

THEME 02

Reducing reductionism

ECONOMICS

CHANGING CONSUMER
BEHAVIOR

REDUCTIONISM

Our modern gaze and experience of the world brings with it several reductive biases, from reducing man to what he buys to perceiving the universe as chunks of dead matter. However, non-reductionist philosophies and ways of life are emerging across several domains. These new ways of thinking might help to solve some of today's biggest problems.

Our observations

- [Deep learning](#) will be of growing relevance to our daily lives, and algorithms might increasingly steer our behavior in the future. This idea of “technological decisionism” assumes that most of our daily activities and intentions can be reduced to a “data form”, and hence can be analyzed and used in predictive stochastic models.
- We have written before about complex systems, for example in making sense of economic behavior or climate change. Many problems within complex systems can be understood as “wicked problems”: having no complete, straightforward answers, but requiring holistic problem-solving approaches.
- We have an increasingly “technological relation” to nature, which tells us something about the metaphysics and world view of modern man according to the contemporary French philosopher Bruno Latour. Starting with Descartes, who separated the *res extensa* (the physical world outside us) from *res cogitans* (subjective consciousness), modern thinking and living is marked by dualistic distinctions between nature and society or culture, and between subject and object. In his book *An Inquiry into the Modes of Existence*, Latour works to overcome these “bifurcations” by disentangling and protecting the various irreducible modes of our existence (Latour mentions 15, but more can be added at his website). All of these modes have their own truth conditions, which cannot be transferred to other domains: political truths are different from economic or ethical ones, and also different from religious ones.
- Like Latour, the Dutch philosopher Herman Dooyeweerd discerns 15 irreducible “aspects” of being (physical, spatial, numerical, judicial, ethical and so on). Doing so, he wants to prevent that one science or theory explains the whole of being from just one aspect. In the history of philosophy, there are many reductionist schools, for example physicalism, vitalism, historical materialism, psychologism and historicism. The problem Dooyeweerd has with the mentioned reductive “-isms” is that they absolutize the one aspect – often the spatial and physical aspects – of being and neglect or even violate the other aspects of being. For example, marriage shouldn't be understood as simply an economic transaction, and a statue in a museum or church isn't just a neutral piece of physical matter.



Connecting the dots

There are three types of reductionism. The first is ontological reductionism, which claims that things or reality are fundamentally made up of lower-level entities, like human interaction being directed by evolutionary instincts (biological level) or the universe consisting purely out of non-conscious, elementary particles, like bosons and quarks (physical level). Epistemological reductionism, then, states that one set of theories or a particular science has supreme explanatory power compared to all others, for example by explaining human consciousness out of the brain's biochemical structure (i.e. neuroscience) or the universe from the movement of physical particles and laws of nature (i.e. physicalism). Claiming that we should therefore strive to break things or systems down to their most simple parts renders methodological reductionism. According to Latour and Dooyeweerd, modern philosophy has a strong reductive tendency: being is reduced to a distinction between objective sciences and subjective experience (methodological), and it is claimed that we should describe things and reality in the objective, mathematical terms (ontological) of the natural sciences (epistemological).

However, several “reductive” perspectives are also evoking counterreactions. For example, the [dominant paradigm in economics](#) that emerged after WWII understands man as a self-interested, rational animal (i.e. “homo economicus”) and defines the ‘Good Life’ in terms of consumption and material wealth. However, this consumerist lifestyle (i.e. “homo consumens”) that consequently emerged in the 1960s and after the so-called “End of Ideology” is now [increasingly challenged](#), for example by consumers eating less meat or buying higher-quality clothes or food. This suggests that for many consumers, consumption is not just “taking up and eliminating” goods (see the [etymology](#) of the word consumption) but also doing so in a morally, sustainable or just way. These modes or aspects of consumption are about placing consumption in a broader [transformative or meaningful narrative](#). Likewise, Kate Raworth's recent book [Doughnut Economy](#), as well as other forms of circular and sustainable forms of economics and the rise of [post-material consumption](#), illustrate that a more holistic approach to economics is gaining momentum. The same might hold for our belief that technology will solve our problems. For one, many of the goals that

provide purpose and meaning to our lives cannot be reduced to a quantitative data form, like knowing what is the right thing to do or finding compassion. Furthermore, ‘datafying’ many things can have [unintended consequences](#) as most of the systems (e.g. cities, dating, communication) we try to digitize are highly complex and therefore contain a high degree of ambiguity. As we have written before, [hermeneutics](#) becomes increasingly important as our world becomes digitized.

Analogously, there is an increased awareness that the complex problems of our time, like climate change or unsustainable economic growth, cannot be understood when breaking these systems down to their simpler parts. For example, consensus in academia is growing that an [interdisciplinary view](#) about both the Earth's climate system and its solutions is required, and cannot be solved by [economic policy](#) alone. For example, the field of [“environmental humanities”](#) is now emerging that tries to develop novel multidimensional ways to solve climate change and reduce resource waste, invoking the help of anthropologists, historians, sociologists and philosophers. Another example is the return of [“pan-psychism”](#) in the natural sciences, as recent breakthroughs in quantum computing (e.g. quantum entanglement) show that reality is much more interconnected and chaotic at the same time. These “quantum models” also become more used in [economics](#), for example in [development economics](#) or predicting [stock prices](#). As the 2008 financial showed, understanding the financial system and the economy requires an understanding of the other aspects of economics, such as the psychological and social dynamics (i.e. behavioral finance), and even [religious beliefs](#). UBS, for example, started working with psychologists to improve its investment research. And in the same spirit, the rise of other countries with different histories and cultures (in particular China), increasingly questions dominant paradigms of thinking that have emerged in the modern West. Increasingly, there will be fundamental debates in the humanities about the irreducible [fundamentals on thinking](#) or [historical narratives](#), all of which might hold a verity in their own right. Coming to terms with this multidimensionality requires overcoming the reductionist biases that are endowed in our thinking.

Implications

- In the future, the dichotomy between human and nature on the one hand, and technology and artificiality on the other will become much more difficult to maintain. As devices get smarter and can contain and transfer information, we will see a new explosion of [non-human intelligence](#). One non-reductive ontology and philosophy for such a world is [“speculative realism”](#). Speculative realism explicitly works within uncertainty and complexity, in which the human subject plays a less central role.
- We have written before that the kinds of [competences](#) required in the future economy will be different from those today. A non-reductionist epistemology of welfare and human capabilities has been put forward by Martha Nussbaum and Amartya Sen, called the “capabilities approach”. Instead of focusing purely on an individual's income or resources, this approach focuses on the various, irreducible human capabilities (e.g. play or bodily integrity) and whether individuals are enabled to realize them to lead a fulfilling life.
- The weakening of higher ideals, religion and ideology has left many with a sense of emptiness or even nihilism. Instead of identifying with their material belongings or their work, many people long to belong to something bigger than themselves and to experience a sense of community. That can be found in refuge, like religious extremism, or in transformative consumption like festivals, sports teams, and [new forms of spirituality](#). [Metamodernism](#) is, for example, such a non-reductive philosophy.