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Disenchanting Determinism

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Critiques of genetic or neurological determinism, or any of the other reductionist bugbears, too often preoccupy themselves with what they assume to be a sinister philosophical agenda at work. This is not entirely unreasonable; there are any number of amoral attractions in the idea of human beings as mere matter in motion, on a biologically fixed course, with all our choices and values just illusory epiphenomena. But this idea has cinched its vises on the modern psyche less by the *desire* that we be reducible than by the uncomfortable suspicion that, like it or not, we really are. In the words of the great Tom Wolfe, "Sorry, but your soul just died."

In a way, it is like losing faith. For every gleeful deicide who makes his fortune doing battle on the decaying parapets of institutional religion, there is a hushed, reluctant crowd of nonbelievers who never took up arms against the Lord but instead watched in dismay as His face vanished into thin air. In the 1867 poem "Dover Beach," Matthew Arnold compared this loss to the dolorous ebbing of a tide:

> The Sea of Faith
> Was once, too, at the full, and round earth's shore
> Lay like the folds of a bright girdle furled.
> But now I only hear
> Its melancholy, long, withdrawing roar,
> Retreating, to the breath
> Of the night-wind, down the vast edges drear
> And naked shingles of the world.

Even Charles Darwin was closer to that elegiac persuasion than to the triumphalism of his energetic modern prophets, who see in the retreat of faith a tremendous liberation. But the "melancholy, long, withdrawing roar," uncovering the rocks of naked, brutal nature, did not stop in the nineteenth century with God but pulled back across man as well—for whichever was created in the other's image, the image and its original are conjoined. The legacy of the denial that the Creator gave us our free will for some divine purpose is the denial that there is any such thing as free will at all. Ironically, the great liberation turns out to be our embracing the notion that liberation itself is a meaningless idea.

We are made of matter, after all; we know the history of that matter and what forms it took before; we know that matter is set in motion by causes

and that causes produce predictable effects; and we are now learning, in vast detail, the biochemical mechanics of our origins and our experiences. Every new discovery hints of countless more yet to be made, and it is presumed that if we do not now know the workings of the sequence that determines our entire lives, we in principle could, and perhaps soon will. It is of little use asking if that is what we *want* to be if we cannot be other than we are.

That cultural assumption is the premise of Richard Powers's wiry novel *Generosity*, the saga of a young woman catapulted to international fame by the serendipitous coding of a few of her alleles. Thassadit Amzwar, orphaned as a teenager by the Algerian civil war and now a film student at a third-string Chicago art school, is amazingly, infectiously, preposterously happy. She is the personification of exuberance as described by the psychiatrist Kay Redfield Jamison: "Exuberance carries us places we would not otherwise go—across the savannah, to the moon, into the imagination—and if we ourselves are not so exuberant we will, caught up by the contagious joy of those who are, be inclined collectively to go yonder."

Russell Stone, her Eeyore of an adjunct writing instructor, is dumbfounded by the contrast between her outlook on life and his own, and he cannot bear to let her be. Not unmotivated by envy, but meaning no harm all the same, he takes her "case" to the school psychologist. He has done his homework and come up with a prepackaged diagnosis, "hyperthymia"—finally, a solid explanation for Thassa's character: "It's biological. Researchers study it. It has a Greek name." The therapist, "not for the first time in her counseling career silently cursing Wikipedia," advises him that she cannot assess a patient from afar, much less an involuntary one, and invites him to come back anytime and talk about what disturbs *him*.

This is not enough for Russell, who manages to drop the word *hyperthymic* into a police investigation of a near-miss incident, where it is picked up by a

Generosity: An Enhancement
By Richard Powers
FSG ~ 2009 ~ 296 pp.
$25 (cloth) $15 (paper)

36 Arguments for the Existence of God: A Work of Fiction
By Rebecca Newberger Goldstein
Pantheon ~ 2010 ~ 403 pp.
$27.95 (cloth)

local reporter, bounced around the Chicago media market, and then noticed by a biotech firm, landing Thassa in the hands of somebody who knows just what to do with her. Thomas Kurton—Ray Kurzweil and Craig Venter rolled into one—has been on the hunt for genes that correlate to "elevated affective set points" as part of a larger project to remake man. The human race, Kurton believes, faces two choices: "sit like the oblivious frog in the slowly warming pan until we cook, or take our natures into our own hands and sculpt out better angels."

Kurton knows a good template when he sees one, and he entices Thassa out to his lab in Boston to run some diagnostics. He identifies exactly what he's looking for: an "optimal allele assortment." But he completely overlooks the human context as he disseminates his findings to the ends of the earth, and the study he publishes unleashes a cascade of events that will eventually bury the idea that genes are all there is to destiny.

A dismal bioethicist and an equally dismal Nobel-winning novelist offer up meek little warnings about Kurton's aspirations—but these criticisms, as the *Washington Post*'s reviewer put it, are "blown to smithereens by the force of Dr. Kurton's shiny optimism." The wisdom of repugnance is no match for his ambition to transfigure suffering out of existence; and this, accompanied by the deep fateful pull of the idea that we are wholly programmed—and so seemingly subject to reprogramming—practically guarantees that the enterprising and the desperate alike will exploit someone like Thassa, placing more faith in the powers of an abstracted gene than in their own ability to choose the way they want to live their lives.

Our freedom, or so it seems, is dwindling down to nothing as we learn more and more of how we tick; as Powers predicts, "the species will learn to read whatever is there to be read." For *knowing* supposedly dispels the illusion that we have a choice in the first place—that we could have been any other way—and so it also dispels the illusion that we had the opportunity to act freely. (Powers wryly has Thassa visit Boston's Freedom Trail "before history catches up with it.") The notion that we walk around unfreely, just pretending we are free, is profoundly peculiar. But its peculiarity is obscured by mountains of technical information from genetics and neuroscience, a literature with which Powers is familiar enough to be nicely spooked.

The idea is in the air—and apparently the water and food and pharmaceutical supplies—that once physical life is comprehensively explained it cannot be remystified, and on that now-unraveling mystery the thing we like to call our "agency" depends. The good news is that, having got that racket out of the way, we can proceed with the project of a more benevolent and exciting self-design (better hang onto our agency long enough to get *that* right). But alas,

as Russell Stone, Thassa's writing instructor, recognizes, the kingdom come is not meant for the likes of him, or for any of our bad old ordinary selves:

> *Homo sapiens* has already divided…into demigods and dispossessed, those who can tame living chemistry and those who are mere downstream products. A tiny elite is assembling knowledge more magical than anything in [the video game] Futopia, perfecting fantastic procedures, determining chemical sequences billions of units long, reading what these spell out, learning how a million proteins interact to assemble body and soul. Meanwhile, Stone and his 99.9 percent of the race can only sit by, helplessly illiterate, simply praying that the story will spare them.

Before the contest has even begun, most of us have already lost. And the winners, such as they are, are to be produced by Kurton, the man who brings about the collapse of the world's sunniest person. Thassa increasingly becomes a commodity subject to public exploitation, and the strain undoes her. The debacle is best summed up by the character Tonia Schiff, "America's most irreverent science journalist," who as part of a report on Kurton obtains an interview with Thassa as she teeters on the brink. Tonia, who heralds the great techno-future with cheeky banter on her TV show *Over the Limit*, is not by any means averse to novelty or progress; but her interviewer's eye for her subjects sees in the product of a million proteins what everybody else is too absorbed in their own wants and phobias to acknowledge: a human being. Tonia ponders "how the species almost completed one magnificent act of self-understanding before it snuffed itself out."

Humanity's self-understanding, shambling around on the other side of demystification, is the implicit subject of Rebecca Newberger Goldstein's sensitive novel *36 Arguments for the Existence of God.* On its face an academic parlor drama, it charts the rise of mild-mannered psychology professor Cass Seltzer, whose surprise bestseller, *The Varieties of Religious Illusion* (a tip of the hat to both William James and Sigmund Freud), owes its smash success to an appendix with thirty-six such arguments delineated and refuted. In Cass's intellectual circles, there is a pervasive bafflement that in *this* day and age, anyone could still believe that there is an Author of Creation, much less of our lives. An atheist himself, Cass sets about to decipher with as much sympathy as he can muster why the question isn't already settled.

But unlike his girlfriend (a freezingly computational "goddess of game theory") or his sometime mentor (whose corpulent ego leaves no room in the

universe for other mortals, not to mention higher powers), Cass knows what it is to feel that God just might be out there, maybe even listening—what it is to be blown over by the sheer fact of existence, the something-rather-than-nothing, and not only by existence but *consciousness*, the distinct, aware, incomplete *I*:

> "Here I am," Cass is saying, standing on Weeks Bridge and talking aloud into the sublimely indifferent night.
>
> Cass knows he needs to tamp down his tendencies toward the transcendental. It isn't becoming in America's favorite atheist, who is, at this moment, Cass Seltzer, who is, somehow or other, *just this here.*
>
> "Here I am."
>
> How can it be that, of all things, one is *this* thing, so that one can say, astonishingly—in the right frame of mind, it *is* astonishing, with the metaphysical chill blowing in from afar—"here I am"?
>
> "Here I am."
>
> When you didn't force yourself to think in formal reconstructions, when you didn't catch these moments of ravishments under the lens of premises and conclusions, when you didn't impale them and label them, like so many splayed butterflies, bleeding the transcendental glow right out of them, then . . . what?

Cass can't help but be grateful, for both proximate and existential blessings, and he is confounded by the lack of anyone to whom his gratitude can be directed. To call his dilemma yet another face-off between faith and reason would be too simple, for his conflicting intuitions could be in another man the other way around: one might be logically satisfied by an analytic case for God's existence and also harbor the desolate suspicion that we are, after all, alone. But for Cass, his rational atheism is in an everlasting stranglehold with a dogged sense

> that existence is just such a *tremendous* thing, one comes into it, astonishingly, here one is, formed by biology and history, genes and culture, in the midst of the contingency of the world, here one is, one doesn't know how, one doesn't know why, and suddenly one doesn't know where one is either or who or what one is either, and all that one knows is that one is a part of it, a considered and conscious part of it, generated and sustained in existence in ways one can hardly comprehend, all the time conscious of it, though, of existence, the fullness of it, the reaching expanse and pulsing intricacy of it, and one wants to live in a way that at least begins to do justice to it, one wants to expand one's reach of it as far as expansion is possible and even beyond that, to live one's life in a way commensurate with the privilege of being a part of and conscious of the whole reeling glorious infinite sweep.

Cass doesn't entertain the possibility that these moments of his result from *something* calling from beyond, muffled through the bog of matter. Tacitly, he locates such experiences in inborn psychological predilections, vestiges of the evolutionary process, with the recognition that to parse them is not, for him at least, to feel them any less. Probably there is a brain scan somewhere to document the state—little colored blotches showing which nodes are activated for emotion and which for pattern-recognition, as the mind seeks out order and significance where there is only accident and chaos. Just as on Cass's campus the new brain and cognitive sciences center has displaced the "Department for Faith, Literature, and Values," such neuroscientific research about the biological underpinnings of faith is taken as just the latest step in the march of science across territory previously occupied by superstition, pushing puzzles and delusions back to the edges of creation until finally they all just topple off. While the universe may still be existentially mysterious, it is ceasing to be mechanically so, and man with it; the cautionary maxim "science can't tell us everything" had better be modified to "science can't tell us everything *yet*." Belief in the unchecked advance of scientific discovery may well require its own kind of faith, but Cass, at least, is confident enough that his transcendental intimations emerge not from without but from within.

How should a wondering soul respond as wonder is stripped bare? "Dover Beach" proposes searching out and clinging to another such soul:

> Ah, love, let us be true
> To one another! for the world, which seems
> To lie before us like a land of dreams,
> So various, so beautiful, so new,
> Hath really neither joy, nor love, nor light,
> Nor certitude, nor peace, nor help for pain;
> And we are here as on a darkling plain
> Swept with confused alarms of struggle and flight,
> Where ignorant armies clash by night.

This way of salvation once exhilarated the romantic Cass, who in his formative grad-school days professed on one knee to the first love of his life, as she stood dripping in a purple towel, that love is "the splendor that's still there after the disenchantment of the world." But love too can be plucked apart and impaled, as his third love, the game theorist, is only too adept at doing. In company with the "varieties of religious illusion," love has claimed its share of quarries before Cass Seltzer. To be human is to wonder and adore, whether or not the object of our adoration is as we would like to believe.

A few miles and a world away from Cass's academic home is the Hasidic enclave New Walden, where his mother was raised and from which she later fled in rebellion—and to which Cass comes to find his spiritual polestar. For reasons of his own, Cass's pompous thesis advisor visits New Walden with Cass and Roz (she of the purple towel) in tow, where they discover a young child with astounding mathematical abilities. At the age of six, with no education except in Talmudic esoterica, a boy named Azarya Sheiner has proven the infinitude of prime numbers, which he charmingly calls *maloychim*—angels. All numbers are angels of some kind to him, each having a unique place in a vast, gorgeous order; and he observes their "singing a *niggun*" (a wordless hymnal) together with almost beatific joy.

Like Thassa, such a person might once have been called a gift of God. "There are children who are born as if knowing," his father the Rebbe says. Where do they come from? For that matter, where do any of us? From the unknown, from nothing into something: a continuing surprise to our parents, ourselves, each other—*given.* Though talents may be cultivated and characters molded and choices made, fundamentally we are not crafted by ourselves or anybody else. We are given. Perhaps by Someone, for a purpose, or perhaps by no one, for no purpose—but how novel is the idea, really, that we are who we are by some cause not of our own choosing? This has been common knowledge for as long as there has been such a thing. The idea that we are physical, materially influenced, subject to the same forces as the rest of creation? This is hardly a shocking revelation, and finding out the specifics of how DNA or neurotransmitters or anything else contributes to it should not be the cause of some great shattering disillusionment, or perceived as a constraint on our ability to act within the bounds we always have. To revise our whole self-understanding because "we now know" that *nature* plays a part in shaping *human nature* is to forget that this is but a recapitulation of a very old idea: from dust we come, to dust we shall return.

In this respect, the radical self-determination of the human-enhancement crowd, as we see in the transhumanist movement and *Generosity*'s Thomas Kurton, is more at odds with natural fact than is the humble religious view of human givenness that allows for a kind of contingent self-determination. With its nonmaterial idea of absolute freedom to make of ourselves anything—even to the point of *un*making ourselves—and with its purely material account of the good, transhumanism represents the central tension of the Enlightenment drawn out to its logical extreme. Thus it is no coincidence that *36 Arguments* also features a member of this tribe in the person of the swashbuckling Roz, who experiments with age-reversal techniques and hawks an outfit called the "Immortality Foundation." Overflowing with too much brio to contain in just

one lifetime, all she wants is life everlasting as she now is—at once the most ordinary and the most insurrectionist of ambitions.

Roz's wish reflects directly on the idea at the heart of the transhumanist endeavor: that there is no Providence except what we purpose ourselves. We are the ones who turn the world from accident to order and from suffering to relief—why not expand those powers without limit and take as our foe death itself, the final robbery? As Nathaniel Hawthorne mused in his journals, "God himself cannot compensate us for being born for any period short of eternity."

Cass raises a few feeble objections to Roz's plans for immortality, which she brushes off as so much discredited theodicy. In actuality, his concerns are only humanistic—but he has lost the language for them, buried somewhere in the ash heap of discarded superstition.

Is it possible to regrow a sense of humility in the scientific age? Instead of despairing over the reduction of nature into minute mechanisms, might we not come to appreciate afresh the kaleidoscopic beauty of those natural forms? Whatever happened to the idea that there is glory manifested in creation? As Francis Crick once said, "What we lose in mystery we gain in awe"—a sentiment close to the heart of every natural theologian who ever walked the earth (although that is certainly not what Crick had in mind). Recall, too, the famous closing paragraph of the first edition of the book that dropped like a grenade on the whole edifice of natural theology:

> There is grandeur in this view of life, with its several powers, having been originally breathed into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved.

It is not exactly the kind of grandeur that was once supposed, but is it not grandeur all the same? That from unconscious matter—"clouds of frozen dust," as Thassa says—should emerge a creature to sing alleluias, to trace out the stars, to confront death, to balk at life, to laugh, to curse, to rejoice, to hate, to love, to pioneer, to blunder, to believe or disbelieve in anything, to say: "Here I am."

That phrase, which to modernity represents the boggle of consciousness, also echoes an altogether different kind of mystery: the moment in the Old Testament when God calls for Abraham to sacrifice his son Isaac. (Goldstein makes the connection ever so indirectly, referring to the story at one point without the telltale phrase.) "Here I am," says Abraham, when the Lord

summons him to receive the awful instructions. "Here I am," he says to Isaac, who calls to him as they travel together up the mountain to the pyre. "Here I am," he says again, knife raised, as an angel messenger spares his son at the last moment from the offering.

As Leon R. Kass observes in his philosophical reading of Genesis, *The Beginning of Wisdom*, this episode serves not just as a test of Abraham but also of us, the readers. For, reprieve notwithstanding, what are we to make of a God who would ask a father to offer up his own child? And of a father who would obey? Without delving any further into Kass's account here, suffice it to say that on first contact, this happily appears to be the act of a merciful and humane God, but merciful in this instance from His own harsh standard—which is to say that He is a demanding and rather arbitrary God, which in turn calls into question Abraham's absolute trust in Him.

One thing this impression of arbitrariness says of us is that (to state the obvious) our moral sense may operate at some distance from revealed Scripture; though much of that sense is inherited from and formed by religious tradition, our moral judgment has other sources as well. But is it ultimately natural in origin? Is Abraham's hand stayed by, say, a heightened animal instinct that prevents him from snuffing out his genes' chances of proliferating?

This kind of language is ridiculous. And yet it is everywhere. The most charitable explanation for why is that deep down, our culture is committed to truth; in the scientific method, we have found a route to knowable, demonstrable, incontrovertible truth; something in the idea of *truth* demands that there be only one of it; and so, in an effort to be comprehensive, we try to explain anything that we do not yet understand in terms of what little we have discerned so far of our origins. Ironically enough, this effort to render an account of everything in terms of the simplest concrete elements results quite often in fanciful tales, like those of the evolutionary psychologists—plausible, but just imaginings—that offer us far less wisdom than the religious and humanistic teachings they have supplanted. The fact remains that however much of our moral sense comes to us by nature, we turn that moral sense *against* nature just as we morally evaluate religion; for by our standards of the good, the realm of the measurable does not measure up.

In the contest between mystery and knowable order, each offers us a passing glimpse into the metaphysical. Just as the supremely rational may be a point of contact with eternity—the *maloychim* singing their endless *niggun*—so may the supremely irrational, which has no space to exist in the world our reason has carved out, and yet, every so often, *there it is*. To

acknowledge it is to be open to faith; and to let faith in is to accept the possibility that what does not *seem* good might still somehow *be* good. The book of Hebrews offers that as the stark explanation for the sacrifice of Isaac: it was done by faith. This awesome inversion is a thing of irreducible simplicity.

As for questions of Providence, of our freedom and our obligations, of the proper limits of improvement—we will continue to ask these as we always have, as they have not and perhaps cannot be finally answered. Meanwhile, however, there is nothing more foolish we could do than to succumb to reductionist doom and give up on the potential of human life.

For inspiration, we can look to Thassa's secret—as she explains it under duress in a television interview watched around the world—which turns out to be no secret at all but that which is hidden in plain sight:

> I promise you: This is easy. Nothing is more obvious. People think they need to be healed, but the truth is much more beautiful. Even a minute is more than we deserve. No one should be anything but dead. Instead, we get honey out of rocks. Miracles from nothing. It's easy. We don't need to get better. We're already us. And everything that is, is ours.

A quotation printed on another character's business card points in the same direction: "You have cause, so have we all, of joy." The line is taken from *The Tempest*, Gonzalo's rally for the shipwrecked nobles as they find themselves miraculously thrown back from oblivion:

> Beseech you, sir, be merry; you have cause,
> So have we all, of joy; for our escape
> Is much beyond our loss. Our hint of woe
> Is common; every day some sailor's wife,
> The masters of some merchant and the merchant
> Have just our theme of woe; but for the miracle,
> I mean our preservation, few in millions
> Can speak like us: then wisely, good sir, weigh
> Our sorrow with our comfort.

Each of us clambers up from that sea—in place of an infinity that do not—to find ourselves, somehow or other, *just this here*. To persuade ourselves (by means, no less, of the very thing that makes us most extraordinary) that "we" are just an equation, or even an illusion, would be a sorry way to spend that chance. We can only cheat ourselves of it because it is already our birthright—all here, all ours, all along.

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