So many free lunches

Why we should not try to be excellent

By Gregory Radick

GOOD ENOUGH

The tolerance for mediocrity in nature and society

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Daniel S. Milo

Daniel S. Milo is an iconoclast about Darwinian evolution and much else besides. Here he is on that fabled non-entity, the free lunch:

> Free lunches are common in nature and commoner in society. Free feasts were responsible for the evolution of whales from relatively big to enormous. An ice age 4.5 million years ago shifted ocean dynamics, leading to large concentrations of krill and other small animals; baleen whales (Mysticeti), which filter small prey out of seawater, were well equipped to take advantage of dense patches of food. And what is the Internet but the biggest free lunch in human history? Thanks to uploaders providing images, videos, and knowledge without asking for money or credit, we eat countless free meals at the virtual restaurant. In nature as in society, life is sometimes a picnic and money can grow on trees.

Milo's Good Enough: The tolerance for mediocrity in nature and society is a study of excess in evolution: how much there is, why it came about, and what taking it seriously might do for our sense of ourselves and our place in nature. If free lunches are common, then, contrary to Darwinian and social-Darwinian mythology, survival is easy. It isn't just the fittest who survive, it's the good enough. And it isn't the unfit who go extinct, it's the unlucky. We came to think otherwise, according to Milo, only because of Charles Darwin, whose theory of natural selection influentially compared nature to an especially skilful and dutiful breeder. "It may be said", Darwin declared in On the Origin of Species (1859), "that natural selection is daily and hourly scrutinising, throughout the world, every variation, even the slightest; rejecting that which is bad, preserving and adding up all that is good; silently and insensibly working, whenever and wherever opportunity offers, at the improvement of each organic being in relation to its organic and inorganic conditions of life."

Good Enough takes aim at this image of evolution as relentless improvement. The evidence that the giraffe's long neck, for example, evolved because slightly taller individuals outcompeted the rest turns out, Milo shows, to be close to nil. Evolution, he argues, is nothing like an ultra-assiduous breeder. For one thing, there is far more variability within species than should be the case if natural selection were engaged in that daily and hourly scrutiny. Superfluity, not optimization, is the order of the day, at all scales, from genomes stuffed with non-coding DNA on up. For another, if we look across species, we find, not ceaseless innovation, but the recycling of long-stable parts and processes. These basics – themselves products of natural selection – function as what Milo calls a "safety net", keeping species viable even as, by chance wandering, they become ever more variable.

None of this is quite as challenging to Darwinian business as usual as Milo makes out. Darwin himself not only allowed for the possibility of non-adaptive traits, he regarded them as the only unambiguous signs available that plants and animals are the products of a law-

governed evolutionary process, rather than one-off creations. Milo writes at length about the Galapagos finches without ever explaining that they mattered most for Darwin in the Origin not because their beaks were adapted to the different rocky islands but because, through all that diversity, they bore the stamp of common descent from a species adapted to the very different conditions of the lush South American mainland. As for variability: before the nineteenth century was out, Darwin's followers appreciated that, even in a population under strong selection pressure, adults will not be identical, but will show variations distributed along a bell-shaped curve (in the simplest case). If that pressure is weak or non-existent – and several pages of the Origin detailed the circumstances that can favour or impede selection's operation – then adult variability will expand accordingly. In the twentieth century, professional biologists went further still, removing what Darwin called the "struggle for existence" from the foundations of his theory. Even under conditions of plenty, if there is heritable variation in fitness, there will, other things being equal, be natural selection.

So Milo's "theory of the good enough" is less radical than he claims it to be. He nevertheless pushes it in novel directions, especially in the final part of the book, where he applies his theory to the human case. The human brain, he stresses, is an immensely costly organ. Its size at birth regularly puts both mother and baby in mortal danger; it soaks up vast stores of energy that might otherwise go towards improving other organs; and its long, slow maturation leaves the child in a helpless state for years, imposing large burdens on the care-giving parents. On Darwinian expectations, anything so expensive must have an adaptive explanation. Bigger, more complex brains must have made our forebears more intelligent, and this greater intelligence must in turn have given them a survival advantage. But Milo has no need for such hypotheses. On his view, the hominid lineage that gave rise to Homo sapiens got saddled with excessively big brains by chance. Far from making us the dominant-species-in-waiting, our brains nearly killed us off.

But then, according to Milo, 60,000 years ago, something happened. A species which, to judge by population numbers, had been hanging on by its fingertips, suddenly began to thrive, sending out waves of emigrants from Africa to Europe, Asia and eventually the whole planet. What changed? Milo suggests that the human brain got access to something new: the future. Now people could imagine a future different from – and better than – the present, and plan and act to turn those imaginings into reality. With the arrival of the future came, he says, a whole new kind of safety net, as future-oriented humans went on to build ever more complex civilizations with ever more comprehensive divisions of labour. Eventually there was no more struggling for food, or for anything else. As in nature, so in society: arrangements good enough to ensure survival became a platform for diversity and excess. The picture is pacific, if not pretty:

> Virtually every organism is a renaissance creature when compared to you and me. From microbes to giraffes, other species take upon themselves almost every task survival demands. Among humans, by contrast, even fight or flight is just a metaphor. Our basic needs are so well supplied that we must procure our thrills by proxy, through sports, elections, news, reality TV, and other sources of conflict and tension.

And what's wrong with that? For Milo, when we grasp the good-enoughness of life, we liberate ourselves from, in his phrase, "the excellence conspiracy". If you want to excel at something, do it because there are worse ways of staving off the boredom to which our big brains, excellence- promoting educations and undemanding circumstances predispose us. And if you don't want to excel, or want to but can't, then be consoled that, until your luck runs out, the world will provide.

Milo characterizes Good Enough as a work of "natural philosophy", which in practice amounts to a no-holds-barred approach to evaluating interesting science, then using the results to comment imaginatively on the human condition. A precedent of sorts is a work of dissident evolutionary anthropology from an earlier era, Sigmund Freud's Civilization and Its Discontents (1930). The famous passage there comparing civilized man to a "prosthetic God", whose mechanically extended powers make him like the gods of ancient wish-fulfilment fantasies but without making him happy, echoes in Milo's disenchanted riffing on our species' social and technological achievements. ("The wind and the sun, robots, debt collectors, plastic-eating worms, bullets, dictionaries, nude mice, stone hammers, communications satellites – all are extensions of our brains, artificial limbs dispatched to every accessible corner of the cosmos to serve us alone.") Where Freud explained human culture as arising from repressed instinct, Milo explains it as the upshot of the under-utilized neocortex.

He seems aware that, whatever the scientific and ethical merits of his free-lunch philosophy of evolutionary nature, its complacency will strike some as untimely. "The reader may protest", he notes, "that excess is the plight of the privileged, while many, particularly in developing countries, suffer [from having] too little." He responds that, historically and globally, the trend is away from poverty. Climate change gets just one mention, in relation to the challenge it poses for that excellence-chasing elite who will always be with us, and can always be counted on to invent whatever is needed to keep extending and strengthening the social safety net. Nothing is said about the effects of human excess on non- human species. Maybe, on the good-enough view of life, concerns on that front are overplayed, since species are on the whole only loosely adapted to current conditions. Climates will change, as ever, and species on the whole will adapt, as ever. Then again, maybe anthropogenic climate change is evolutionary bad luck on a global scale: a slow-motion version of the asteroid that

66 million years ago wiped out the dinosaurs, along with over three-quarters of the other good-enough species lolling away on earth at that time. Better eat up.

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