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HUMAN SUCCESS

Hugh Desmond & Grant Ramsey

Reviewed by Andrew Buskell

Human Success: Evolutionary Origins and Ethical Implications

Hugh Desmond and Grant Ramsey (eds)

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'You are born at an ideal time', Susan C. Antón writes, 'fat and sassy'. Finding yourself in a world with few predators and rich nutrients, 'you are well set to have ideal offspring' (p. 132). If you are trying to be a successful organism, what more could you want?

Reproduction, after all, is a good yardstick for biological success. Organisms succeed when they leave more of their descendants in future generations. It is not, however, the only measure. Lineage persistence is another. On such a metric, the four extant species of horseshoe crabs are remarkably successful, having crawled around since the Ordovician. Though there are noticeable differences, these two measures have a great deal in common. Both are about the continuation of lineages. This may be the lineage constituted by one's offspring (and their offspring, and their offspring, and so on) in a

breeding population. Or the lineage at stake might be the 'meta-population lineage' of interbreeding organisms sticking it out over the generations.

When we turn to look at our own species, however, these familiar yardsticks don't seem to fully capture all we mean by biological success. *Homo sapiens* might be a persisting lineage, sure, and successful in that regard. But *H. sapiens* is also an ecologically widespread species found across the world, a profoundly niche-constructing species that has shaped world ecologies, and an energetically dominant species that manages and consumes a huge percentage of the world's biomass. These geographical and ecological notions of success go beyond mere reproductive stick-to-it-iveness.

One might even be tempted to move beyond the language of biological 'success' altogether. Human beings have so profoundly changed and corralled bio-power that one might be tempted to speak instead about biological dominance. The evolutionary anthropologist Joseph Henrich ([2016], p. 8), for instance, isn't afraid to state this baldly, saying that 'we are the ecologically dominant species on the planet'. For better or worse, one might add.

So how should we understand human success? As the above suggests, human beings are evaluable by metrics that situate us among other creatures. But we can also be propped up against measures suited only to us. These arise from our 'second nature', as John McDowell ([1994]) put it, which emerges when each of us are enculturated into a world of rationally interlinked and empirically beholden concepts. Success on these measures might involve being judged in terms of our capacity for morality, rationality, overall flourishing, or perhaps economic productiveness. But does the fact of our having a 'second nature' mean we are evaluable by an expanded set of criteria? Or can human beings only be rightly evaluated by those distinct features arising from our second nature?

Exploring these issues is *Human Success: Evolutionary Origins and Ethical Implications*, edited by Hugh Desmond and Grant Ramsey. Using the concept of 'human success' as a lens, they 'revisit old questions about facts and values, evolution and ethics, and about how human evolutionary history should be understood' (p. 13) in light of cutting-edge work in palaeoanthropology, geology, and philosophy.

A noticeable feature of the volume is the split between the scientific and philosophical contributions. Half the authors are experts in the disciplines of deep time. Their pieces explore the 'evolutionary origins' of the volume's subtitle, providing overviews of the evolution of *H. sapiens*, outlining features that make the species adaptable, and explaining why we are now the sole extant hominin lineage. The other half of the contributions are philosophical. Among these there is less unity—not all are about 'ethical implications', for instance. Some contributions are cautionary notes emerging from studies of value theory. Others are analyses of post-human techno-liberalism. Others still are evolutionary arguments for ethical pluralism. All the contributions offer rich, overlapping, and partial perspectives on human evolution and on human success.

I found it helpful to organize these contributions into three groups: those focusing on humans, success, and then humans and success. The first group of contributions, on humans, explores the contingencies of hominin evolution, focusing on *H. sapiens* (Vermeij, Antón, Grove, Demps and Richerson, Zalasiewicz et al.). The second, on success, interrogates success as a general concept (McShea, Hourdequin) or

explores distinctively human criteria of success (Buchanan and Powell, Desmond). The third, on humans and success, constructs overarching frameworks to situate human success in expanded biological constructs (Rosslenbroich, Fuentes, Potts). Though my way of grouping the contributions doesn't quite match up to the tripartite structure suggested by the editors, I don't think I'm doing violence to the book by covering things in this way.

Let me begin with contributions focusing on the human side of 'human success'. I start with Susan C. Antón's contribution ('Wanderlust', chap. 6). This is not just an excellent overview of hominin evolutionary history, but a standout contribution of the volume, offering a clear and comprehensive synthesis of the morphological, demographic, palaeo-climatic and geographical context of hominin evolution. It is also valuable in foregrounding—to an extent that other contributions do not—that biological success is a relative notion.

Consider two kinds of biological success discussed above: reproductive success and lineage persistence. The reproductive success of an organism is relative to the reproductive outputs of other organisms in a population over time. Similarly, the success of a species at persisting is relative to the persistence of other 'meta-populational lineages'. In more technical language, success involves evaluating some focal entity within a broader contrast class. Antón's argument is that many evaluations of human evolutionary success use the wrong contrast class, namely, the primate order. This is wrong because ancestral hominins 'moved outside a typical primate niche [...] nearly two million years ago' (p. 134). If one wants to evaluate human success, Antón argues, it should be relative to the hominin lineage and, particularly, to the archaic hominin species *Homo erectus*. Within such a contrasting case, human success is both more comprehensible and less remarkable: more comprehensible in that capacities for ecological dispersal and adaptiveness are built on the back of the erectine model, and less remarkable in that the erectines thrived for almost two million years before going extinct. We humans have over one-and-a-half million years of catching up to do before we break that record.

The other notable essay in the 'human' group is Matt Grove's contribution ('Culture as a Life History Character: The Cognitive Continuum in Primates and Hominins', chap. 7). A technically demanding chapter, Grove links together palaeo-climatic and palaeo-ecological data with life history theory to evaluate 'traps'—tendencies towards life history strategies—within the primate order. Success, for Grove, is understood as a complex of population size, geographical spread, and biomass. To the extent that *H. sapiens* is successful on these metrics, it is because of turbocharged trends in demography, encephalization, and social learning. Yet these features created a distinctively hominin 'cognitive trap': a reliance on cognitive plasticity, culturally sustained knowledge, and a generalist morphology. Not all hominins fell into this trap—*Homo naledi* and *Homo floresiensis* had smaller brains and plausibly adopted different life history strategies—but the erectines, Neanderthals, Denisovans, and humans almost certainly did. As the evolutionary record attests, not all escaped it.

Rounding out the work in this human group are the contributions from Kathryn Demps and Peter J. Richerson ('A Gene–Culture Coevolutionary Perspective on Human Success', chap. 8) and Jan Zalasiewicz, Mark Williams, and Colin Waters ('Anthropocene Patterns in Stratigraphy as a Perspective on Human Success', chap. 9). Both focus on human persistence and bring their narratives up to the present day.

Demps and Richerson's focuses on the evolution and co-evolution of human capacities for culture, while Zalasiewicz and colleagues' outline the signals of human cultural activity in the geological record. Both see *H. sapiens* as a global species, whose activities have planetary consequences. Zalasiewicz and colleagues adopt Peter Haff's concept of a 'technosphere' as a framework for understanding these planetary effects. Joining other planetary spheres—the lithosphere and biosphere, for example—the technosphere 'comprises all of the industrial, technical, and transport systems manufactured by humans' (p. 220). For Zalasiewicz and colleagues, the continuing persistence of the human species rests on whether we can effectively align the technosphere with the other planetary spheres.

Finally in this human group, Geerat J. Vermeij ('The Origin and Evolution of Human Uniqueness', chap. 5) surveys a broad swathe of primary and secondary literature to answer the 'why us?' question: why, among all possibility lineages, did hominins produce a species that could dominate planetary ecologies? An able overview of the literature, Vermeij's narrative is rooted in an 'economic perspective on evolution, centred on the roles of competition and cooperation'. Though cross-talk between economics and evolution has often been fruitful, it also has its risks. One I see in Vermeij's contribution is a tendency to read Western and liberal economic ideas into the evolutionary record. Thus, 'individuality' is seen as explaining creativity, novelty, and individual expression—a classic liberal expression if there ever was one—and the broad arc of human history has seen the human species become 'a global monopoly' (p. 109). Though I worry about some of the analogies, Vermeij's economic outlook does provides a concrete framing that might inform other chapters' calls for global collaboration (for example, Zalasiewicz and colleagues' chapter 9, or Potts's chapter 11).

The second group of contributions focuses on success. The most general reflections come from Daniel W. McShea ('Evolutionary Success: Standards of Value', chap. 2), whose exploration of value-theory draws on the work of Robert McShea. The latter's work identifies six possible 'value bases' that provide the foundations for richer evaluative standard. McShea (the younger) focuses on the value bases of 'nature' and 'human nature' to make two broad claims.

The first is that evolutionary success is rooted in the 'nature' value basis. This basis is at best metaphorical—nature itself does not value anything—and all one can speak of are tendencies and recurrent patterns (cycles, periods of stasis). Identifying these in the evolutionary record will produce a menu of possible 'values'—again, understood metaphorically—where not all will rate *H. sapiens* as successful. Humanity's wilful eradication of species diversity, for instance, might put us on the wrong side of some metrics. The second broad claim is that human success is best evaluated using the human-nature value bias. This in turn is grounded in the idea of a 'shared affective profile'. For McShea, this means the standard for human success is 'what humans generally approve of' (p. 25). Looking for a universal criterion, McShea here distinguishes culture from human nature. On his account, the affective profile is something deeper than its varied cultural expression. It is 'generatively entrenched' (*sensu* Wimsatt [1986]), only tweaked and twisted into shape by later cultural developments.

The second claim raised the most questions for me. I found it hard to see how an empirically inaccessible construct could be useful as a basis for evaluating human success. One can only understand what humans generally approve of by testing them or asking them—but all such humans will already be enculturated. In addition, I worried that linking human success to 'general approval' left

the account vulnerable to moral hazards. After all, what is to stop a genocidal, warlike culture from sweeping in and exterminating all other cultures? Then, only the warlike culture would be around to evaluate (and, one assumes, approve of) their gruesome actions. This seems troubling.

Marion Hourdequin's contribution ('Human Success: A Contextual and Pluralistic View', chap. 4) rightly emphasizes both the value-ladenness of evaluative terms and pluralism about the notion of human success. Hourdequin focuses her attention on what human success would look like now, in the Anthropocene, where human activities have global consequences. As she sees it, even uncontroversial features of success—say, lineage persistence—leave open a variety of different yet valid evaluative criteria for understanding success.

Allen Buchanan and Rachell Powell's contribution ('Evolving Measures of Moral Success', chap. 12) shifts the discussion to distinctively human standards of success. Their focus is on success in the moral domain. Framed as a novel defence of the evolutionary grounds of ethical pluralism, Buchanan and Powell argue against 'adaptationist' approaches to ethical pluralism, favouring an account rooted in cognitive plasticity and 'path-dependent constraints' on moral development. A richly analytical and powerfully synthetic chapter, there was much to ponder and challenge. In my copy, their palaeoanthropological summaries and philosophical arguments are covered in marginal notes, arrows, scribbles, and question marks.

As part of their contribution, Buchanan and Powell sketch an approach to measuring success in the moral domain, linking it to the idea of moral inclusivity. Adopting the image of a 'moral landscape'—an analogy to fitness landscapes—they suggest how path-dependency (here something akin to the Markov condition) and ethical pluralism (different starting points on the landscape) might still allow for evaluations of greater or lesser success (height on the landscape). However evocative, it's hard to know how seriously to take these sketches. The dimensions of such a landscape are unclear, and surely contestable. Moreover, the claim that such landscapes can only be derived by adopting an 'ideal perspective' make it hard to see how such a clear standard of success could be derived. Though a metric of moral progress would surely be a useful one, it is clear that more work needs to be done.

Rounding out the essays on success is Hugh Desmond's contribution ('Future Human Success: Beyond Techno-Libertarianism', chap. 13). Desmond takes aim at a strand of thinking, familiar from bioethics, that suggests that human welfare may be optimized by providing widespread access to, and opportunity for, biological enhancement. This is what Desmond calls a 'techno-libertarian' account of success. The problem he identifies with techno-libertarianism is that it generates perverse and unending scrabbles for status, exacerbated by the availability of biological enhancement. For Desmond, this suggests that techno-libertarianism cannot be the sole marker of human success. Given that individuals are parts of society, and that there is a reciprocal relationship between the wellbeing of a society and its members, Desmond argues for both communitarian ideas and community-level metrics to complement, if not out-and-out replace, individualist and liberal standards of human success.

The third group of chapters yokes together 'humans' and 'success', using evolutionary frameworks to identify quantitatively, if not qualitatively, distinct metrics of human success.

Bern Rosslenbroich ('Human Success as a Complex of Autonomy, Adaptation, and Niche Construction', chap. 3) and Richard Potts ('Adaptability and the Continuation of Human Origins', chap. 11) see such metrics as developing out of biologically grounded notions of freedom. For Rosslenbroich, this concept is 'autonomy'; roughly, the capacity of a system to maintain itself through perturbations, flexibly respond to scenarios, and exert self-control. Though the chapter is rich with examples, the key concept of autonomy is never operationalized in a way that makes clear how human beings are more successful than, say, tardigrades. One worries it will be hard to do so. For Potts, the concept is 'evolutionary adaptability'. Closely related to notions like evolvability and plasticity, adaptability is 'adaptation to change itself' (p. 256). Interestingly, human cultural capacities both result from, and seem to be causing, environmental instability. For Potts, the key question now is whether collective action will lead to continuing adaptability in the rocky conditions of the Anthropocene.

Finally, Augustín Fuentes's contribution ('Utter Success and Extensive Inequity: Assessing Processes, Patterns, and Outcomes of the Human Niche in the Anthropocene', chap. 10) provides a creative sketch of how one might find a success measure that can encompass both humanity's evolved nature and its 'second nature'.

The first move of Fuentes's account, which may raise hackles, is to frame matters in terms of the debate between standard evolutionary theory and the extended evolutionary synthesis. This framing is less important, however, than what Fuentes borrows from the extended evolutionary synthesis. This is the now commonly accepted notion of 'expanded inheritance': that, in addition to genes, heritability can be passed through epigenetic, cultural, and environmental channels. Fuentes leverages expanded inheritance into an expansive claim: that the contemporary human condition is one where there are minimal differences in genetic fitness. As he states: 'most of the genotypic and phenotypic variation existing in the species achieves some sufficient level of reproductive success' (p. 241). If this is so, Fuentes suggests, human success should not be tied to the relative fitness of heritable vehicles, but instead to indices of human equity and flourishing—and that collective work to adjust our expanded inheritance can facilitate equity and flourishing.

It's a contentious thesis. One idea worth scrutinizing is that reproductive success is about 'sufficiency'. For as noted above, success—let alone reproductive success—is a relative notion. So what does it mean for reproductive success to be sufficient? Sufficient to ensure the continuing persistence of genes in the breeding population? Sufficient to ensure a similar frequency generation after generation?

I suspect that what might be underlying Fuentes's thinking is a familiar claim that humans have 'transcended' biological fitness requirements and are now dominated by circumstances wholly under our own control. This, at least, seems to be how Fuentes can justify his claim to intervene and control our expanded inheritance to pursue aims of social justice and flourishing. But spelling out the claim that humans have 'transcended' biological fitness is difficult—and it is harder still to show that it is true. After all, several other chapters in the volume show that the global shifts of the Anthropocene have created conditions (for example, extreme weather, pandemics) that human beings have limited control over. Moreover, these conditions affect some demographics, geographies, and carriers of genetic variants more than others. It's hard not to ignore the possibility that such global changes will lead to a grim scenario—if a deeply equitable one—where humanity goes extinct.

Though it is an unusual way to end a review, I want to close with a few remarks on Desmond and Ramsey's introduction ('The Manifold Challenges to Understanding Human Success', chap. 1). This is not just an introduction to the volume but also an effort in connecting the volume's reflections to other developing literatures in the history and philosophy of biology, anthropology, and ethics. As I see it, this volume represents just one possible way to assemble an interdisciplinary team and tackle 'human success'—and Desmond and Ramsey's introduction points to topics and themes that future work might further explore.

Unsurprisingly, the introduction charts out the landscape of answers to what 'human success' might mean. Desmond and Ramsey see there being 'real biology in the term "success"' (p. 3), but also a host of social and political implications. As the above makes clear, the contributions of the volume focus on the biology and largely understand the social and political implications as concerning how human beings should collaborate to ensure species survival and flourishing. But Desmond and Ramsey remind us that this isn't the only way to understand the social and political implications at stake. Explorations of humanity and human success raise questions about moral status, rationality, and our 'second nature'.

Here it is useful to place the volume alongside other recent monographs and edited volumes. Work by Maria Kronfeldner ([2018], [2021]), for instance, shows how determinations of what counts as human also means determining what counts as non-human. This creates the risk of dehumanizing individuals. Whenever criteria are used to determine the membership of some category, others are going to be left out. Kronfeldner focuses her attention on general features of hominin evolutionary history when constructing her 'dual-entry' criterion of human nature, aiming to strike a balance between inclusivity and informativeness. But as history reminds us, natural science has not always aimed at inclusivity. Marianne Sommer ([2016]) and Robert Proctor ([2003]), for instance, have both shown how physical anthropology and hominin taxonomy were intimately tied to racial and genocidal narratives in the American Jim Crow South and German National Socialism. As their work shows, 'human nature' and 'human success' can and have been used as weapons to dehumanize and disfranchise.

These histories show the risks of projecting anthropocentric, political, and cultural values onto the evolutionary record. Desmond and Ramsey too are concerned about such projection. Here, the language of 'dominance' comes in for some scrutiny—and it is hard not to see this as another possible theme that could be explored in a counterfactual volume. For what is 'dominance' but the latest in that long line of ideas about progress, sophistication, and superiority? Positive terms, but one can look at them through a dark mirror; the language of dominance, sophistication, and superiority has long fed into colonial, racist, expropriative, and genocidal policies and narratives in anthropology, archaeology, and sociology (see, for example, Kuklick [1991]; Baker [1998]; Dan-Cohen [2017]).

None of this should be taken to imply that the volume is incautiously treading along well-worn paths. The contributions are all careful in their use and analysis of 'success'. And though I've spoken about counterfactual volumes—different ways one might have approached the topic—it is worth stressing that the current volume is an excellent collection of scholarship. It is immensely successful in bringing together complex historical narratives of hominin evolution and using them to speculate about how best to understand human success and the collective challenges in striving towards it.

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