Around 95% of the world’s population agree with the concept of sustainable development goals (SDGs) as a way of building a sustainable future in the face of the climate crisis. But SDGs come with a hefty price tag. Stefan Brunnhuber is a clinician and socioeconomist who believes the solution to this conundrum is a switch in the global mindset. Sustainability should drive finance, not the other way around. We found out more about his theory on financial engineering and the emerging role of artificial intelligence.

We need more science-approved, science-informed political decisions for a better future. Science, AI, and securing a sustainable future

Stefan Brunnhuber, medical director, chief medical officer and professor in Germany, takes an evolutionary, human-centric approach to economics and psychology. Trained as a medical first responder and car mechanic in his youth, and as both a medical school and socioeconomics graduate now with over 12 clinical sub-specialisations, Brunnhuber looks towards a sustainable future in a new way.

Brunnhuber’s research and experience have secured him a seat at many tables and on several advisory panels, including with the EU Commission and the German government. As a Member of the Club of Rome, and on the Board of Trustees of the World Academy of Arts and Science, Brunnhuber has been dedicated to critically examining the intersection between science, AI, and ensuring a more sustainable future.

We need more science-approved, science-informed political decisions for a better future.

Can you share a bit about your journey as a socio-economist and psychiatrist and how your diverse background has shaped your perspective towards today’s global challenges?

I was very lucky to study both social economics and medicine, specialise as a psychiatrist and further into finance and political science. I had very wise mentors, supervisors, and supporters to nurture that. I had the chance to better understand the individual psyche through my clinical training as a psychiatrist and a psychoanalyst, but on the other hand, I was also able to gain a deeper understanding of a large-scale systems approach, of the macro.

I have also discovered that science today is generally not aimed at seeking truth; science unleashes curiosity to better understand the world and to solve complex problems. While one problem may be solved, a new question instantly arises. Look at the invention of antibiotics. Once we had them, we suddenly realised there’s resistance to antibiotics causing additional problems. Once we invented cars, we saw that people were dying on the roads. Each time science invents or discovers something that solves one problem, it just adds another and asks new questions.

Policy and politics are different. Politics is about making decisions under pressure and using imperfect information, reconciling the opposites involved in the power game. From that perspective, global governance doesn’t exist. We have a web without a weaver, where different political systems are in conflict with each other, all trying to solve problems.

The first thing I learnt at the interface between science and politics throughout my career is that we are now in a new system clash between open societies on one side and digital autocracies on the other, trying to come up with better solutions for the future. The second thing I learnt is that policy and politics are different. Politics is about making decisions under pressure and using imperfect information, reconciling the opposites involved in the power game. From that perspective, global governance doesn’t exist. We have a web without a weaver, where different political systems are in conflict with each other, all trying to solve problems.

Open collaboration between science and policy will increase the quality of science-informed political decision making.
I realised is that we need more science-approved, science-informed political decisions for a better future.

How does that relate to your idea of the ‘third culture’ and emerging technologies like artificial intelligence (AI), big data, and robotics?

In the Renaissance, we started to come up with two major cultures – humanities and basic science – which have further differentiated over the last 400 years into over 1,000 disciplines and sub-disciplines. They provided a lot of specialised information, wisdom and knowledge, but that knowledge was fractured and siloed. What we now witness at the beginning of the 21st century is that beyond this gap between humanities and science there’s a third culture emerging. This third culture is AI, big data, and everything around digitisation that is able to not only enhance findings in humanity and science, but to reconcile and bring them together towards a larger whole – towards a new level of knowledge and wholesome wisdom.

What’s more, we, as humans, are never fully adapted to reality, unlike other species. There’s always a gap to be filled in order to be fully adapted. This additional liquidity has to come from additional digital currencies such as so-called central bank digital currencies, central bank currency swaps, or green quantitative easing. This adds an additional way of looking at the link between finance and sustainability. Over the last 50 years, we’ve been looking at governance, lifestyle changes, mindset, technology, and demographic changes to fence in or grasp the complexity of the picture, but we overlooked the dynamic of the international monetary system completely.

Over the last 50 years, finance has been driving sustainability but it’s actually the opposite. Sustainability should drive finance, right? And if we make that mind shift, we’re able to discover almost unlimited forms of new financial engineering: hedging instruments, private-public partnerships, forms of debt relief, special drawing rights, green quantitative easing, and dozens more. Suddenly, the future becomes an opportunity and not a curse, a chance and not a failure. If we switch around this narrative from finance driving sustainability to sustainability driving finance, the future becomes super exciting.

How much of a role has interdisciplinary working had in your working group?

On one hand, interdisciplinarity as a term is non-brainy, right? Everybody wants interdisciplinarity. But if you look closer, you still end up with this two-culture gap of humanity and science. What we need is new technology that’s able to serve as an integrator between the two forms of interdisciplinarity. In my experience, we particularly need much more ‘trans-disciplinarity’, meaning science ‘hits the road’ and is understood with everyday reality. If you take this into account, we start making wise political decisions that are science-approved.

Can you tell us about any of your upcoming projects?

The next step for me, from a scientific perspective, is the upcoming debate on the new Bretton Woods System 2.0, aka revising, upgrading, and greening the Bretton Woods international monetary system. The other thing with regard to finance that I’m involved in is that I’m going to write a general theory (like Keynes did 100 years ago) on financing our global commons, money and sustainable development for the 21st century. I’m trying to feed these ideas into my work and activities at the governmental federal council on finance in Germany as well as at the Club of Rome, UN, and wherever else it’s requested.

On an executive level, I am also CMO and medical director of an academic teaching hospital and we’re now transforming towards one of the first hospitals in Germany which will integrate ayurvedic practice (the traditional Hindu system of medicine) into our standard medical interventions. Consistent with my approaches elsewhere, this will take a more practical level and integral approach.

What advice would you give to people interested in the field of ‘financial engineering’?

You have to think outside of the box. You have to consider complexity as a new normal, and you have to admit that the system itself is fundamentally uncertain and unstable. Out-of-the-box approaches are the only way to transform our economy from A to B. If A is what we’re doing right now with fossil fuel energy, and let’s say B is renewable, a more inclusive, regenerative, circular economy. However, the shift from A to B is not a linear process. The shift from A to B is a not a foreseeable future; it requires non-linear complex technologies like AI and fresh thinking in financial engineering on an individual and societal level.

What advice would you give to translate the complexity of science into everyday reality?

There are four building blocks for me. First, I have to be able to adapt my ideas into the familiar terms of a general audience; Second I explain my ideas to my secretary, if she doesn’t understand the topic, it is not her fault, but mine. Third, I have to leave my bubble and expose my ideas to competitors and people who do not think like me, or address the issue from a different discipline. Finally, while I attend conventional academy conferences for example, I like to keep my options open to all creative spaces where good ideas are given a chance to be planted and room to grow.

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