
BÉLA JANKY*

Bringing culture back:
Towards a new social theory? – A review essay

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* [janky.bela@tk.hu] (BME Faculty of Economic and Social Sciences, Budapest; and ELTE Centre for Social Sciences, Budapest)

Abstract

The starting premise of the following review essay is that recent research in cultural evolutionary theory has laid the ground for a new paradigm in social theory. The aim of the paper is to briefly present the basic tenets of this new paradigm based on some recent monographs and other related publications. Followers of this new paradigm posit that cultural evolution has been dominated by biological adaptations and individual rational optimisation in shaping individual behaviour and social structure throughout human history. This review first briefly outlines what economic theory and evolutionary psychology, perhaps the two most influential theoretical paradigms of recent decades, have to say about human nature. Then it discusses recent empirical evidence related to the assumptions of these two paradigms, and offers an introduction to the basic tenets of the culture-based social theory currently under construction. The study also presents some specific conclusions from the new paradigm that could be relevant for the interpretation of contemporary social problems, and discusses a few points of concern related to agency, direction of evolution, and the role of rationality in cultural change.

Keywords: *social theory; cultural evolution; human evolutionary ecology; review essay*

1 Introduction

A well-attended book launch was held at the London School of Economics on 18 September 2023. Michael Muthukrishna, a young professor of economic psychology, presented his book *The Theory of Everyone* (Muthukrishna, 2023). Shortly before, in early September, the third Graeber Memorial Lecture was held, also at the London School of Economics. The topic was *The Dawn of Everything*, published in 2021 by the cultural anthropologist who died in 2020 (Graeber and Wengrow, 2021).

Perhaps the most important link between the two ambitious volumes is not the prestigious London university that the authors were affiliated with. Muthukrishna like Graeber and Wengrow, draws many of his important examples from the findings of cultural anthropological research. And, in contrast to the most influential social theories of recent decades, an important thesis of both volumes is that the characteristics of human societies cannot be directly deduced from the properties of human nature. And the authors of both books agree that this is mainly because human nature is crucially influenced by the particular culture in which individuals live.

Ambitious titles alone do not imply volumes of great significance. However, we know that Graeber is one of the most important cultural anthropologists of the twenty-first century. And, according to Google Scholar, *The Dawn of Everything* had already been cited in 1,500

scholarly works within a few years after its publication. In the case of *The Theory of Everyone*, there are as yet no signs that it will have a significant impact on social science discourse. However, Muthukrishna has published high-profile papers in leading journals in recent years. Several of them are co-authored with Joseph Henrich, who heads the Culture, Cognition, Coevolution Lab at Harvard University and is currently one of the most cited social scientists in the world (Henrich, 2024; Henrich and Muthukrishna, 2021; Muthukrishna and Henrich, 2019; Muthukrishna et al., 2021).

The starting premise of the following review essay is that the ambitious titles cited above are justified. The volumes relate to foundational research of a new line of inquiry that could lay the groundwork for a new paradigm in social theory. And the scientometric data show that this new line of research is having a significant and growing impact on contemporary social research. The aim of this paper is to briefly present the basic tenets of this new line of research based on some recent monographs and other related publications.¹ This essay does not provide a summary and general critique of any of those books. Insightful book reviews have already been published about all of them.²

The basic tenets of the new approach presented here are published in Henrich's *The Secret of Our Success* (Henrich, 2016). Muthukrishna's above-described book is both a popular introduction to the theses already put forward by Henrich and an attempt to embed the theory in a broader evolutionary framework. Henrich's and Muthukrishna's research can be subsumed under the growing disciplines of (evolutionary) cultural anthropology, cultural psychology, and human behavioural ecology. Currently, Henrich is considered the leading researcher in this emerging field. Besides Muthukrishna, perhaps the other most promising young researcher is Manvir Singh, a postdoctoral researcher at the University of Toulouse (Fitouchi and Singh, 2023; Singh, 2018, 2022,?).

Along with Michael Tomasello (2005, 2009), Cecilia Heyes, a professor of psychology at the University of Oxford, plays the most important role in establishing a new theoretical paradigm in cognitive science. She summarised her decades of research in her book *Cognitive Gadgets* a few years ago (Heyes, 2019).³

It falls outside the scope of a social science-focused review, but in the context of the psychological foundations, Feldman Barrett (2006), who developed the constructionist theory of emotions, should also be mentioned. She has also summarised her research in monographs in recent years (Feldman Barrett, 2017, 2020).

We will only briefly refer to Feldman Barrett's findings, as we will also only briefly refer to the research that laid the foundations for a general theory of cultural evolution (Boyd and Richerson, 1988; Cavalli-Sforza and Feldman, 1981), as well as to the recent book by Tomasello (2022) and a journal article coauthored by Robert Boyd and Pete Richerson (Richerson et al., 2024), members of the previous generation of students of cultural evolution.

The new approach has also proven fruitful in empirical studies. For example, many applied research studies have been conducted using the W.E.I.R.D. concept and the constructivist theory of emotions. These applications clearly demonstrate the significance of this new line of research, but I will not discuss them in this essay.

There is no direct link between the authors of *The Dawn of Everything* and the above-

¹ The Author's research was supported by the National Program for Sustainable Development and Technologies (FFT NP) of the Hungarian Academy of Sciences (subproject: "Economic and social aspects of sustainability", PI: Szalmáné Csete Mária).

² See e.g.: Appiah (2021), Clarke and Heyes (2017), Dickins (2024), Fagan and Durrani (2021), Heyes (2019), Kelly and Hoburg (2017), Roige and Carruthers (2019).

³ Heyes is also concerned with the systematisation of the culturalist approach from the perspective of cognitive science (Heyes, 2023).

mentioned group of researchers. However, I consider Graeber and Wengrow's contribution to the construction of a new culture-focused social theory to be essential. At several points, they formulate alternative hypotheses to the claims of mainstream researchers of cultural evolution, highlighting problematic aspects of the current version of the theory under construction.

In the last fifteen years, a cultural theory-based approach to social research has (re)come to the fore within sociology as well (Lamont et al., 2017; Small et al., 2010). It is also centred at Harvard University, where the Culture and Social Analysis Workshop, affiliated with the Department of Sociology, provides the institutional framework for research in this area, and Michèle Lamont and Orlando Patterson are the leading researchers in the field (Lamont et al., 2014; Patterson, 2014). This review does not cover developments in cultural sociology, as current research in this field, which is very important in many respects, is less relevant to the specific modelling issues discussed here.⁴

This paper first briefly outlines what the two most influential theoretical paradigms of recent decades have to say about human nature. Then it discusses recent empirical evidence related to the assumptions underlying these two paradigms. This will be followed by an introduction to the basic tenets of the culture-based social theory currently under construction by Henrich and his fellow researchers. I will also present specific conclusions from the new approach that could be relevant to the interpretation of contemporary social problems. The review also discusses a few points of concern – mainly by comparing the positions of mainstream scholars with those of Graeber and Wengrow's alternative approach. The paper concludes with an open question which, in the author's view, poses a key challenge for a potential new theoretical paradigm in construction.

2 Modelling human nature to understand society: Two popular approaches

One of the classic questions in social theory is whether we can better understand social phenomena through concepts and laws that relate to the individual (vs. the social structure). By the end of the twentieth century, this debate seemed to have been settled. The paradigms that most influenced scientific thinking and public discourse placed individual choice at the centre of social research. The representatives of these theoretical frameworks believe that the way to understand social phenomena is through understanding individuals' decision-making processes (Arrow, 1994; Coleman, 1990; Elster, 1982; Udehn, 2002).

By the end of the century, the main cleavages between influential paradigms had developed around assumptions about human nature in general and rationality and instincts in particular. Namely, the mechanisms by which humans respond to environmental variables that affect their well-being became a key issue in theoretical debates.

One obvious adaptation mechanism is the natural selection for biologically inherited traits. The other basic mechanism is the optimisation of individuals' choices based on their life experiences (Muthukrishna, 2023). There is also a third mechanism that builds upon the life experiences of an individual's peers and ancestors. This latter is cultural adaptation. Assumptions about the weights of these basic mechanisms formed the basis of the *nature vs. nurture* debate in the twentieth century (Heyes, 2019). In the twentieth century, different disciplines tended to specialise in the study of one of those mechanisms. Here, we mention two disciplines that focus on the first two mechanisms, as they dominated the scholarly discourse on human behaviour in the last century.

⁴ The author of this paper has previously devoted a separate review essay to the foundations of the new sociological theory of culture (Janky, 2016).

Economics. The fact that aggregate behavioural patterns of firms in modern markets respond quickly and well to key, well-measured incentives (Alchian, 1950) was a major contributor to the success of economics in the second half of the twentieth century. The well-quantified and well-measured associations observed in markets encouraged economists to develop sophisticated formal optimisation models. The application of mathematical models increased the prestige of economists, both within academia and among the wider public. Economic theory thus increasingly came to be seen as the basic science of human behaviour (Buchanan, 1969; Frey, 2013; Stigler, 1984). By the 1990s, economists had become perhaps the most important experts and pundits on a wide range of social issues (Szelényi, 2015).⁵

Evolutionary psychology. For many decades, so-called behavioural economics has sought to refine the model of individuals responding optimally to a rapidly changing environment (Kahneman and Tversky, 1979; Simon, 1972). However, the role of rational choice theory in influencing social and political discourse has been most challenged by the growing popularity of evolutionary psychology over the last three decades (Buss, 1995). Proponents of evolutionary psychology emphasise the dominant role of adaptation through natural selection (Barkow et al., 1992; Pinker, 1994, 2003; Tooby and Cosmides, 1990). As they put it, ‘*our modern skulls house a stone-age mind*’ (Cosmides and Tooby, 1997). Behaviour that quickly produces an optimal response to certain stimuli in the environment is also the result of natural selection and presumably only applies to certain domains of life.

Certain theses of evolutionary psychology have become important reference points, particularly for conservative opinion leaders in the increasingly intense debates surrounding the gender issue (Somcutean, 2024). At the same time, the discourse of wellness, which influences individual consumption, has increasingly drawn on certain theses of evolutionary psychology. In particular, the distinction made in those theories between naturalness and civilisation.

At the same time, evolutionary psychology has not only challenged rational choice theory. These theses also offer a biological foundation for a model of intelligent, rational humans who can often respond optimally to the environment. For they assume that, in addition to many domain-specific instincts, humans also have a high level of improvisational intelligence. That is, we have very good on-the-fly problem-solving ability and can quickly put together causal models (Cosmides & Tooby, 1994). According to its critics, evolutionary psychology sees homo sapiens as an extremely clever chimpanzee (Henrich, 2016).

The classical model of culture. Culture was also recognised by the dominant paradigms described above. Evolutionary psychology assumes that human intelligence reached a level in the last 100,000 years that enabled it to build complex civilisations. Since then, culture has undoubtedly been important in human life. The classical model of culture, recognised by economists and evolutionary psychologists, is based on the analogy of genetic inheritance. Behavioural patterns are transmitted from individual to individual through vertical,⁶ oblique,⁷ and horizontal⁸ transmission (Heyes, 2019).

The dominant view of economics and evolutionary psychology is that culture is ‘good’

⁵ A striking example is the Moving to Opportunity programme, a large-scale American social experiment on neighbourhood effects, where the testing of policy proposals based on ethnographic research in the 1970s and 1980s was ultimately left mainly to economists, who ignored the warnings of their sociologist colleagues when interpreting the data (Ludwig et al., 2013). Only later did they change how they measured and interpreted their tests to be consistent with the sociological theory of culture (Chetty et al., 2016; Clampet-Lundquist and Massey, 2008; Rothwell, 2015; Small and Feldman, 2011).

⁶ From a member of the parental generation to a member of the children’s generation.

⁷ From one member of the parental generation to several members of the children’s generation.

⁸ Taking place between members of the same generation.

if it allows human nature to prevail. In this line, evolutionary psychologists argue that the main problems of civilisation are runaway processes. The physical and social environment has been changed too quickly in recent millennia, with no time for genetic adaptation. From this perspective, the tensions created by runaway processes can be seen as the price of the material wealth and physical security that modern civilisation has generated (Pinker, 2011). Economists tend to see the major problem of civilisation as the fact that collective choices are often less optimal than rational individual behaviour (Kavka, 1991).⁹ Most mainstream economists typically envisage the path of civilisation's development as moving towards market institutions that ensure individual freedom of choice.

3 Culture and human nature: Some recent evidence

Theories in evolutionary psychology are based on three basic assumptions about human nature: improvisational intelligence, domain-specific instincts, and the general instinct to co-operate. In the last decade and a half, however, a number of research findings have emerged that are incongruent with these assumptions. Results on improvisational intelligence also concern the applicability of rational choice theory.

Intelligence. In the last two decades, a number of papers have been published that undermine the superintelligent chimpanzee model (Henrich, 2016). Biologists and psychologists have conducted several experiments comparing the intelligence of humans and primates. In these experiments, they used a design in which language and school knowledge could not be relied upon. This not only affected the tasks, but also the research subjects. Humans were typically children under school age (Tomasello, 2009). Nevertheless, these experiments aimed at investigating intellectual skills measured by human intelligence tests. In particular, they tested the understanding of spatial, causal, and quantitative relations.

Perhaps the most significant study is the Leipzig human-primate comparison experiment, which tested cca. 100-100 children and apes (Herrmann et al., 2010). In the intelligence tests, humans performed very similarly to chimpanzees and orangutans (among whom cubs perform as well as adults). Only in social learning did they perform better than the apes. Hence, it seems that human children do not have outstanding on-the-fly problem-solving abilities.

Along with a large body of research on the schooling effect, intelligence tests conducted among the Himba people bisected by the border river between Namibia and Angola show that the increase in intelligence during childhood and adolescence is primarily a cultural product (Muthukrishna, 2023, p. 110–111). In a natural experiment, some members of the tribe (who live on the Angolan side of the river) do not attend school at all. Among them, 18-year-olds have the same IQ as 6-year-olds living on either side of the border.

Specific instincts. Several results from cross-cultural psychology weaken the assumptions about domain-specific instincts. Recently, many human traits that were thought to be universal have been found to be primarily characteristic only of people living in modern Western societies (Henrich, 2020; Henrich et al., 2010). The term 'W.E.I.R.D.' (Western Educated Industrial Rich Democracies), which has now become a basic concept in academic and folk psychology, is a warning that the external validity of a large part of the findings on human nature in the twentieth century is fairly limited (Henrich, 2024).

⁹ This is somewhat simplistic in this form. The thesis that collective wisdom transcends individual intelligence has also emerged in economic thought. For example, this is emphasised in the context of the power of price signals to organise the economy (Hayek, 1945). But importantly, this argument also points towards the free market, towards individual freedom. Namely, allowing autonomous individual choices to prevail.

These results, however, do not refute the general hypothesis of the existence of domain-specific instincts. They merely undermine specific, middle-level theories. A deeper and somewhat more general cognitive science critique, on the other hand, is provided by the constructivist theory of emotions (Cameron et al., 2015; Feldman Barrett, 2017). The theory assumes that individuals label the co-occurrence of certain situations and physical sensations in a culture- and life-experience-specific way. This culturally shaped label is the emotion that, in turn, helps one to react optimally to the stimuli. The same physical feeling can be interpreted either as '*I am excited*' or '*I am very scared*' – with contrasting behavioral consequences.

Feldman Barrett points out that the same facial expression can be associated with different emotions, and that it is very difficult to recognise individual emotions from facial expressions (Ekman and Keltner, 1970; Feldman Barrett, 2017). The results of experiments show a mixed picture, although over time they tend to weaken the universal emotion-expression thesis (Feldman Barrett et al., 2019; Reisenzein et al., 2013; Tcherkassof and Dupré, 2021). At the same time, cross-cultural research on the diversity of emotional concepts lends strong support for the constructivist theory of emotions (Dewaele, 2014; Jackson et al., 2019). Nonetheless, these results cannot refute the assumption that universal affects, with universal behavioural consequences, underlie culturally diverse emotions (Jackson et al., 2019).

Instincts for cooperation. The results of intercultural psychology on cooperation clearly weaken the third pillar of evolutionary psychology. Research on cooperation preferences was one of the most successful areas of behavioural economics in the 2000s. At the time, it seemed that some moral motivation would be an accepted part of the rational choice model. This further converged rational choice theory and evolutionary psychology (Thaler and Sunstein, 2009); for an early link, see Cosmides & Cosmides and Tooby (1994) and Hoffman and Smith (1998).

The most promising models have been based on the concept of fairness (Fehr and Schmidt, 1999). Fairness preference theories assume that people prefer a 50-50 distribution of goods and obligations. However, Henrich's research on the fairness preferences of South American Indians raised doubts about the universal applicability of the model even in the early years (Henrich, 2000). A later systematic study of 15 small-scale societies showed that the preference for 50-50 distribution tends to be more specific to modern Western societies. Members of small-scale societies tend to be more selfish and more accepting of others' selfishness in distributive situations than people living in modern Western countries (Henrich et al., 2001). Currently, after a good number of models and many empirical tests have been presented, we arrive back at the same point as at the end of the twentieth century: there is no empirically well-supported model of universal moral preferences (Cameron et al., 2015).

Cognitive science of human nature. Cultural evolutionary psychology, a new branch of cognitive science, digs deeper and challenges the theses of evolutionary psychology at the level of brain micro-mechanisms. Moreover, it offers alternative explanations for the evolution and function of the big brain. Cecilia Heyes, the leading researcher in the field, acknowledges that humans have both specific cognitive abilities and universal cognitive traits that could be considered part of human nature (Heyes, 2019). However, she argues that many of these are learned and passed on through culture. She also argues that brain growth has not been associated with the development of domain-specific abilities, but with an increase in general computational capacity (Cantlon and Piantadosi, 2024). Quantitative growth without genetic (but with culturally assisted) specialisation may have been an easier evolutionary path.

Her own main empirical research area is imitation, the copying of physical movements (Heyes, 2019, 2023, 1993). This is very much considered a basic human ability. However,

recent findings, including carefully designed experiments with large sample sizes, show that while parents imitate their children's facial expressions intensively very early on, infants only start imitating their parents later (Heyes, 2019, p. 129).

Heyes hypothesises a general statistical estimating mechanism behind imitation that is also present in animals. This statistical estimation mechanism links the individual's own muscle movement to the image of the other individual (Heyes, 2019, p. 129-136). Human infants are ultimately able to imitate exceptionally well because, on the one hand, they are greatly aided by older humans and, on the other hand, they quickly figure out the statistical correlations necessary for imitation due to their brains' large computational capacity.

The most controversial hypothesis in cultural evolutionary psychology concerns the cultural origins of language skills (Heyes, 2019; Tomasello, 2005). This hypothesis is reinforced by research that has found a correlation between the technological complexity of cultures and their linguistic complexity (Henrich, 2016). However, there is unlikely to be conclusive empirical evidence for or against this hypothesis in the foreseeable future.

The relevance of the cognitive model offered by cultural evolutionary psychology is underlined by the heated debate in AI research between developers who advocate the importance of specific (programmed) machine skills and those who rely on general-purpose models and brute force (Sutton, 2019). According to one view, machines will be truly smart when they can not only see statistical relationships but also handle the domain-specific information behind raw data (Pearl and Mackenzie, 2018). This view is somehow analogous to what evolutionary psychology thinks about the importance of domain-specific cognitive skills.

At the same time, however, developers are achieving increasingly spectacular successes with general statistical estimation models by radically increasing computational power. The recent successes of generative artificial intelligence have led more and more people to believe that it is not programming-specific theoretical knowledge but increasing computational capacity that leads to more intelligent machines. As computer scientist Rich Sutton put it in his widely cited short pamphlet *The Bitter Lesson*: 'AI researchers have often tried to build knowledge into their agents...but...in the long run...breakthrough progress eventually arrives by an opposing approach based on scaling computation by search and learning' (Sutton, 2019).¹⁰

4 A theory of the cultural species

The results described above suggest that culture plays a larger role in shaping human behaviour than most influential contemporary social science theories assume. Even if we accept this implication, the question remains: is there a coherent alternative model of behaviour based on culture on which to base a distinct new social theory?

In what follows, I summarise and interpret the views of a group of researchers who argue that there is such an alternative model, and one that is more consistent with our empirical knowledge of human behaviour and social dynamics than the current dominant theoretical paradigms.¹¹

Dominance of cultural learning. To understand the rationale for this alternative theory, consider first the model described above of three mechanisms with which humans respond to environmental stimuli (individual learning, cultural learning, and biological adaptation). One can see that there may be environmental changes that are both too rapid for a given

¹⁰Sutton and most of his AI developer colleagues believe – in contrast to Heyes' cognitive model – that a development path based on expanding general-purpose computational capacity distances AI from human nature.

¹¹For the antecedents of this line of research, which I will not discuss here, see e.g. Boyd and Richerson (1988), Cavalli-Sforza and Feldman (1981).

species to biologically adapt to and too complex to permit solving the adaptation problem on the fly.

Such environmental changes may open the way to cultural adaptation for organisms with certain cognitive abilities. In cultural evolution, it is neither biological changes nor the rational decisions of individuals that lead to adaptation. Instead, individuals learn from each other what a good response to a given challenge is.

Even animals with very simple brains learn from others. Animals with large brains learn much more and in more sophisticated ways from their peers (e.g., whales, elephants, primates). It is not only the proponents of cultural animal theory who think that humans are particularly effective social learners. However, supporters of this theory believe that the primary function of the big brain is to process cultural information.

Thus, the big brain does not directly lead to particularly good problem-solving abilities (see the primate-human comparisons cited above). Instead, it helps to store, structure, and recall information that facilitates the solution of difficult problems.

But there is more here: According to culturalist theory, humans have a special ability to solve problems that are completely opaque to them. This is what makes possible the cumulative culture that only human groups have. This is a culture where new generations can build on the improvements made by earlier generations. Other animals cannot do that. This ability is the key to the development of complex technologies. As Henrich (2016, p. 323) puts it, '*We stand on the shoulders of a very large pyramid of hobbits*'. But if one describes the model of evolutionary psychology as superintelligent chimps (Henrich, 2016), one should rather say that '*we are average chimps who stand on the shoulders of a very large pyramid of average chimps*'.

We do not know how long humans have been using technologies that are opaque to them. In any case, recent empirical research suggests that even today's foraging people do not understand technologies (e.g., weapon-making or food processing) that seem simple to us (Henrich, 2016, p. 99) – technologies that they use to great effect in their everyday lives and that are key to their survival.

Classical theories of culture imply that cultural learning is primarily limited to solutions, algorithms, and skills derived from genetically inherited basic skills. According to this view, logical, linguistic, and representational skills have been shaped by biological evolution. We learn specific mathematical, linguistic, and drawing rules throughout our lives based on these basic skills. Most adherents of the new cultural theory, on the other hand, believe that many basic skills may also have cultural origins. Their acquisition is facilitated by the biologically inherited ability for social learning (Henrich, 2016). There are even more radical views. Heyes (2019), for instance, hypothesises that we also learn basic learning mechanisms in the early years of our lives.

One can conclude that the large human brain, by building and using a cumulative culture, can respond to rapid and complex changes in the environment in the absence of *a*) appropriate bodily changes and instincts, and *b*) individual superintelligence. Indeed, the human brain grew significantly specifically during periods of high climate volatility (Muthukrishna, 2023; Richerson et al., 2024).

Note that when culture provides thinking tools, it also shapes on-the-fly problem-solving optimisation processes. Rational reasoning is a set of learned rules of logical thinking (Muthukrishna, 2023) that is subject to cultural evolution (Hong and Chen, 2024). Some sociologists have long argued that rational behaviour can also be the result of normative pressures (Lindenberg, 2008). This idea has also emerged in economics following the work of Rubinstein, although it is far from mainstream (Rubinstein, 2006, 2012).

The proponents of the new cultural theory do not deny that the pursuit of self-interest is part of the biologically inherited nature of human beings (Henrich, 2016, p. 109). But they dispute that the capacity for sophisticated rational optimisation is innate. Or rather, the separation of rationality and culture becomes meaningless when we *learn* to be rational.

Dominance of cultural evolution. Much more than the relationship between rational choice and culture, the new cultural theorists are concerned with the impact of culture on biological evolution. An important and classic thesis of the movement, which can be traced back to its founders, is that culture does not simply adapt to certain biological environmental constellations because it can exert strong selective pressures on biological traits (Boyd and Richerson, 1976) – in some cases, much stronger than most environmental factors.

This thesis of gene-culture coevolution is not easy to grasp, and the books reviewed here do not help by providing formal models or convincing informal arguments. However, there are a number of empirical findings that support the thesis. We know of several civilisation-linked, hyper-fast biological changes. These include rapid changes in skin and hair colour and certain features of the digestive tract, causing large intra-species variation (Henrich, 2016). The dual inheritance theory, which postulates parallel biological and cultural evolution, is a major pillar of the new cultural theory.

The fact that culture significantly influences both biological and on-the-fly optimisation could render the rational-versus-instinctive-behaviour controversy meaningless, potentially undermining the foundations of the two mutually reflective paradigms described above.

The question is, of course, whether culture complements or dominates the other two adaptation mechanisms in the case of humans. Henrich and colleagues argue that culture is the dominant adaptation mechanism, directly and indirectly. Two lines of related evidence are mentioned here.

First, theoretical models and laboratory experiments show that the efficiency of information acquisition increases with group size (Henrich, 2016, p. 224). The models also show that the efficiency of information transfer and retention is higher in distributed group information sharing than in peer-to-peer (vertical, oblique, or horizontal) information transfer assumed in classical culture models (Heyes, 2019, p. 204).

Second, a stronger, more direct argument for the dominance of culture emphasises the lack of adult humans' inborn skills for surviving in non-civilised environments. Henrich presents tragic cases from the *Lost Explorers' File* almost with relish (Henrich, 2016, p. 26). He recounts stories from this 'file' in which vital European explorers fail to survive in a natural environment rich in resources readily used for survival by locals. And the obligatory example used in all pop-science books, articles, and podcasts on the subject is the lack of a fire-starting instinct in humans. This seems particularly puzzling because our stomachs have adapted to processed food for a very long time. Without processed foods and therefore without fire, survival is very difficult for humans. And since we have learnt to use fire, many of our physical characteristics have changed (mostly due to cultural changes, according to cultural animal theory), but still, the biologically inherited ability to start fires has not evolved.

Human groups as superorganisms. Here we come to an important point. For if human survival is fundamentally dependent on culture, and culture exists in groups, then human evolution could be fundamentally dominated by selection between cultural patterns and the groups that carry them. If the cultural species hypothesis is true, then the agent of evolution is the cultural pattern that characterises the group.

Indeed, Henrich (2016) argues that human communities form so-called superorganisms (Maynard-Smith and Szathmary, 1995). A superorganism is a strong alliance of biological entities that has become so strongly interrelated that it forms a common entity with its

own agency. And as Henrich puts it, just as cells make up the individual organism of a living being, so humans make up the agents of a cultural group (ibid., p. 318, Davison et al., 2021). Henrich sees this as a new type of species, which is why he speaks of a 'cultural species'.¹² According to Muthukrishna, the emergence of this new cultural species fits within the complexity-growth process described by Maynard-Smith and Szathmari (1995), which is a general tendency of evolution.

Then the question arises whether social processes can be understood directly through models of either rational or instinctive individuals. This reopens a debate about methodological individualism that was considered largely closed in the dominant social theoretical discourse by the end of the twentieth century.

5 Some implications of the theory

In the following, I would like to discuss two claims that might influence our view of important social problems, and that follow specifically from the cultural species model.

Fragility of civilisations. Some scholars in this line of research point out that human civilisation is very fragile (Heyes, 2019; Muthukrishna, 2023). Namely, after a shock that has somehow interrupted the transmission of culture, there is nothing to build on. This is because the technological knowledge that we have built our civilisation on over thousands of years is not in our genes.

Henrich gives several examples of civilisational regression from the records of cultural anthropological research. Civilisations can lose important technologies very quickly, resulting in a decline in their livelihoods and population. One example is an epidemic in the 1820s that wiped out most of the elders among the Polar Inuit (Henrich, 2016, p. 211) – the best bearers of technological knowledge in the absence of written information. The group thus lost important hunting and kayaking technologies from one year to the next. Their hunting area and group size were radically reduced in a very short time. If one accepts Heyes' theory that even learning is learned to a large extent, the prospect of some kind of disruption in the system of cultural transmission is particularly frightening.

The authors cited here do not discuss it, but it is plausible to conclude that the devaluation of the knowledge and skills related to the humanities in today's late-modern Western civilisation may also undermine technological development in the narrow sense, along with the social technologies that hold complex societies together. We do not know, of course, whether this is so, because we do not understand the contribution of each type of knowledge to the maintenance of our civilisation. But this not knowing means that we cannot rule out this possibility.

Group selection and individual welfare. Another important theoretical claim lacks systematic analysis in the books reviewed here. Namely, that the physical and mental well-being of the human individual is sometimes paradoxically influenced by selection between groups bearing cultural patterns. Situations in which cultural patterns that cause suffering to many people succeed cannot be excluded. The problem of such a paradoxical type of development was raised many decades ago in relation to the agricultural revolution (Sahlins, 1972).¹³ Moreover, recent research has led to a more complex, less idealised view of small-scale societies themselves (Edgerton, 1992; Singh, 2022; Singh et al., 2017). Graeber and Wengrow (2021),

¹²The idea that the individual is not the agent of evolution in the case of humans is gradually gaining ground in biological theory (Andersson and Törnberg, 2019; Davison et al., 2021; Waring and Wood, 2021). We will return to this at the end of the paper.

¹³The thesis has recently been popularised by Harari (2015).

considering the internal opposition to the new cultural theory, place particular emphasis on the problem of individual well-being as separable from collective success.

What is clear is that the process of cultural evolution does not guarantee that human development will lead to greater individual happiness. As an extreme example, imagine a civilisation that becomes a strong military power that defeats other civilisations by (also) exploiting its own population.

As noted before, evolutionary psychologists also emphasise that civilisation can cause human suffering. But in their approach, this tends to be a psychological side-effect of material gain (due to, e.g., so-called runaway processes). The new cultural theory is less concerned with the mental conflict between human nature and civilisation because it assumes that our cultural brain is highly flexible. However, group selection may result in the very physical deprivation of many individuals living in evolutionarily successful cultural groups.

6 Some open questions

In this section, we discuss some of the important hypotheses of *The Dawn of Everything* that differ from the claims of cultural animal theory. Graeber and Wengrow do not belong to the close-knit network of authors discussed above. Rather, they belong to the mainstream of contemporary cultural anthropology. However, they draw very similar conclusions about the power of culture to the authors mentioned above. Furthermore, their alternative hypotheses are somehow related to the basic tenets of cultural animal theory and thus can be well understood within the framework of the new theory developed by Henrich and his colleagues. A critical comparison of some of the above claims with Graeber and Wengrow's alternative hypotheses could point to important challenges this field of research faces and show why this is not an integrated theory yet.

Agentic vs. blind forces of cultural evolution. Henrich and Muthukrishna do not believe that individual rationality is a key factor in making the decisions necessary for survival and flourishing. They transpose the concept of the *blind watchmaker* (Dawkins, 1986) to the field of cultural evolution. Henrich's illustrative example is the South American Indians' processing of cassava, which reduces the plant's cyanide content (Henrich, 2016, p. 97). This example is striking because the potential effects of cyanide in this context are significant only in the long term, and when adverse symptoms occur, the Indians would not be able to identify what substance had made someone sick, much less where it came from in the first place. In addition, the Indians have no idea that certain steps in their food processing procedures reduce the presence of certain substances in cassava. At least that's what Henrich claims.

Muthukrishna, instead, gives examples from the history of scientific and technical innovation in modern Western civilisation. As he puts it, the persons to whom we associate the milestones of the scientific-technical revolution were not in fact lone geniuses, but mostly lucky and diligent experimenters who were the first of many inventors trying at the same time to identify the processes that would ultimately prove best (Muthukrishna, 2023, p. 145).

These are important examples, but they do not exclude the possibility that in some situations rationality also plays an important role in optimisation. We may not be better *by nature* than primates at solving problems on the fly, but we are no worse either.¹⁴ And primates are highly intelligent improvisational problem-solvers compared to most animals

¹⁴Actually, Henrich – based on the premise of the tendency for blind rule-following among humans, supported by the theory and some human-primate experiments – tends to accept that non-human primates have the highest inborn on-the-fly problem-solving intelligence.

(Tomasello, 2022). Moreover, as noted (and as Henrich and Muthukrishna also emphasise), in certain cultural contexts, we learn the tools of rational thinking.

In cumulative culture societies, of course, many problems are not comprehensible in their full complexity. But simpler sub-problems can be optimally solved with a culturally enhanced chimpanzee brain. And rational optimisation could also include rational (vs. blind) experimentation. Graeber and Wengrow argue strongly that humans are indeed capable of seeing through problems and solving them rationally (including solution by systematic experimentation). Notably, Boyd and Richerson, who laid the ground for cultural animal theory, also highlight the potential importance of agentic (vs. blind) forces in cultural evolution (Richerson et al., 2024).

Contrary to the individualist theories cited in the first half of this paper, and in line with the theory of the cultural animal, Graeber and Wengrow emphasise the power of group rationality. According to Henrich and Muthukrishna, however, group rationality is evolutionary rationality: the individual cannot understand why the solution that has evolved in the group is optimal. Graeber and Wengrow, in contrast, emphasise the power of collective wisdom, in which individuals can potentially understand the group's dilemmas through deliberate discourse (Richerson et al., 2024).

Henrich, Muthukrishna, Graeber, and Wengrow interpret public debates in pre-modern societies on technical and social issues through their own perspectives. *The Dawn of Everything* cites descriptions of deliberative, rational debates – primarily from observations by missionaries among North American Indians (Graeber & Wengrow, 2021, e.g., p. 39, 45, 473). Henrich, on the other hand, cites Polynesian anthropological observations that describe battles of esoteric arguments that are not relevant to the problem as far as we know in today's science, and argues that '*humans are terrible at designing institutions*' (Henrich, 2016, p. 174). He stresses that, in the end, it is usually bargaining power that determines what the community ultimately decides.

Nonetheless, Henrich assumes a kind of bounded rationality in the form of prestige bias. All kinds of habits of successful groups are readily adopted by communities in crisis (using all kinds of esoteric arguments as a rationale).

Effectiveness of cultural evolution. Henrich and Muthukrishna are, in fact, borrowing the concept of the *ever-clever* blind watchmaker from biological theory. This means that suboptimal solutions do not last long. Note that biological theory is also divided on the question of the optimality of natural selection. With reference to the mechanisms of evolution, some theoretical biologists argue that nature is full of easily accessible suboptimal solutions (Gould, 2010). Note also that the so-called Paris School of cultural evolutionary research also argues that it is not always the most optimal, but often the most easily learnable pattern that is spread in society (Buskell, 2017; Sperber, 1985, 1996).

Henrich and Muthukrishna also make more specific claims than the optimisation hypothesis. Namely, in the process of optimal adaptation to the environment, the dominant pattern of human societies, in the long run, inevitably moves towards increasing complexity. Perhaps the most emphatically stated thesis of *The Dawn of Everything* is a flat denial of this. The authors argue that both cultural attractors (which the book does not actually discuss) and local optimisation often work against growth in complexity. Where Graeber and Wengrow agree with Henrich is that complexity and group size are not deterministically related to the mode of production. Hunter-gatherer societies can also achieve relatively large sizes, and the dominance of agriculture does not necessarily lead to large, stratified societies.

Rational revolutions vs. incremental cultural evolution. Henrich and Muthukrishna draw most of their examples of cultural evolution from the narrowly defined field of technological

innovation. Graeber and Wengrow, on the other hand, are much more interested in strategic issues: the choice of the mode of production and the social order.

This distinction is not in itself a theoretical conflict, but it is consistent with the mechanisms of cultural evolution that these authors consider important. When a process can be modified in small, low-impact increments, individuals and groups can experiment. And it can be assumed that small differences in efficiency across procedural modes will take many generations to have an effect through selective diffusion. In contrast, for high-impact discrete decisions, the returns to carefully developing and deliberately discussing hypotheses about the effects of alternatives are increased.

The reason why Graeber and Wengrow find different mechanisms of cultural evolution more important than Henrich is perhaps that they examine and select archaeological, historical, and anthropological evidence from different perspectives. Henrich and Muthukrishna examine the success of cultural animal groups. Graeber and Wengrow, on the other hand, are most interested in the well-being of individuals of the 'cultural animal'. They specifically look for examples of when individuals and groups have 'hacked' evolution for their own well-being. Somehow, those individuals shake off what many (but not Graeber and Wengrow!) see as developed (but the former feel oppressive) social arrangements. In contrast, Muthukrishna presents the assertion of nested interests within the group only as a harmful process (Singh et al., 2017).

7 Concluding remarks: Bringing nature, the individual, and the critical perspective back (again)

Theories organised around the concept of culture have always played an important role in the social sciences (Alexander, 2003; Lamont et al., 2014; Mead, 1928). However, earlier culture-focused theories typically distanced themselves from biologically based theories of human behaviour. At the same time, they recognised the independent validity and even fundamental nature of these biological theories.

In contrast, the new theoretical framework that places culture at the centre is embedded in the general science of living systems. The biological foundations of its theses sharply distinguish it from earlier cultural theories. Moreover, this new approach based on natural science does not assume that biological, psychological, and social aspects build on each other. In this theoretical framework, the evolutionary logic of living systems acts together on biology, psyche, and culture. And these factors are also interrelated. The concept of the cultural animal, for example, implies that culture can influence biological characteristics. Thus, a potential new paradigm based on the theories presented here could blur not only the boundaries between existing social science disciplines, but also the cleavages between the natural and social sciences.

At the same time, however, we cannot yet speak of a unified new theory (as suggested by the title of Muthukrishna's book), but rather of a cluster of interrelated theories.

One of the main questions in the general theory of living systems is the relationship between individual biological entities and collective entities (Maynard-Smith and Szathmari, 1995). This is also one of the ancient questions of the social sciences. An important open question in the new paradigm is the level of cultural selection.

The position of members of civilisations with a complex division of labour can indeed be modelled in part by analogy with the specialised cells of living organisms (Davison et al., 2021; Henrich, 2016). However, this analogy – as I see it – is far from perfect. Advanced cultures also impart advanced thinking and communication abilities to their individuals, who

inherit the instinct for pursuing self-interest and high primate intelligence. They also have imaginative powers that allow them to consider untried alternatives. Graeber and Wengrow emphasise the power of imagination particularly strongly. In addition, human individuals are not physically locked into their functional position in the same way as the cells of other biological organisms (Davison et al., 2021, cf.). Many factors may determine the extent to which the cultural evolution of different patterns in a given context is determined by adaptive competition between societies (vs. subgroups or individuals within societies).

To the best of my knowledge, the study of the level of selection in the theory of cultural evolution is still in its early stages (Nichols et al., 2024). Yet models that address this would be needed to build a new social science paradigm on the promising foundations discussed here. And note that the examination of the relationship between the fitness of cultural communities and individual well-being is inherently normative in nature. It points to the potential conflict between evolutionary optimality and normative optimality. Thus, it paves the way for a critical analysis of social systems – as we clearly see in Graeber and Wengrow (2021).

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