

BOOK REVIEW ESSAY

## Review of ‘A theory of everyone’ by Michael Muthukrishna

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In 1998 Edward O Wilson called, in his book *Consilience*, for a unification of all sciences from natural sciences to social sciences. In the domain of behavioural sciences, this called for integrating the scientific insights gained from disciplines as different as molecular biology and sociology into a consistent corpus where different levels of analysis can coexist in a cohesive and sensible way.

Any person agreeing that there is only one reality out there must agree with the aim set by E.O. Wilson. If there is only one reality, there can only be one consistent scientific corpus explaining it. This corpus may be composed of different disciplines using a different focus to look at reality, but the image they paint must be related to each other. By looking at different disciplines, one should be able to look at a single reality as if progressively shifting focus without ever feeling that the subject of observation changed to be altogether something else.

More than 20 years after E.O. Wilson’s call to consilience, scientific inquiry is still (perhaps even more) split into silos with often limited interactions. This is the case in the behavioural sciences where disciplines as different as psychology, genetics, economics, sociology and anthropology all have different theories and methods to investigate how humans behave and interact with each other. It is easy to criticise scientists for being single minded, but the growth of scientific knowledge calls for an ever-deeper specialisation which renders overarching perspectives hard. Already more than a century ago, in 1917, Max Weber observed that the growing scientific specialisation resulted in scientists’ realisation of their limited understanding of the world with inroads into neighbouring disciplines burdening them with the realisation that their own work is necessarily imperfect.

It is in that light that Michael Muthukrishna’s book should be considered. With expertise spanning engineering and system sciences, psychology, anthropology and economics, he may have written a book on behavioural sciences that is as close as possible to E.O. Wilson’s wish. Michael Muthukrishna’s ‘A Theory of Everyone’ is an ambitious and thought-provoking work that seeks to provide a unified perspective on human behaviour and societal development.

## From physics to social science to understand humanity

In the first part of the book Muthukrishna lays the groundwork for understanding human behaviour and societal development through the lens of four fundamental laws: energy, innovation, cooperation, and evolution. He argues that these laws govern all life forms, from single-celled organisms to complex human societies.

The book starts with the laws of fundamental physics and discusses principles of thermodynamics to explain how life results from the use of energy. As I was starting to read this book, I found the intellectual ambition of this starting point both inspiring and on point. Not only do the principles of physics and thermodynamics matter greatly for an understanding of the world, they can be explained at a broad level to a large audience in simple terms, and that's what Muthukrishna does. His discussion of these principles is not a gimmick, but rather a key to understanding the details that take place in the foreground.

He argues that energy, its role, importance, and how it is obtained and used, is one of the biggest drivers of economic activity from the industrial revolution to the nuclear age. The significant steps in humanity's development can be seen as the progressive ability to tap into greater and greater sources of energy. For example, the evolution from hunter-gatherer societies to agricultural societies can be understood as the acquisition of the ability to access a regular and controlled source of solar power energy through cultivated plants, while the industrial revolution can be seen as the result of the acquisition of the ability to tap into solar energy stored in fossil fuels, such as carbon and oil.

Harnessing energy is not something individuals can do alone; it requires the cooperation of large numbers of individuals who acquire specific skills and roles and participate in a social community. A key to human progress has therefore been the ability to cooperate and use energy more efficiently. Muthukrishna's framework emphasises the importance of cooperation, which is governed by the law of cooperation. As organisms and societies discover new energy sources and learn to use them efficiently, cooperation increases to access and exploit these resources. More abundant, high-density, high-powered energy sources lead to a corresponding increase in the complexity and scale of cooperation.

From this background, Muthukrishna moves into the psychological and anthropological aspects of human behaviour and cooperation. A great aspect of the book is that it weaves the perspective from biological and social sciences in a meaningful and scaffolded way. In some corners of social science, biological explanations of human behaviour are unfortunately ignored or even perceived as unpalatable. In contrast, Muthukrishna sketches a meaningful picture of human behaviour fully grounded in biological reality. At the same time, the nature of human sociality calls for specific explanations about learning, innovation and the role of culture that go well beyond naïve biological reductionism.

An expert on human and cultural evolution, Muthukrishna takes the reader on an enlightening and entertaining stroll across the behavioural and social sciences relevant to understanding what makes us human. Higher cognitive abilities are for instance a key distinctive trait of humans compared to other living apes. But it is not our individual intelligence that makes us so smart; it is our collective intelligence that we can share and build on thanks to our cultural norms and tools recorded in

writing and transmitted through learning institutions. Our 'cultural software', transmitted through education and social interactions, shapes our brains and cognitive abilities, making us smarter and more capable of innovating and cooperating.

One of the key strengths of Muthukrishna's work is its ability to bridge the gap between the natural and social sciences, providing a unifying perspective that can help us better understand the complex interplay between human behaviour, societal development, and the fundamental laws of life.

### How these insights can help us address our current issues

In the second part of the book, Muthukrishna applies his framework to make sense of key challenges humanity faces today and in the future. He examines issues like rising political polarisation, outdated governance institutions, wealth inequality, the impact of the internet, and the potential of AI.

Many of our discussions about social and policy issues are heavily influenced by perspectives shaped by what we think 'our' side of the political spectrum should think. Social and policy issues can be seen as battlegrounds where ideological battles have to be won rather than questions to be investigated with an open mind. The consistent and encompassing perspective from Muthukrishna helps him avoid these pitfalls. His discussions of the problems and solutions of social issues stem from the systemic viewpoint he developed in the first part of his book. This viewpoint not only makes sense across issues but also provides simpler and reasonable answers to address specific questions.

The second part of the book proposes a range of prescriptions, from strengthening democratic institutions to reforming intellectual property laws to expanding access to high-quality education. It emphasises the importance of increasing humanity's capacity for cooperation and innovation in order to overcome existential threats and shape a better future. Beyond these valuable suggestions, the main interest, in my view, was his perspective that helped make sense of the problems in a way that often differs from the misguided current disputes. Along the way, Muthukrishna does not shy away from politically sensitive issues like policy debates over immigration and gender equality, covering them candidly, driven by the coherence of his overall framework. This leads him to make practical suggestions transcending the typical political divisions that oppose menus of ideas often cobbled together due to historical accidents of past coalitional politics.

In short, 'A Theory of Everyone' is a great science book for the enlightened citizen of the early 21<sup>st</sup> century. As a science book, it does justice to the state of natural and social science, taking a rare unifying perspective. As a book discussing current issues, it is an ambitious work that pushes the boundaries of the current discourse on the relations between insights from natural and social sciences and discussions about the problems faced by humanity. With this book, Muthukrishna provides a timely guide to help us think through the challenges we face and find good solutions to them.

### References

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