

VARIANTS

Evolution in action.

BY JOÃO RAMALHO-SANTOS

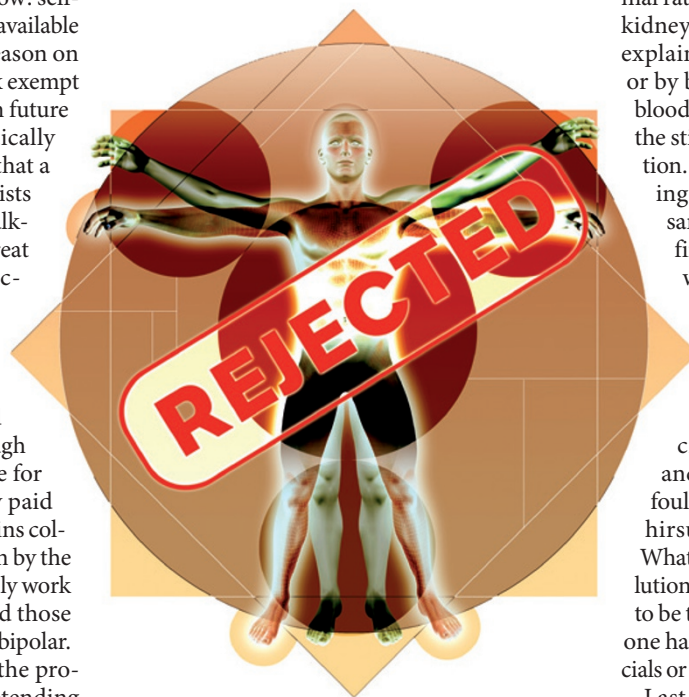
When the albinos started coughing up blood, no one much noticed. We were too busy getting the colony going. Building greenhouses; spreading MultiManure™; putting thawed goat and pig embryos into Accelerator™ incubators; assembling the drills. The Agency contract was very precise on the time window: self-sufficiency and profitable minerals available within six months, or one more season on BasicSupport™ rations, full non-tax exempt price, deductible with interest from future mining revenue. Which optimistically presumed there would be any — that a couple of outsourced XenoGeologists somewhere knew what they were talking about. Truthfully, it was the threat of another year on metallic Basic-Support™ aftertaste that spurred us on. Full price and uncertainty we could live with.

Three days later the match-stick couple started fading, and some were actually pleased. Although they worked for four, they also ate for seven and talked for ten. We only paid attention when the mauve-eyed twins collapsed, followed in quick succession by the bald cousins, the kids who could only work in the shade, all the asthmatics and those suspected of being some variety of bipolar.

The android doctors followed the program, tried to keep the peace, pretending all was as expected. But we could see right through them. Literally — they came in that translucent model designed to stand out in human company. The androids did look weird, but I guess we would too, if dozens of our charges started oozing blood out of every orifice; anaemic, wasting away, refractive to any known treatment; victims of yet another fascinating bug for someone to decipher after the fact. Although they were programmed to serve and protect, we (by now a handful of mostly grave-digging survivors) somehow presumed the androids were to blame. So we bashed their heads in as they stood grinning, bewilderment in their translucent faces. Liberating mayhem, but not a smart thing to do, the Agency would have to be reimbursed, and people had actually stopped dying, we knew the rest would remain alive.

The TruColony Program started out very scientifically, after the first missions comprising only athletic alpha-males and

females failed at spectacular rates. The Agency had Xeno-everything in-house back then, XenoBiologists, XenoEpidemiologists. Recruitment took years of painstaking research, each new possible mining site thoroughly screened in terms of what the ideal genetic make-up of future colonists should be, who would adapt best, bring in the most profits. Avid oxyhaemoglobin



JACEY

variants for rarefied atmospheres, low metabolism for barren rocks, over-expression of mitochondrial uncoupling proteins for heat generation in frozen tundra. It was a great idea, the main problem being that, urban myth rumours of X-Men genes notwithstanding, no inherited trait can protect against raging volcanoes, assorted unknown plagues and indiscriminate death in general. For each site nailed perfectly, 7.46 others were a disaster.

The Xenos were the first to be downsized, followed by the human medical staff. Then some MBA whizz-kid who had probably just switched from Cartoons to the Discovery Channel suggested that instead of finding the right colonization solution from the start, the Agency should just cheaply recruit crews so genetically diverse as to shame Babel. Dump them on

the site with minimal preparation and let evolution do all the work. Even considering inevitable lawsuits and human-rights backlash, the desperation of the destitute always trumps careful plans, fuelling a healthy bottom line. Survival of the fittest all around.

According to the outsourced genotyping and omics analysis, our haematopoietic stem cells renew and differentiate at twice the normal rate, our detoxifying liver enzymes and kidney transporters are through the roof, explaining why we don't die of anaemia or by being poisoned by our own rotting blood. We are also missing some rare sugar the still-unknown parasite uses for infection. The diagnoses allowed for the flowing of new recruits carrying the exact same gene variants; it's much easier to find a pattern when you already know what it looks like. Except only some newbies survive, and, from the safe distance of their computer screens, the Agency staff is at a loss. What did haematopoiesis have to do with crossed eyes and crooked teeth, how is renal clearance related to dwarfism, adult acne, foul body odour, pathological anorexia, hirsutism or lack of facial symmetry? What sort of fitness is that? What was evolution *thinking*? Although this is rumoured to be the most successful site in history, no one has suggested us for Agency commercials or to dazzle embedded colony reporters.

Last week the Agency tacitly gave up by finally granting breeding rights, closing the gene pool. "Well," one onscreen representative couldn't quite help herself, "this is going to be one ugly colony."

I guess we could have explained that the aesthetics appreciation gene of theirs must not be universally shared. That presiding over broken androids and graves, we had pretty much felt just how the Agency had predicted we should feel. Winners, the last Noah's Ark gladiators left standing. We think of ourselves as being quite fit. ■

João Ramalho-Santos is at the Center for Neuroscience and Cell Biology and the Department of Life Sciences, both at the University of Coimbra, Portugal. As a backup plan he owns 25% of the Comic Book Store Dr Kartoona and writes about Comics in *JL-Jornal de Letras*. He tips his hat to *Tod Browning's Freaks*. Some of his short stories can be found in English on *LabLit.com*.

➔ **NATURE.COM**
Follow Futures on
Facebook at:
go.nature.com/mtoodm