

Human nature in society

Jennifer Sheehy-Skeffington argues that lessons from evolution can support academic critique of how society is run



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In most social science and humanities circles, bringing up the role of evolution in shaping human behaviour is unwelcome, and thus unwise. The first core objection is empirical: the attempt to reduce the behaviour of this most complex social animal to a set of deterministic ‘biological drives’ is said to neglect the pervasive influence of social, economic, cultural, and political forces on human action and co-ordination. The second objection is ideological: claims about evolved human tendencies toward aggression or infidelity are seen as white-washing, providing a justification for the maintenance of systems of inequality and patriarchy, and thus leaving no space for individual and collective agency to effect radical social-structural change.

Eloquent arguments have already been put forth against the supposed empirical naivety of evolutionary psychology. In *The Blank Slate*, Steven Pinker presented the empirical case against the notion that humans are born with no evolved psychology whatsoever, ready to be moulded to produce whatever set of behavioural patterns the surrounding environment and socialisation dictates. Rather, as put forward most forcefully by two of the founders of evolutionary psychology – John Tooby and Leda Cosmides – our brains arrive on the scene with a set of cognitive tools already prepared to navigate the kinds of social environments in which our ancestors had to survive: small-scale societies of hunter-gatherers and proto-agriculturalists. More recently, research on evolution and behaviour has moved beyond the question of nature *versus* nurture, to ask how the *interaction* between universal social-cognitive mechanisms and varying ecological contexts yields the cultural diversity in patterns of behaviour that we see across societies. Schools of study such as behavioural ecology and evolutionary developmental biology are shedding light on how early life experiences shape key later life decisions and abilities in ways that make adaptive sense. Those working in the field of cultural evolution demonstrate how the uniquely human capacity for social

learning generates complex cultural landscapes that our evolved brain learns to navigate, possibly evolving further in the process. Rather than bracketing out the complexity of modern human social systems, sophisticated computational models and simulations can now attempt to build such complexity into theories of evolution and behaviour, predicting societal change better than can approaches to history based on social constructionism alone.

I would like to argue that just as evolutionary reasoning shouldn't be dismissed for empirical reasons, so we also have little need to be afraid of it on ideological grounds. Indeed, my own research programme can be characterised as aiming to explore how evolutionary insights help us to see the fundamental role in human behaviour not only of sociality, but of society at large. One way of summarising these insights is to think of two core kinds of social knowledge that have been found to be early-emergent and cross-culturally universal: an understanding of social groups, and a sensitivity to social status. Research has shown that infants even before they can speak, and members of small-scale societies across the world, share an understanding of what it means to be a member of an 'ingroup' or 'outgroup', and why it matters whether one is high or low in standing in a social hierarchy. If social cognition of this kind is innate, and responsive to the shape of institutions and economic arrangements, this has important implications for what kinds of societies we might find feasible and desirable – what's worth fighting for and what's worth fighting against.

Harnessing insights regarding our evolved understanding of social groups has important lessons for enabling cohesion and fairness in multi-ethnic societies. In particular, what we know about our ancestral past implies that the tendency to be biased in favour of our 'ingroup' did not arise from an innate hostility toward members of other ethnic groups. Rather, it is the product of an evolved 'coalitional psychology' which tracks shifting alliances among any people in our surrounding environment. Thus, what our brains evolved is a tendency to watch for cues that differentiate people with whom one is likely to co-operate, from those with whom one is likely to compete. Race is one such salient cue, but can be supplanted with others. Based on this logic, Robert Kurzban, David Pietraszewski and collaborators have shown that racially-biased thinking can be altered once the coalitional cues in the environment are altered. In their studies, those who read stories in which people of different ethnicities are co-operating shifted from cognitively categorising them

by ethnicity to cognitively connecting them based on (multi-ethnic) team membership.

Related research from Michael Bang Petersen, again taking an evolutionary perspective, has shown that such co-operative cues matter for social welfare preferences. People are more likely to support social welfare payments for those whose inability to earn enough is due to no fault of their own, and thus whose co-operative intent is unquestioned.¹ The implications are hopeful for the debate about the future of support for egalitarian social reform. Contrary to recent claims from economics, ethnic heterogeneity should not erode social solidarity as long as there is a sense of a shared coalition that includes everyone in society, in which each makes an effort to contribute. Recent declines in support for social democratic parties in Europe are no longer seen as an inevitable response to unprecedented levels of immigration from non-Western countries. Seen through an evolutionary lens, attempts to save Europe's strong welfare state in the face of rapid immigration are less a question of how to ensure enough resources are left for the ingroup, than of how to construct a shared notion of the ingroup that is inclusive enough of newly arrived populations to earn their desire to contribute to it.

Questions around the apparent 'deservingness' of welfare recipients trigger our evolved cognition of social status, too. Specifically, recent British media and political debates on welfare reform have focused on the role of individual responsibility of those at the bottom of society to work to advance their conditions: the need, as Prime Minister David Cameron puts it, to 'become more like us ... hard-working, pioneering, independent, creative, adaptable, optimistic, can-do.'² As critics of the welfare reform agenda have pointed out, such persistent focus on the decisions and behaviours of low-income groups can easily slide into attempts to blame the poor for their own situation of poverty. An evolutionary approach breaks this link, in two ways.

First, our ancestral past teaches us that perceptions of where one sits in a social hierarchy affect our health, happiness, and even our behaviour. The work of epidemiologist Michael Marmot³ has already drawn on evidence of the importance of hierarchy for our primate ancestors, to explain his findings that those sitting lower in any kind of social hierarchy – be it organisational or socioeconomic – are more likely to suffer health problems than those higher up. My PhD research attempted to take this a step further, demonstrating that perceived social standing matters not

1. See R. Kurzban, J. Tooby and L. Cosmides, 'Can race be erased? Coalitional computation and social categorization', *Proceedings of the National Academy of Sciences USA*, 98 (2001), 15387–15392; M.B. Petersen, D. Sznycer, L. Cosmides and J. Tooby, J. 'Who deserves help? Evolutionary psychology, social emotions, and public opinion about welfare', *Political Psychology*, 33:3 (2012), 395–418; D. Pietraszewski, L. Cosmides and J. Tooby, 'The content of our cooperation, not the color of our skin: An alliance detection system regulates categorization by coalition and race, but not sex', *PLOS ONE* 9:2 (2014), e88534.

2. Speech to the Conservative Party Conference, October 2011, accessed at www.bbc.co.uk/news/uk-politics-15189614

3. Professor Sir Michael Marmot was elected an Honorary Fellow of the British Academy in 2008.

only for health outcomes, but for health behaviours. In a set of online and laboratory studies, Jim Sidanius and I randomly assigned middle-income American participants to receive positive versus negative feedback about where they sat in the American 'socioeconomic ladder', and then measured the perceived control they had over their life outcomes. Those who received low socioeconomic status (SES) feedback were less likely to say they had control over their life outcomes, a subjective state that is known to be damaging to health behaviours. Indeed, when we then asked people to play a household budgeting game in which they were randomly assigned to have a very low (versus a very high) income, they reported not only feeling less powerful, but also being less able to stick to healthy behaviours in the areas of diet, exercise, and safety. In a related set of studies, those perceiving that they were relatively low in SES were also less likely to identify the best of three hypothetical credit card offers, this time because the negative socioeconomic feedback had actually temporarily impaired their cognitive abilities.

This evidence adds to a growing literature on the behavioural economics of poverty, which argues that the experience of not having enough resources is disruptive to everyday psychological processing, and thus to good economic decision-making. Researchers in that field had shown that exposing middle-income participants to a situation of scarcity in resources elicited poor cognitive functioning and bad financial decisions. Our evolutionary approach predicted that relative resource scarcity should have a similar effect, which is just what we found.⁴ Overall, the conclusion from these two areas of research is that decisions and behaviours that are criticised in the poor, such as smoking and taking out high-interest loans, are less likely to be a product of enduring psychological 'defects', than of the situational impact either of not having enough, or of merely realising one has a lot less than others.

This emerging study of the psychological consequences of poverty implies that one can use experimental methods to demonstrate what social theorists had long been claiming: that one's social structural position has a pervasive impact on one's subjective experience and sense of agency. But an evolutionary approach also allows us to go one step further. By understanding behavioural patterns as a product of evolved mechanisms responding to changing ecologies, we can see how decision-making patterns associated with low-income groups might not only be understandable, but might actually be adaptive. In research conducted while a British Academy Postdoc-

toral Fellow, I explored this by returning to the case of subjective social standing and cognitive functioning. In a study conducted with Michael Price, I started with the assumption that receiving negative feedback about one's socioeconomic standing should trigger a threat to one's perceived status – status being a valuable resource in our evolutionary past. Such a status threat shouldn't induce an across-the-board deficit in cognition; rather, it should reorient cognitive resources toward opportunities to regain status. If this is right, then presenting people with negative SES feedback, and then giving them an irrelevant cognitive task, should lead them to perform poorly, as their brains are busy thinking about the status threat. If, however, the cognitive task is presented in a way that makes clear how performing well on it might lead to later gains in socioeconomic status, people's cognitive resources should be 'brought back online'. This is exactly what we

found. Whereas those randomly assigned to receive low SES feedback performed worse on a cognitive task than those receiving high SES feedback (as had been found in my earlier studies), once we presented information linking the cognitive task to later life gains in socioeconomic status, the performance differences between the high and low SES groups disappeared.⁵ The implication is that exposure to negative perceptions of SES does not damage one's psychology, as much as it redirects psychological resources toward pressing environmental needs.

In another study funded by the British Academy, my collaborators at Brunel University and I are testing whether a similar process takes place in the case of what might be perceived as an evolutionary survival threat. We have collected data from students who have fasted for 12 hours, with half of them then randomly assigned to eat breakfast, before all students continue to a set of cognitive tasks. This will enable us to investigate whether the well-known damaging impact of food scarcity on cognitive functioning might go away once hungry participants are given cognitive tasks involving food-related stimuli, or tasks that offer a food reward based on performance. Once again, evolution teaches us that we have mechanisms designed to respond to environmental threats by prioritising psychological resources, rather than switching them off altogether.

Developmental psychologist Willem Frankenhuis has used similar evolutionary reasoning to propose that those who grow up in poor or high-risk environments, who perform worse on conventional measures of cognitive

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4. See J. Sheehy-Skeffington and J. Haushofer, 'The behavioural economics of poverty', in *Barriers and Opportunities at the Base of the Pyramid: Prospects for Private Sector Led-Interventions* (Istanbul: UNDP Istanbul International Center for Private Sector in Development, 2014).
5. See J. Sheehy-Skeffington, J. Sidanius and M.E. Price, 'Decision-making at the bottom of the hierarchy: The cognitive impact of perceiving oneself as low in socioeconomic status', flash-talk delivered to the Society of Personality and Social Psychology Pre-Conference on the Emerging Psychology of Social Class, San Diego, CA (2016).
6. See W.E. Frankenhuis and C. de Weerth, 'Does early-life exposure to stress shape or impair cognition?' *Current Directions in Psychological Science*, 22 (2013), 407–412; C. Mittal, V. Griskevicius, J.A. Simpson, S. Sung and E.S. Young, 'Cognitive adaptations to stressful environments: When childhood adversity enhances adult executive function', *Journal of Personality and Social Psychology*, 109:4 (2015), 604; G.V. Pepper and D. Nettle, 'Socioeconomic disparities in health behaviour: An evolutionary perspective', in *Applied Evolutionary Anthropology* (New York: Springer, 2014), pp. 225–243.



Evolutionary insights imply that the reason low-income groups engage in more unhealthy behaviours such as smoking and unsafe sex is because being low income means living in an unstable environment with a high risk of dying for reasons outside of one's control. PHOTO: FLORIAN CHRISTOPH/FLICKR. USED UNDER CREATIVE COMMONS. LICENCE (CC BY 2.0).

functioning and intelligence, might perform better than those from middle-income backgrounds on cognitive tasks that draw on the kinds of challenges presented by high-risk environments: tasks such as detecting aggression in facial expressions, and rapidly shifting from one set of demands to another. In a related vein, behavioural ecologists Daniel Nettle and Gillian Pepper apply cross-species evolutionary insights to argue that the reason low-income groups engage in more unhealthy behaviours such as smoking and unsafe sex is because being low income means living in an unstable environment with a high risk of dying for reasons outside of one's control. In this context, where one can have little faith in one's future, shifting one's psychological focus toward present gains makes adaptive sense.⁶ In sum, the application of evolutionary insights to the politically topical issue of poverty and individual responsibility not only helps document the mechanisms through which society shapes psychology; it also sheds light on ways in which middle-income groups have a lot to learn from the particular cognitive strengths one acquires from growing up in a low-income context.

In the above overview, I have focused on two in-

sights drawn from human evolution to show how societal positioning, whether within social groups, or along social hierarchies, shapes our decision-making and behaviour in ways that matter for contemporary policy debates. Such within-country forces can be studied in interaction with differences between countries, and as they change over time. Knowing about our evolved cognition for cooperation and coalitions sheds light on how entire cultures evolve, becoming more or less stratified depending on the nature of interactions within and between societies. Similarly, knowing about our evolved sensitivity to social status can illuminate the dynamics of intergroup oppression through history, or show why rising economic inequality has such a potent impact on population cohesion and well-being.⁷ Though I have only touched on recent research in two areas, I hope to have made a case that applying evolutionary insights to the social scientific study of behaviour is a fertile endeavour, both empirically and normatively. Not only can it move us toward capturing the complexity of the intermingling of subjectivity with social, political, economic, historical and cultural forces; it can also reveal what such forces are doing to us, and what we might do about it. ■

7. See S. Bowles, E.A. Smith and M.B. Mulder, 'The emergence and persistence of inequality in premodern societies', *Current Anthropology*, 51:1 (2010), 117–118; J. Henrich and R. Boyd, 'Division of labor, economic specialization, and the evolution of social stratification', *Current Anthropology*, 49:4 (2008), 715–724; A. Nishi, H. Shirado, D.G. Rand and N.A. Christakis, 'Inequality and visibility of wealth in experimental social networks', *Nature*, 526:7573 (2015), 426–429; S. Pinker, *The Better Angels of Our Nature: Why violence has declined* (New York: Penguin, 2011); J. Sidanius and F. Pratto, *Social dominance: An intergroup theory of social hierarchy and oppression* (Cambridge: Cambridge University Press, 1999); R. Wilkinson and K. Pickett, *The Spirit Level: Why equality is better for everyone* (London: Penguin, 2010).