

Rolf Jucker: Can We Cope with the Complexity of Reality? Why Craving Easy Answers Is at the Root of our Problems, Cambridge Scholars Publishing, 2020.

10 Main Points:

- 1. We can only understand our world reliably and meaningfully with an evidence-based, scientific approach**
A historical reflection on how reliable knowledge comes about, as well as recent experiences, show us that we can only generate meaningful understanding of the world if we can reliably distinguish between fact and fake news. For this we need verification processes that only science can offer: Openness, culture of error and reversibility in the case of new findings, verification of results by different methods, reproducibility, verification by others, evidence counts but not (political, ideological, religious) authority, etc.
- 2. Never trust a single person (even if that person listens to your name): personal experience, memory and everyday knowledge are rarely reliable and significant**
From psychology and brain research we know that our personal experience, our personal knowledge, our memory, even what we call our autonomous, inner 'I', are highly unreliable illusionary constructions of our brain. All of this is subject to a variety of perceptual distortions, psychological biases and unreflected cultural prejudices. Only very rarely can we base reliable solutions on it. Humanity's knowledge about reality, collectively acquired over decades, is therefore always more important than our personal, inevitably distorted mental model of it, which our brain is constantly constructing. This is the reason why state-of-the-art solutions to complex problems can never be provided by individuals, but only in a team, based on the best available knowledge. As a result, we must learn to take collectively verified knowledge (e.g. on climate change) seriously and to mistrust our (own) interests.
- 3. Heart, hand and head is an illusion: intuition and emotions do not help**
Anger, consternation and emotions do not help with long-term solutions to complex problems. Before we feel them, they are constructed by the brain from prejudices, previous experiences, cultural reaction patterns and much more. These emotions prevent dialogue and meaningful discussions. Gut feelings, intuition makes us think in black and white, is short-sighted, leads us to insist on our biased position. There is no room for careful examination of a problem and its context. Everyday experience is naive like magic thinking. It does not allow differentiated reflection and hardly ever the inclusion of tried and tested, reliable knowledge.
- 4. Arrogance of ignorance or opinions and anecdotes are not evidence**
Contrary to the widespread opinion that it is enough to just pick one (however absurd) opinion and assume it is equally valid as any other opinion, humanity has developed reliable processes since the Enlightenment that allow us to distinguish opinion from knowledge. Especially in the field of education, we are dependent on doing our homework and acting on the basis of evidence, not ideology or mission – if we really want to promote the transition to a sustainable world.
- 5. Complexity does not disappear just because we act as if it were not there**
We live in an increasingly complex world. We will only be able to cope with it and master the increasingly complex challenges such as climate change and biodiversity loss if we face up to this complexity. Simplifications simply don't help. This means: we must develop a reliable immune response to simple answers or black and white solutions. We must therefore not only acknowledge the current state of collective knowledge in the respective area (e.g. what evidence-based education means), but we must also develop systemic solutions for different levels of the system (e.g. local, regional, cantonal, language-regional) and different target audiences (e.g. teacher training institutions, head teachers, teachers). The 'one-size-fits-all' guru-solution for everything no longer exists.

6. **Unlearning and re-learning: building up immunity against sloppy thinking and ideology**

In our inner world, we have usually made ourselves comfortable: we believe in many things without ever having thought about whether it really makes sense; on other issues, such as overpopulation, we are afraid that the discussion could become difficult, so we prefer not to touch it. But faith and hope will never help us to meet the crucial challenges of our time. Only if we get to the bottom of them carefully and in a differentiated way can we solve them. Only the readiness described by Carl Sagan to look with 'intense scepticism' and at the same time to be ready for the possibility that everything is different from what we think ('total openness') can help. Successful learning means becoming immune to ideological beliefs, religious dogmas or fake news. Because we know how to question them (self-) critically.

7. **Enlightenment is humanity's emergence from her self-imposed immaturity. (Immanuel Kant)**

A democracy, i.e. the self-determination of the people in a community, can only function if the people involved in this process have the skills and competences to act maturely in the spirit of Kant. Where people hang on the lips of authoritarian or religious leaders to be told how to understand the world and what to do, this is certainly not the case. Therefore, the greatest challenge facing our education system is how to accompany children, young people and adults into the self-determined maturity referred to by Kant.

8. **Only as a community are we able to survive**

The idea that we are at the same time individuals and part of society is not very well established in our society. The basic tenor is: nobody tells me what to do. We overlook the fact that we are always dependent on society, on the economy, on the environment. This egocentric misconception is based on an ideological process: over the past 70 years we have been inoculated by politics and advertising: you alone are the architect of your own happiness. There could not be a more dramatic misunderstanding of the entire body of available knowledge, which proves that as human beings we are social beings through and through.

9. **Let us grow up! Systemic solutions require slow thinking. Let us allow ourselves to do so. We will reach our goal faster.**

The 'génération offensée' (Caroline Fourest) is increasingly dominant in the social media and in public life. We need to get out of this mode of the two-year-old toddler who feels insulted at every opportunity and screams and lashes out in anger. Donald Trump has just spent four years showing us what destruction such instinctive behaviour can cause. We all have to learn again to think slowly and carefully, to question ourselves self-critically, to understand other positions, to come to terms with the current state of knowledge, to get off our high horse.

10. **There is only one, material world and we can understand it.**

The last 250 years have shown us that we can understand our world without recourse to magic, metaphysics or immaterial beings. Findings such as emergence can explain things today that we thought we would never be able to understand 50 years ago. What we need is patience and perseverance, and confidence in our ability to learn.