuesdays) and further increase future uncertainty; and
- humans, driven by over-optimism and wishful thinking, often underestimate uncertainty even more than statistical models.

But even if we can analyze the past and derive implications for the present, this does not mean that they will still be valid in the future. It is, therefore, necessary to “avoid the illusion of control” and to develop methods and strategies for being prepared to act under uncertainty.

The question, therefore, cannot be whether our world has become more fragile. Fragility does, however, enable an exact comparison to be made at a given point in time. Rather, with fragility we have an indicator that describes the quality of a system being easily damaged or broken. This fragility also has an impact on how we deal with progress or improvement and the kind of world we want to live in tomorrow. The quality of progress is determined directly by fragility.

III Being United?

The crucial factor regarding existing and arising challenges is how a society, country or world can face them. We will have to deal with uncertainties and – at least in some cases – we will not be able to solve all problems alone. It requires cooperation or, in short: Global problems can be solved more easily and effectively if we are united. Among the most important global problems that can only be solved if we work together are the issues of war and terrorism, climate change and the inequality between rich and poor countries.

The different meanings of “united” show its binding but also goal-oriented aspects:

- to come together to form a single unit
- to bring (something) to a central point or under a single control
- to form or enter into an association that furthers the interests of its members

¹⁰ Makridakis, Spyros and Nassim Taleb. Living in a World of Low Levels of Predictability. In: International Journal of Forecasting, Vol. 25 (2009), pp. 840-844.

- to participate or assist in a joint effort to accomplish an end

By contrast, its antonyms illustrate states of separation.¹¹

Since the beginning of the 20th century, a multitude of international organizations, such as the United Nations and the International Red Cross, and economic organizations, such as the World Bank and the World Trade Organization (WTO), have been working to solve global problems or at least contribute to their solution. These institutions emphasize the unifying factor in addressing challenges. The idea of being “united” is expressed, for example, in the Preamble of the United Nation Charta of October 24, 1945:

WE THE PEOPLES OF THE UNITED NATIONS DETERMINED to save succeeding generations from the scourge of war, which twice in our lifetime has brought untold sorrow to mankind, and to reaffirm faith in fundamental human rights, in the dignity and worth of the human person, in the equal rights of men and women and of nations large and small, and to establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained, and to promote social progress and better standards of life in larger freedom, AND FOR THESE ENDS to practice tolerance and live together in peace with one another as good neighbours, and to unite our strength to maintain international peace and security, and to ensure, by the acceptance of principles and the institution of methods, that armed force shall not be used, save in the common interest, and to employ international machinery for the promotion of the economic and social advancement of all peoples, HAVE RESOLVED TO COMBINE OUR EFFORTS TO ACCOMPLISH THESE AIMS. Accordingly, our respective Governments, through representatives assembled in the city of San Francisco, who have exhibited their full powers found to be in good and due form, have agreed to the present Charter of the United Nations and do hereby establish an international organization to be known as the United Nations.¹²

This begs the following question, however: How well does unity work when it comes to solving problems?

The starting point is that, by cooperating with others, everyone can (better) pursue their personal goals. For the benefit of these individual objectives, we join a group or found a new one. The “union with others” or working together should “bring us something” and we assume that together we can reach our goals easier than if we work alone. On a higher level, united means the combining, joining or grouping together of nations, states, political groups, etc. for some specific purpose.

Accordingly, the findings from the research on the subject “group” can be transferred. A group can be seen as two or more people or entities that interact with each other, share similar characteristics, and have a common sense of unity. Carron and Eys analyzed the many definitions of groups and identified the following common characteristics:¹³

- common fate: sharing a common outcome with other members; common goals or shared interests
- mutual benefit: an enjoyable, rewarding experience associated with group membership
- social structure: a stable organization of relationships among members

¹¹ <https://www.merriam-webster.com/thesaurus/united>, [retrieved Aug. 2, 2021].

¹² <https://www.un.org/en/about-us/un-charter/full-text>, [retrieved Aug. 2, 2021].

¹³ Carron, Albert V. and Mark A. Eys. *Group Dynamics in Sport*. 4th ed. Morgantown: Fitness Information Technology 2012.

- dependence: interaction and communication among members, interdependence in relationship
- unity or self-categorization: perceiving oneself as a member of the group

Therefore, groups exist through **one's interest** based on formal rules of togetherness and the unification of **common interests**. Membership therefore also presupposes the willingness to submit to formal rules. These findings can then also be applied to the unification of states, societies or (international) institutions. Being united means that it is necessary to share goals or interests – at least for a certain period of time – to achieve an advantage for oneself, to ensure an exchange and to see oneself as part of a larger entity.

Consequently, this implies that not every challenge or problem can or should be solved exclusively by collaboration. Rather, the question of “being united” is about dealing with challenges or problems that cannot be solved individually. However, the deficits arising from information asymmetries, such as adverse selection, moral hazard, and hold up, make it difficult for such unions to operate efficiently.¹⁴ These three problems also determine the conditions under which cooperation makes sense:

Adverse selection results in the selection of a partner ex ante with whom it is impossible to solve the challenge. Therefore, “being united” in such cases means not being any closer to solving the problem. **Moral hazard** results from information asymmetry in a relationship, where one can observe the behavior but is unable to evaluate the partner's actions. “Being united” might then lead to not knowing whether the collaboration has really contributed to solving the problem or what the partner's contribution is. Last but not least, the opportunism of the counterparty cannot be avoided due to a dependent relationship (**hold up**) because, for example, specific investments have been made. If this is the case, “being united” would then even be counterproductive. Harmonizing objectives can prevent all three problems. Accordingly, a prerequisite for successful cooperation or “being united” is that these objectives are actually the same or aligned in advance. “Being united” is (only) useful if there is a consensus (to at least a large degree) on the goals and the way to achieve these goals.

¹⁴ Picot, Arnold, Helmut Dietl, Egon Franck, Marina Fiedler and Susanne Royer. Organisation - Theorie und Praxis aus ökonomischer Sicht. Stuttgart: Schäffer-Poeschel, 2015.

See also: Eisenhardt, Kathleen, M. Agency Theory: An Assessment and Review. In: Academy of Management Review, Vol. 14: 1, pp. 57–74.

Information Asymmetries and Governance Solutions

Problem	Risk	Solutions				
Hidden Characteristics	<p>Adverse Selection</p> <p>Knowledge advantage of one partner that allows to assess the characteristics of the exchange relationship only to a limited extent by the other partner in advance.</p>	<table border="1"> <tr> <td>Reducing Information Asymmetries by</td> <td>Signalling Screening Self Selection</td> </tr> <tr> <td colspan="2">Harmonizing Objectives</td> </tr> </table>	Reducing Information Asymmetries by	Signalling Screening Self Selection	Harmonizing Objectives	
Reducing Information Asymmetries by	Signalling Screening Self Selection					
Harmonizing Objectives						
Hidden Action	<p>Moral Hazard</p> <p>The performance of one partner is not observable or cannot be assess due to information asymmetry and the consequences have to be adopted by the other partners.</p>	<table border="1"> <tr> <td>Reducing Information Asymmetries by</td> <td>Monitoring</td> </tr> <tr> <td colspan="2">Harmonizing Objectives</td> </tr> </table>	Reducing Information Asymmetries by	Monitoring	Harmonizing Objectives	
Reducing Information Asymmetries by	Monitoring					
Harmonizing Objectives						
Hidden Intention	<p>Hold Up</p> <p>Partners are bound to each other by a lock-in effect in the risk of ex post opportunistic behavior.</p>	<p>Harmonizing Objectives</p>				

Source: Own illustration.

| BertelsmannStiftung

This means that the question of whether and when it makes sense to “be united” must focus on the similarity or nearly similarity of the objectives. In this context, it will be crucial to consider the different perspectives, attitudes and, if necessary, path dependencies of partners. From an American or African perspective, a supposedly similar goal regarding climate change does not necessarily have to be identical to a European perspective. Once more, a common understanding of truth is necessary.¹⁵

Conversely, only if the real or true objectives between countries, governments, institutions, etc. are the same, is a common approach appropriate – even if the whole world is targeted by the problem that must be solved. In this case, however, everyone must be prepared to work together – across all existing differences and boundaries. For upcoming challenges or problems, it may even be useful to establish or enter constantly changing alliances or unions in order to successfully overcome the problems. “Being united” might then become just being temporarily united.

¹⁵ See: Habich, Jörg and Verena Nowotny. *Fragmented Realities – Searching for a Common Understanding of Truth*. In: Bertelsmann Stiftung (ed.). *Fragmented Realities Regaining a Common Understanding of Truth – Background Paper Trilogue Salzburg 2019*. Gütersloh 2019, pp. 6-24.

IV Progress and Improvement

The quest for progress and improvement is as old as humankind. Disruptive technologies, creative ideas, but also continuity shape changes in business and society. These disruptive technologies are innovations that replace an existing technology, product or service which has proven successful. They create new – and eventually disrupt – existing markets and value networks, displacing established market-leading firms, products and alliances.

A disruptive idea ensures that existing structures, procedures, technologies and organizations are broken up and, if successful, destroyed. An old, established solution is then replaced by one that is significantly simpler, faster or more convenient. Disruption is more than a simple further development. Instead, it produces a completely new status with entirely new approaches: printing, penicillin, freedom of trade, democracy, nuclear power. Every single idea, product or achievement implies social impacts. Revolution instead of evolution is the motto.

At the same time, consistency and constancy are a guarantee that every new idea does not immediately lead to changes in strategies or planning, changes in direction and the associated restructuring. Everything new and unknown also contains the risk of failure, loss or possible negative interactions or consequences – catastrophic for the individual, devastating for a society.

At the same time, this process itself increases fragility. No (technical) solutions can protect us from the emerging opportunities or dangers without at the same time creating new or other opportunities or threats. Besides the risk of failure and loss, there is also the possibility and even likelihood of success through trial and error. Therefore, fragility is also the guarantor of change and thus newness or (in the end) progress and improvement. Otherwise, everything would be causal and predictable – the aforementioned preservation of the status quo. Competition, creativity, entrepreneurship, etc. are prerequisites for further development. If everything were predetermined, neither change, advancement, enhancement, growth nor any other improvement in human life and coexistence would be possible. The world would remain as it is here and now. We need change to meet present and future challenges – but not every step implies qualitative gains, which leads to the question of how to distinguish progress and improvement in a disrupted world.

1. A Clarification of Terms

“Progress” originates from the Latin “pro”- and “gradi” for “forward” and “go,”¹⁶ which implies actively and consciously improving or getting nearer to achieving or completing something (Way-To-Go Idea). The opposite terminology is regression or standstill. Any progress requires deliberate and targeted changes, which are called innovations. Progress in general implies more and new options in the future, which leads to the question of which option to choose next. Therefore, progress represents the totality of woman/man-made achievements. Any development trends that are commonly referred to as progress have an impact on socio-cultural and economic change. In economics, progress can be understood as either reaching a given target with minimum input or providing an input to reach a maximum output. But there are also other areas where progress has a special meaning, like in biology (higher life expectancy, fewer diseases), technology (more

¹⁶ <https://www.merriam-webster.com/dictionary/progress>, [retrieved Aug. 2, 2021].

produced goods), politics or culture (here the meanings are rather qualitative).¹⁷ Schumpeter distinguishes the following innovations:¹⁸

- introduction of a new product
- introduction of a new production process
- development of a new market
- development of a new source of supply of raw materials or semi-finished products
- introduction of new forms of industrial organization

In contrast, the term “improvement” includes the qualitative aspect. Progress does not necessarily lead to improvement. “Improvement” in general means “gradual, piecemeal, but cumulative betterment,” which can refer to both individuals and societies as a whole.¹⁹ Improvement is the act or process of making something better or the quality of being better than before, including an addition or change that makes something better or more valuable.²⁰ Therefore, improvement is the process of a thing moving from one state to a state considered to be better, usually through some intended action. The antibiotic penicillin attacks bacteria, but it can also cause allergies. An advantage of nuclear power is a lower consumption of fossil resources such as oil and coal, but implies the disadvantage of the high danger of radioactive radiation for humans and the environment.

2. Progressive Improvement

Progress will only lead to improvement if it also leads to the desired goal. While in nature any change must inevitably lead to the functional interrelationships of the overarching ecosystems so as not to endanger their preservation, any development of human cultures is subject to the limited, incomplete and fallible judgment of women and men.

Most people agree that life is better than death. Health is better than sickness. Sustenance is better than hunger. Abundance is better than poverty. Peace is better than war. Safety is better than danger. Freedom is better than tyranny. Equal rights are better than bigotry and discrimination. Literacy is better than illiteracy. Knowledge is better than ignorance. Intelligence is better than dull-wittedness. Happiness is better than misery. Opportunities to enjoy family, friends, culture, and nature are better than drudgery and monotony.²¹

It becomes more difficult, however, when it can no longer be determined clearly and objectively or by majority vote to what extent progress represents an improvement, when it comes to the decision whether economic growth should be achieved at the expense of social and ecological sustainability, or vice versa, because not all goals can be achieved at the same time.

¹⁷ Guitton, H. and A. Panzera. Die Beziehung zwischen dem Fortschritt der wirtschaftlichen Wohlfahrt und dem menschlichen Fortschritt. In: Zeitschrift für Nationalökonomie / Journal of Economics, Vol. 15, No. 1/2 (1955), pp. 32-41.

¹⁸ Schumpeter, Joseph. Theorie der wirtschaftlichen Entwicklung. 2nd. Ed. Berlin: Duncker & Humboldt, 1926.

¹⁹ Slack, Paul. The Invention of Improvement: Information and Material Progress in Seventeenth-Century England. Oxford: Oxford University Press, 2015, p. 1.

²⁰ Improvement – Definition for English-Language Learners from Merriam-Webster’s Learner’s Dictionary (learnersdictionary.com).

²¹ Pinker, Steven. Enlightenment Now: The Case for Reason, Science, Humanism, and Progress. New York: Penguin Books 2018, Chapter 4.

Targets are an idea about desired results in the future that are to be achieved through appropriate (“goal-oriented”) intelligent behavior by a person or a group of people.²² But these goals can be contradictory, competing, or neutral or indifferent.²³

Improvement is then seen as ethically justifiable development, where the concept of progress is linked to the choice of means. Therefore, progress does not automatically have to lead to a (socially) desired improvement. The crucial factor for improvement is the question of how and by whom and at which time the underlying progress is evaluated. This also illustrates the problem of “being united” as soon as there are different or at least not identical objectives that are to be achieved by the process of progress. What may be seen as an improvement from one perspective, may be assessed as a standstill or a step backward by others. As we live in a globalized and strongly connected world, actions in one region can have effects in another. Therefore, efforts to achieve a goal through progress and improvement in one country or by one group can be seen differently by another. For example, the development of the COVID-vaccine brought major progress in fighting the virus and protecting vulnerable groups. But the disproportionate distribution, with Western countries having vaccinated nearly half their populations while African countries still struggle to get access to the remedy, shows that we are far from having achieved an improvement in the overall situation.

We therefore see that the final decision, whether progress leads to improvement and vice versa, depends on multiple factors like time, location and level of observation. States, institutions, governments, groups or individuals can decide to what extent any form of progress represents an improvement. As a result, conflicts are possible due to different points of view. These can exist on a regional, national or even global level. The main factor here is still the desired goal that needs to be achieved. Can we reach a consensus on what we believe to be “a better world”?

²² Locke, Edwin A. and Gary P. Latham. *A Theory of Goal Setting & Task Performance*. Englewood Cliffs, NJ: Prentice Hall, 1990.

²³ Heinen, Edmund. *Das Zielsystem der Unternehmung: Grundlagen betriebswirtschaftlicher Entscheidungen. Die Betriebswirtschaft in Forschung und Praxis*. Bd. 1. Wiesbaden: Gabler Verlag, 1966.

V Recommendations

Referencing the phrase used by the managing director of the IMF, Kristalina Georgieva, “to build forward better – toward a fairer post-pandemic world,” the following recommendations aim to address the challenges described above.

Revising the SDGs: Revision and, if necessary, expansion of the 17 Sustainable Development Goals (SDGs) of the United Nations. The SDGs were set up in 2015 and are intended to be achieved by 2030. Given the severe impact of the COVID-19 pandemic, a rigorous assessment of progress and improvements that have been achieved so far and of the validity of the goals defined is justified and even necessary.

Rethinking international organizations: Apart from the never-ending discussion about a necessary reform of the WTO, it could be useful to think about new or different fora for specific common goals, such as international mobility (transport, logistics, tourism, commuting, etc.). Such coordination on the European level would be an important first step, including developing bold common goals such as connecting all European capitals with high-speed railways by 2030.

Being honest/transparent about costs: Sustainability comes at a price. Comprehensive social security comes at a price. Mobility comes at a price. The list could be continued endlessly. People and citizens deserve some guidance on what will change if, for example, we terminate the use of fossil energy resources and what needs to be done to avoid social injustice. Determining the true costs of goals is extremely complex and challenging, given the existing interdependencies. Nevertheless, hidden costs or unintended consequences need to be detected early on in a political decision-making process.

Fostering a debate culture: Nowadays, so-called discussions are merely an exchange of points of view with the explicit demand of absolute allegiance. Social media have exacerbated this development. Practicing debates, the respectful exchange of opinions as well as consensus building need to become part of the secondary-school syllabus.

Embracing VUCA: The German philosopher Natalie Knapp recommends embracing insecurity as a time of utmost creativity and inventiveness. She correctly states that we need to learn that we not only exist as individuals but as a part of a greater unity. Therefore, it is not only important to enhance one’s own well-being but the well-being of the greater community. She thus reminds us of the old-fashioned “greater good,” which needs to be redefined and agreed upon.

Using COVID-19 as a learning tool: So far, the pandemic has turned out to be a didactic case for international cooperation (e.g. development of the vaccines), unequal access to remedies around the world (e.g. lack of vaccines in Africa), differing national strategies to curb the spread of the virus, and ongoing adaption of strategies due to mutations of the virus and scientific developments, etc. A thorough analysis of the international reaction, best practices and failures might offer a toolbox for VUCA times still to come.

VI References

- Barth, Mary E. and Wayne R. Landsman. How Did Financial Reporting Contribute to the Financial Crisis? In: *European Accounting Review*, Vol. 19, No. 3, 399-423.
- Carron, Albert V. and Mark A. Eys. *Group Dynamics in Sport*. 4th ed. Morgantown: Fitness Information Technology 2012.
- Eisenhardt, Kathleen, M. Agency Theory: An Assessment and Review. In: *Academy of Management Review*, Vol. 14: 1, pp. 57-74.
- Habich, Jörg and Verena Nowotny. Fragmented Realities – Searching for a Common Understanding of Truth. In: Bertelsmann Stiftung (ed.). *Fragmented Realities Regaining a Common Understanding of Truth – Background Paper Trilogue Salzburg 2019*. Gütersloh 2019, pp. 6-24.
- Heinen, Edmund. *Das Zielsystem der Unternehmung: Grundlagen betriebswirtschaftlicher Entscheidungen. Die Betriebswirtschaft in Forschung und Praxis*. Bd. 1. Wiesbaden: Gabler Verlag, 1966.
- Lambach, Daniel. *Fragile Staatlichkeit als Konfliktursache und Möglichkeiten der Bearbeitung*. May 2, 2016. <https://www.bpb.de/internationales/weltweit/innerstaatliche-konflikte/54545/fragile-staatlichkeit>, [retrieved July 21, 2020].
- Lorenz, Edward N. Predictability – Does the Flap of a Butterfly's Wings in Brazil Set off a Tornado in Texas? Speech at American Association for the Advancement of Science. See: *Science*, Vol. 320, No. 5879, 2008, p. 1025.
- Magee II, Roderick R. (ed.). *Strategic Leadership Primer*, Carlisle Barracks, PA: US Army War College, 1998, p. 1.
- Makridakis, Spyros and Nassim Taleb. Living in a World of Low Levels of Predictability. In: *International Journal of Forecasting*, Vol. 25 (2009), pp. 840-844.
- Picot, Arnold, Helmut Dietl, Egon Franck, Marina Fiedler and Susanne Royer. *Organisation - Theorie und Praxis aus ökonomischer Sicht*. Stuttgart: Schäffer-Poeschel, 2015.
- Pinker, Steven. *Enlightenment Now: The Case for Reason, Science, Humanism, and Progress*. New York: Penguin Books 2018.
- Rumsfeld, Donald. News Briefing. Feb. 12, 2002. <https://archive.ph/20180320091111/http://archive.defense.gov/Transcripts/Transcript.aspx?TranscriptID=2636> [retrieved July 20, 2021].
- Schumpeter, Joseph. *Theorie der wirtschaftlichen Entwicklung*. 2nd. Ed. Berlin: Duncker & Humboldt, 1926.
- Slack, Paul. *The Invention of Improvement: Information and Material Progress in Seventeenth-Century England*. Oxford: Oxford University Press, 2015.
- Vosoughi, Soroush, Deb Roy and Sinan Aral. The Spread of True and False News Online. In: *Science*, Vol. 359, Issue 6380, pp. 1146-1151.