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Liberation Biology, Lost in the Cosmos

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It is never easy to argue with a libertarian, particularly one as intelligent and well-informed as Ronald Bailey. His case for a libertarian progressivist position on biotechnological enhancement deserves to be taken seriously, particularly because it makes four appeals which no sober citizen of the modern age can dismiss: an appeal to liberty, which all beneficiaries of liberal democracy should respect; an appeal to the progressive arc of history, to which the immense biotechnological progress of the last fifty years lends plausibility; an appeal to our concern with virtue, the practice of which, according to Bailey, does not conflict with, and could in fact be aided by, biotechnological enhancement; and, finally, an appeal to our desire to enhance away human death and suffering, which speaks to the broad existential unease that comes with our sense of ourselves as precarious inhabitants of a fundamentally hostile natural world.

The appeal of all these arguments is so powerful that—when combined with the prospect of almost limitless profits to be made through the sale of bio-enhancement technologies—it seems highly likely that Bailey's argument in favor of human enhancement will win the day in practical terms. But to say that the argument for "liberation biology" (the title of Bailey's 2005 book) will likely triumph is not to say that it *should*, or that Bailey or anyone else really understands what the consequences of that triumph will be. The merits of Bailey's extreme libertarian position seem doubtful for four reasons: first, while Bailey appeals to our love of liberty, his understanding of and commitment to liberty are surprisingly weak; second, while Bailey's appeal to a progressive understanding of history is seductive, he offers neither adequate factual evidence nor a sufficient philosophical argument to support this progressivism; third, even though Bailey argues that there is no tension between biotechnological self-enhancement and virtue, his argument for the right to enhance proves to be rooted in a shallow and troubling understanding of the human self or soul that does in fact conflict with virtue; and fourth, Bailey's entire

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position is rooted in a bleak and questionable understanding of our nature and our relationship to the world.

Any honest critic of Bailey's understanding of what we are and our standing in the universe must acknowledge, however, that Bailey has good company in his existential unease. Modern philosophers, particularly John Locke, have elaborated a compelling vision of us not as souls, or as beings created in the image and likeness of God, or as rational and political animals, but as radically free and indeterminate *selves*, whose most fitting and noble activity is the conquest, by means of human ingenuity and industriousness, of the alien and purposeless natural world in which we find ourselves. Ultimately, any argument that challenges the biotechnological project to overcome our natural limits must confront not merely contemporary advocates for that project, such as Bailey, but the whole modern view of the human condition which we inherit, and from which Bailey's views are derived.

Recently, Hans Jonas and Leon Kass have found reason to look beyond this typically modern view of man and his existential situation in an unlikely source, the thought of Charles Darwin. As Jonas and Kass have argued, the modern understanding of man as a fundamentally alien element thrown into a mindless natural world cannot stand up in the face of the Darwinian account of our descent from the animals, which restores the link between human life and the rest of life. Kass and Jonas have further argued that the Lockean understanding of man as an empty self inhabiting a directionless universe does not capture human life as we actually experience it. As they argue, we do not experience ourselves as radically indeterminate selves, but rather as beings with a given and meaningful bodily and psychic form, endowed with sensory and intellectual capacities that in some measure correspond to the character of the world. Kass and Jonas thus sketch the outlines of a richer understanding of both man and nature, which, without offering us simple answers to our biotech dilemmas, allows us to face those dilemmas more fully aware of the anthropological and existential stakes of our decisions on these questions.

To be sure, our legacy of Lockean liberty and technological progress is no mean inheritance, and there is thus something noble in the cause of its libertarian defenders. But however valuable that legacy may be in practical terms, it is an inadequate basis for our political, psychic, and existential self-understanding. Beyond libertarianism's easy but deceptive answers lies a world of difficult moral choices, a world in which freedom from nature is sometimes in tension with freedom from men, in which we do not know the future and cannot count on any progressivist invisible

hand to ensure that all will be well, and in which our efforts to transcend the limits of nature may further alienate us from a world which may be more of a home to us than we think. Clarity about the promise and the perils of our biotechnological moment, clarity about the gravity of the choices this moment imposes on us, requires that we open our eyes to this more complex, but also more rich and gratifying, understanding of ourselves and our world.

Libertarianism and Liberty

Although liberty is at the core of Bailey's case for liberation biology, his conception of and commitment to liberty are deeply flawed. These flaws first become evident in his treatment of the problem of the tyranny of the majority. Bailey argues that those who oppose biotechnological enhancement should not outlaw it, "even by democratic means," because doing so would deny would-be enhancers their right to enhance. He invokes Alexis de Tocqueville's famous account of the tyranny of the majority to support this contention, but relies on a misreading of that account. Tocqueville was not primarily concerned with the prospect that tyrannical majorities might legislate away the rights of minorities. His truly original point was that massive social coercion is perfectly compatible with the formal protection of minority rights. For instance, while Tocqueville noted that freedom of the press was utterly sacrosanct in America, he also observed that "I do not know of any country where, in general, less independence of mind and genuine freedom of discussion reign than in America." For Tocqueville, while men in a democratic society enjoy broad legal freedom to speak their minds, they live in abject fear of offending the omnipotent moral authority of their society, the majority. Tocqueville thus revealed that open, democratic societies have prevailing moral and intellectual currents that can make them in some ways *less* free than societies which make no pretension to openness, for the appearance of freedom makes the exercise of the majority's moral authority less visible and—precisely because it is less visible—more potent.

The biotechnological form of majority tyranny with which Tocquevillians such as Peter Lawler have been concerned takes this shape: as biotech enhancements become safer, more effective, and more widely available, it will become socially unacceptable and legally difficult not to use those enhancements, because the majority will see abstention as morally wrong—even if a formal right to remain unenhanced is protected. Should the majority decide that genetically enhancing one's children's intelligence or pharmacologically enhancing one's workplace

productivity is the morally right thing to do, *not* doing so will become as taboo as smoking or failing to vaccinate one's children. Indeed, as Lawler points out in *Stuck with Virtue* (2005), biotech interventions some regard as morally objectionable are already becoming obligatory in some cases: "HMOs…are already requiring genetic testing before they will cover the cost of pregnancies. They are already telling women they will pay for aborting but not birthing genetically defective fetuses."

Against this Tocquevillian conception of a biotech tyranny of the majority, Bailey argues that an open society like ours has plenty of room for opting out of the way of life the majority favors, and encourages both sides of the biotech-enhancement debate to agree to a libertarian truce specifying that no one should be forced to enhance or not enhance against his wishes. Bailey dwells on the example of the Amish to prove that genuine diversity of ways of life is possible in an open society like ours, but is apparently blind to the coldness of the comfort he thereby offers to those concerned about a majority tyranny. The Amish—an utterly marginal group in America, living in the midst of, and inevitably influenced by, a larger society whose general currents are completely beyond their control—are precisely the exception that proves the extraordinary power of the majority's rule. For instance, if, in our biotech future, to reject the artificial reproductive methods necessary for genetic enhancement and conceive one's children the old-fashioned way will be to reduce oneself to the completely marginal status of the radically anti-technological Amish, then the example Bailey invokes to prove that we need not fear majority tyranny demonstrates precisely the opposite.

Tocqueville's conception of the tyranny of the majority reminds us of the reality recognized by the classical philosophers: the idea that "you can't legislate morality" is so far from the truth that, in fact, you cannot *avoid* legislating morality. For Plato, even citizens of a democracy have a shared understanding of the good, instilled into them as children through the same cave-like education all other regimes use to transmit their conceptions of the good. Plato's cave is not a particular kind of regime, but "an image of our nature": all political societies are caves; the question of public moral teachings is a question of what kind of cave one lives in, not whether one lives in a cave at all. To be sure, some caves are more open than others, and we should be glad we live in a relatively open one, but we should not delude ourselves into believing our society either is or can be denuded of all public and conventional moral authority.

When Bailey suggests that attempting to influence the mainstream morality of our society by political means, through persuasion and out in

the open, is an illegitimate infringement on individual liberty, he ignores this reality. Abstinence from political argument on these questions will merely leave a vacuum of moral and intellectual authority that those with a pecuniary interest in the biotech revolution will gladly fill, using every means at their disposal to persuade us to welcome that revolution with open arms. As there is little money to be made by convincing us to remain our moody, flawed, mortal, unenhanced selves, one cannot count on major economic interests to make the case against biotechnological enhancement. To engage in political argument against biotech enhancement is thus the only way to keep profit-motivated parties from being the sole voices whispering in the majority's ear.

The other significant problem in Bailey's understanding of liberty concerns the tension between his argument for the expansion of individual liberties to include a right to enhancement and his argument for technological liberation from nature. Bailey grounds his case for individual liberty on "the Enlightenment's insistence that since no one has access to absolute truth, no one has a moral right to impose his values and beliefs on others," and thus that such moral judgments should be left to individual choice. However, he also makes an argument for genetically enhancing children, and, in so doing, advocates the imposition of a particular vision of the good on others in their very genes so as to liberate them from the constraints of nature. Bailey quotes a defender of genetic enhancement who argues that "it is rational and acceptable to seek *good* characteristics in a new person" (emphasis added). Elaborating this argument, he approvingly quotes another commentator's contention that there are "things that…everyone should want; it would be *irrational* to turn them down when offered. Nobody could be better off with less health or with fewer talents." Bailey goes on to offer a Rawlsian list of "primary goods"—including "liberties, opportunities, health, intelligence, and imagination"—which "all rational agents" would consent to have enhanced. The universal choiceworthiness of this list of primary goods, however, is less than self-evident: to give just two examples, it is not clear that we would all be better off as mathematical geniuses, and an extremely powerful imagination is hardly an unmixed blessing. When Bailey judges these goods to be primary—that is, unquestionably good—he is smuggling a morally-loaded judgment of value into his ostensibly neutral libertarian argument.

Bailey's advocacy of the genetic engineering of children is indeed an argument for a certain kind of liberation: the liberation of human reproduction from "whatever random horrors nature dishes out." But as

authors as diverse as C. S. Lewis and Thomas Jefferson have noted, the use of technology to increase our independence from nature frequently diminishes our independence from other men. As Lewis wrote, "what we call Man's power [over nature] is, in reality, a power possessed by some men which they may, or may not, allow other men to profit by." Such "dependence" on others, Jefferson argued, "begets subservience and venality." Lewis and Jefferson here refer to the dependence on other human beings we incur when we become reliant for our lives or livelihoods on technologies we cannot master ourselves. The prospect of genetic engineering brings us face to face with an even more disturbing tension between freedom from nature and freedom from men: since no individual human being can choose the genes with which he is born, that determination must rest with nature or with other human beings, and to decrease the authority of the one is to increase the authority of the other. Of course, as Bailey points out, nature *does* dish out horrors, but horrors are not all nature dishes out, and it is not clear that man has a better record in the exercise of such power than nature does.

Genetic engineering can only liberate unborn human beings from nature by giving them into the power of other human beings—that is, our technological liberty can expand only if our independence from human control contracts. Bailey's willingness to use technological power to decide what is best for the unborn is just one example of his unnerving tendency to favor technology over liberty when the two conflict. The same tendency is evident in his curt dismissal of Diana Schaub's argument that the biotechnological conquest of aging and death could allow tyrants to cling to power indefinitely. While no one would disagree with him that "a better strategy [would] be to focus on preventing the emergence of tyrants, either of the short- or long-lived variety," sometimes the better strategy fails; one would think that the prospect of indefinite longevity for the Hugo Chávezes and Kim Jong-Ils of the world would give pause to someone so committed to freedom. Bailey also writes with inexplicable relish about the prospect of brain implants that will allow us to secretly and instantly "check the reputations" of everyone we meet, by means of network connections residing inside our very skulls. This will allow, he approvingly notes, "social monitoring" to be "nearly as omnipresent" as it was in "a hunter-gatherer band"—a prospect one would expect a true lover of liberty to find disturbing rather than gratifying.

In sum, while Bailey makes his case for liberation biology in the name of liberty, his enthusiasm for technology seems to override his love of liberty whenever the two conflict. A more clear-sighted concern with both

the goods of liberty and the goods of our technological efforts to "relieve man's estate" would lead us to weigh and balance more carefully the genuine tradeoffs we sometimes face between them.

Libertarian Eschatology

The second major weakness in Bailey's case for enhancing human beings is that he frequently evokes a progressivist historical teleology that is just plain flimsy. Bailey's characterizations of the lives of our ancestors are uniformly gloomy. He is skeptical of all claims that people today are in any way less virtuous than their forebears, likens marriage prior to the twentieth century to a mere "alliance in which a man and woman stood together back to back fending off attacks on their family," and asserts that "modern material and intellectual abundance has already offered many of us a way out of the lives of quiet desperation suffered by our impoverished ancestors." What bears noting here is that all of these claims rest upon assessments of what the inner lives of our ancestors were like that are, at best, educated guesses. While some of the noisier forms of human desperation, such as hunger, have plainly and blessedly declined in the modern age, the inner state of "quiet desperation" is not necessarily related to health and material abundance in a neat, inverse correlation: for example, contemporary happiness researchers claim that Nigerians rate themselves just as happy as the Japanese, although Japan's gross domestic product is twenty-five times larger than that of Nigeria. While Bailey cites some interesting facts and figures in support of his view of the past, his lack of epistemological modesty concerning what we can really know about the inner lives of those who came before us casts a shadow over his monotonously depressing account of their experience.

By contrast, Bailey's assumptions about the future are uniform in their optimism. For example, he assumes that the U.S. economy will grow to nine times its present size by 2077. This assumption is part of a larger argument about the economics of health care, through which Bailey makes the case that biotechnological interventions will become less and less costly so as to eventually enable nearly everyone to enhance his or her body and brain. Bailey is similarly confident that, in the future, liberal political institutions will prevent the technologically enhanced from socially dominating their unenhanced fellows. He sums up his general perspective on the trajectory of history as follows: "the history of the last two centuries has shown that technological advance has been far more beneficial than harmful for humanity."

Bailey passes over in silence the elements of the present scene that suggest more disturbing possibilities for the future. He does not mention, for example, that we enjoy greater longevity than our forebears at the price of an increasing number of deaths associated with the terrible realities of Alzheimer's disease: incidence of that disease is directly correlated with increases in life span, and has risen by 66 percent just in the last ten years, according to the Alzheimer's Foundation. Perhaps our economy will grow to nine times its present size by 2077, but perhaps not, and the present economic downturn, rooted in fundamental fiscal problems that appear increasingly intractable, gives us reason to assess our future economic outlook with the utmost sobriety. Bailey's optimistic assumptions about the economics of health care seem particularly ill-founded at a moment when so many technologically advanced societies face enormous problems in funding their health care systems. Our biotechnological progress has also contributed to a dramatic decline in birthrates; Bailey mentions this only in passing, but for many technologically advanced nations, this decline has created a demographic crisis that is profoundly relevant to the other arguments he makes.

One can only surmise that Bailey is presuming that such problems are merely bumps in the road of the optimistic course of history he traces over the last two hundred years. But even if Bailey's history were less arbitrary than it is, it could not ground his progressivist faith in the desirability of our historical destination. As Hegel understood, one cannot declare the goodness of history's destination until history ends, and Bailey plainly believes one of history's greatest transformations—the achievement of "actuarial escape velocity," or the end of the necessity of death—is just around the corner. History is still very much in progress for Bailey, and, until history ends, we cannot say that its ultimate trajectory is progressive, or be sure that true historical decline is not just around the corner. For example, the demographic crises faced by societies such as those of Italy, Spain, and Japan, could be true existential crises, and those societies could owe their fatal declines in part to their embrace of the biotechnological advancements of the twentieth century.

In truth, we do not know where history is headed. If we do not make the unjustifiable assumption that its course is necessarily progressive, we face the true gravity of the choices the biotech revolution puts before us: those who tend toward conservatism must face the reality that to oppose a new technology could be to deny humanity a true blessing; those who tend toward progressivism must face the reality that favoring a new technology could be to bring on humanity a new curse.

The Narrative Self, Lost in the Cosmos

The third major weakness in Bailey's argument concerns his assessment of whether biotechnology can alter the essence of who we are, and his understanding of the relationship between biotech enhancement and virtue. Here, to truly get at the root of the problem with Bailey's argument, we will have to go beyond Bailey himself and examine the modern existential outlook upon which his view of human nature is grounded—an outlook that is, as we will see, profoundly questionable.

Bailey argues that nothing about ourselves that we are likely to change through biotechnological enhancement—our moods and dispositions, our intelligence and memory, our levels of wakefulness, our life span, our biological sex, even our genetic membership in the species *Homo sapiens*—is really fundamental to who we are. "The inviolable core of our identities," he argues, "is the narrative of our lives—the sum of our experiences, enhanced or not. If we lose that core (say, through dementia), we truly do lose ourselves."

First of all, as noted above, one of the unintended consequences of our successful efforts to increase the human life span has been a dramatic increase in the one kind of debility which Bailey acknowledges can attack the core of the self, Alzheimer's disease. Taken seriously, Bailey's account of what constitutes a violation of our human essence would be grounds for caution with respect to longevity research, at least until a cure for Alzheimer's is found.

More important, however, is Bailey's definition of "the inviolable core of our identities" as "the narrative of our lives—the sum of our experiences." While there is some truth to the view that we experience our lives in the form of a narrative, Bailey simply equates that narrative with "the sum of our experiences." But no narrative of a life is merely a tallying up. The stories we tell about ourselves do not merely state the facts, they *interpret*, and interpret in a way that is fraught with moral meaning. For example, many of the great narrative accounts of the self include an account of a conversion experience, such as Paul's conversion on the road to Damascus or Rousseau's discovery of his philosophic system on the road to Vincennes. These conversion stories are pivotal moments in the narrative of a life in its relation to the good, and exemplify how narrative really works: we do not just recount the experiences of our lives as so much sound and fury, signifying nothing; we tell a story that finds meaning in our experiences on the basis of an implicit understanding of the good. In fact, as the philosopher Charles Taylor has noted, it is precisely

this orientation toward the good that makes the narrative a narrative. If we did not tell our stories of ourselves as stories with meaning—as pilgrimages, journeys forth from the cave of ignorance, or Odyssean homecomings—our pasts would not be "the prelude, or harbinger, or opening, or early stage of anything"; our pasts would be "one day…just following the next, without purpose or sense." This is plainly not how we understand ourselves. Not only saints and philosophers but all of us, when we tell the stories of our lives, tell stories of moral fall and redemption, wandering in darkness and the discovery of light—of where we have stood at various points in our lives with respect to what we take to be the good, however unselfconscious our understanding of that good may be.

By leaving out the moral, interpretive element from his account of the narrative self, Bailey contradicts one of the fundamental points of "The Case for Enhancing People": that there is no tension between enhancement and virtue. If he is to say that biotechnological enhancements which may profoundly alter our sexual desires, for example, cannot touch the core of the self, Bailey must offer an account of the self so stripped down that almost nothing could constitute a violation of it. For Bailey, as long as it does not impair one's ability to sum up one's experience, nothing one could do to oneself would constitute a self-destroying vice. One could dedicate one's life to sloth or gluttony or avarice or lust or wrath or pride or envy without ever violating the core of the Baileyan self. No sin, on this account, is deadly—as long as one can tell a story about it afterwards. Thus, while he claims that the liberty to enhance does not undermine virtue, in defending the freedom to enhance, Bailey gives an account of the self that does just that.

This contradiction, along with the other contradictions noted above, is a serious flaw in Bailey's thought, and one could point out more such contradictions. But further examination of the weaknesses in Bailey's arguments would not get to the fundamental reasons for the enduring appeal of the libertarian, progressivist, pro-enhancement outlook. The appeal of that outlook is rooted not in the thought of any contemporary thinker, but in the powerful account of our nature and our relation to the world elaborated by Francis Bacon, René Descartes, and John Locke—"our philosopher," as Nathan Tarcov has called him. To question the case for biotechnological enhancement is ultimately to question the whole modern, Lockean perspective on human essence and the human condition.

To briefly summarize that perspective: for Locke, the core of a human being must be understood not as a soul or as a spirit but as a *self*, which he defines as extended consciousness, devoid of any determinate content.

This self is radically abstract, as Locke makes clear when he specifies that one such self could occupy two bodies, that it could persist across the lives of separate souls, and that, should my finger be amputated from my body and somehow take my consciousness with it, that finger would then be me. Such a self is neither a rational animal (for it has no necessary connection with animality), nor a political animal (for political life is, for Locke, an artificial construct useful to man, but not natural to him), nor a mortal animal (for mortality is in no way implicit in the notion of extended consciousness). As one might expect, Locke denies the existence of any universal good for all such human selves: your good might be one thing, mine might be another, just as some men delight in cheese, while others relish lobster. Nothing in the self, nothing common to humanity as such—such as the ancient philosophers found in the structure of the soul and its unity with the body—determines the content of meaningful human activity. Bailey's narrative conception of the self plainly mirrors this Lockean view.

For Locke, human action, rather than being motivated by the longing for the good, is motivated by "*uneasiness*," which he called "the great motive that works on the mind to put it upon action." This uneasiness is a fitting response to our natural condition, on Locke's account, which is a state of "penury" and "inconveniences," as well as "fears and continual dangers." Whatever pleasure or comfort we enjoy in life we owe almost entirely to human ingenuity and the labor of the "rational and industrious," for nature furnishes us with only "almost worthless materials" for sustaining our lives. On this view, we were not originally planted by a beneficent Father in a garden of trees lovely to look at and good for food, as our biblical tradition held. Rather, we were abandoned by a stingy stepmother to fend for ourselves on a godforsaken hunk of scarcely inhabitable rock. In *Liberation Biology*, Bailey echoes this Lockean understanding when he writes that nature "has certainly been an inconstant spouse, liberally afflicting us with nasty surprises such as birth defects, diseases, earthquakes, hurricanes, and famines." Our natural condition thus gives us great cause for Lockean unease.

If we accept this understanding of ourselves, embracing the biotechnological transformation of humanity makes eminently good sense. We are uneasy, anxious beings, whose definitive desire is the desire to preserve ourselves with a maximum of comfort and a minimum of suffering. Secure in this knowledge of what we wish to avoid, we are less confident with respect to what we should seek; the evils of death, disease, and pain, we understand, but our preferences with respect to the good are arbitrary. The biotech promise of indefinite longevity both fends off an evil and

makes more time to savor the delicacies concocted by human ingenuity to solace our existential unease. As Bailey prophesies, "the twenty-first century will provide an ever-increasing menu of life plans and choices," and we will have more time to devote to "exhausting the…possibilities." However, as Bailey admits, even indefinite longevity will not put an end to our existential unease, for keeping death and disease at bay will always require forethought and effort. Even the conquest of death will not change our status as existential misfits, lost in a cosmos that will never be a proper home for us. Still, we might as well make our home away from home as comfortable as we can.

But is this Lockean analysis of our existential situation correct? Is the given world in which we find ourselves such a host of malevolent forces, kept at bay only by human vigilance and effort, devoid of any essential guidance as to the human good or human excellence? In recent years, Hans Jonas and Leon Kass have argued that there is reason to think the Lockean account radically oversimplifies our existential situation and impoverishes our experience of the world. They base this argument on a counterintuitive yet powerful reading of the one thinker who, according to Peter Lawler, rivals Locke in shaping the self-understanding of contemporary Americans: Charles Darwin.

Darwinian Man, at Home in the World

In his 1983 essay "Evolution and Freedom," Jonas argues that Darwin, by establishing the continuity of human and animal life, made it impossible to continue to regard man as "the abrupt intrusion of an ontologically alien principle in the total stream of life. Man's isolation, the last citadel of dualism, disappeared, and he could once again use his knowledge of himself to interpret the totality of which he was a part." It is widely understood that Darwin forces us to reconsider humanity's status in the natural world by showing that we are not the product of special divine creation or an eternal species. But Jonas reminds us that the connection that Darwin establishes between man and non-human nature suggests the possibility of reinterpreting the rest of living nature in terms of what we know from the inside as living beings ourselves. Darwin does not merely force us to reinterpret ourselves, he also forces us to reinterpret the world, from which we emerged naturally and from which we are less alien than the Lockean conception of us allows.

Following Jonas, Leon Kass finds in Darwin a reason to revive the Aristotelian conception of the soul as a viable alternative to the Lockean

self, understanding this soul not as a metaphysical entity miraculously intruded into the world of material causality, but rather, as he writes in *Toward a More Natural Science* (1985), as "the integrated vital powers of a naturally organic body, always possessed by such a body while it is alive." As Kass points out, Darwin's whole theory assumes that living beings are purposive or teleological beings, unified wholes, seeking to preserve themselves, and Kass sees soul as the source of this purposive wholeness. In keeping with the Darwinian understanding of human life as continuous with the rest of life, Kass follows Aristotle in attributing soul not only to human beings but also to animals and even to plants. Life as such is soul; thus we refer to living beings as *animate*.

These affirmations of the connection between human and non-human nature and the causal presence of soul in all living things do not entail a denial of human difference, which both Jonas and Kass affirm: as Kass writes in *The Hungry Soul* (1994), "certain differences of degree" between human faculties and animal faculties "might lead to a difference in kind (or at least its equivalent), say, in mental capacity or inner life." Jonas, for his part, sketches the beginnings of a "philosophical anthropology" intended to do justice to "what is essentially beyond the animal in man without denying the features common to both." As he writes in his 1985 essay "Tool, Image, and Grave," "we can see everything surpassing animality as a new stage of mediate relationship to the world that is already beginning to take form in animals." For Kass and Jonas, it is possible to be both undeniably distinct from the animals and yet continuous with them.

Kass and Jonas do deny, however, the uniqueness of the existential unease at the core of Lockean anthropology. Jonas describes each living thing as "an identity that creates itself from moment to moment and continually reasserts itself, defying the leveling forces of physical sameness around it," and therefore "basically pitted against everything else." The inward experience of this existential unease penetrates all the way down the scale of life, to the "the irritability, the sensitivity to stimuli, displayed by the simple cell." As Jonas suggests, we can use our own inner experience of what it is to be a living being engaged in the work of metabolism, of constantly reconstituting one's being from materials in the outside world, to understand the inner experience of the rest of life. The appropriate gradations are necessary, of course; Jonas is not saying that cells think. But cells sense stimuli; plants grow in the direction of the nutrients they find below and the sunlight they find above; animals desire and fear, perceive at a distance, and move about in quest of food; and so on, up the scale of life and faculties to the desiring, sensing, moving, emotional, imaginative, intel-

ligent being that is man. Existential unease increases with the expanding power and awareness that comes as we move up this scale, and is thus most acute for the most self-aware animal, man, but it is by no means peculiarly his. The anxiety of human life has company in the rest of life; we are not the uniquely alien presence in the world implied by Lockean anthropology.

However, while all living beings that constitute themselves through metabolism live necessarily precarious lives, it is not the case (*pace* Bailey) that we creatures find ourselves in a simply hostile environment. Rather, as Jonas writes, we inhabit a world "simultaneously inviting and threatening." While the world plainly contains other beings who want to eat us, it also contains beings we can eat. As Jonas points out, unlike plants, human beings and other animals cannot directly synthesize minerals; we can only metabolize other *living* things—which are, through nature's good graces, available to us. When human labor and ingenuity arrived at the synthesis of the precursors of life from non-life, it was regarded as one of science's most sophisticated and astonishing feats, and happened only in the twenty-first century. Nature, the supposedly stingy stepmother of Locke's and Bailey's imagination, has been serving up life itself—the incredibly complex yet essential basis of everything we eat—on a silver platter for untold millennia.

The given world, far from being utterly hostile to us or to life in general, thus seems uniquely suited to produce, sustain, and provide a home for it. As Kass points out, insofar as Darwin was correct to believe that life came from non-life, it must be true that matter, "if not actually alive, was potentially alive; given the right circumstances, it came alive *on its own*." Why is that? Is life, in some sense, nature's purpose? On this question of the purposiveness, or teleology, of nature as a whole, Kass notes that while Darwin's demonstration that species were mutable over time did effectively refute both "the biblical view of a teleological and created world with its various forms specially created after God's plan, and the Aristotelian view of a teleological but eternal nature with its various forms kept in being, generation after generation, by the immanent workings of eternal species," we should be less confident than some Darwinians concerning the proposition that the first principle of nature is blind, dumb accident, which somehow leads to the emergence of purposive beings such as ourselves. Kass notes that *The Origin of Species* itself was riddled with teleological language, "not only about the functioning of individual animals but also about the overall course of evolution." He takes these passages to indicate Darwin's own inability to purge teleology from his account of nature while saving the phenomena—that is, while adequately describing what he had observed.

Within Darwin's theory, survival is the obvious candidate for the role of the overarching *telos* of nature. As Alfred North Whitehead points out, however, survival seems an insufficient criterion for explaining why life has evolved in such varied and complex forms, and indeed why life exists at all: "In fact life itself is comparatively deficient in survival value. The art of persistence is to be dead. Only inorganic things persist for great lengths of time." Among living things, cockroaches and moss have survived as species for about 300 million years—if all nature wants is survival value, some simpler species would seem to trump more complex ones. As Jonas points out, complex species live riskier lives: the lives of plants, which draw their nutrition directly from the soil, are in some ways much more secure than the lives of carnivorous animals, which must kill other living, resisting beings to sustain themselves. To explain such phenomena, Kass tentatively reaches beyond the Darwinian account to suggest that we may need to consider "diversity," "plentitude," and "ascent" as ends of nature in order to do justice to the variety and complexity of the species that evolution has produced. To explain what he means by "ascent," he has recourse again to Aristotle's conception of the soul: nature as such seems to favor the emergence of higher powers of soul, the self-nurturing capacities found in plants giving rise, over the course of evolution, to the perceptive and locomotive capacities of animals, which in turn give rise to the rational, emotional, and imaginative capacities of man.

When man finally emerges, he finds himself in a world in some ways astonishingly well-matched to his psychic capacities:

> Ought we to be surprised, should we regard it as an accident, that, in a visible, odorous, and sounding world, the powers of sight, or smell, or hearing once they appeared should have been preserved, magnified, perfected? Likewise with intellect. However accidentally intellect first appeared, is it surprising that it should have been preserved in a world of cause and effect, past and future, means and ends, all of which can be brought to consciousness and used to advantage in a being endowed with memory, a sense of time, self-awareness, and the ability to order means to ends in securing the future? If it is an intelligible world, is it surprising that an intelligent being, once one appears, will be at home in it or, to put it in the less complete terms of survival, will be likely to survive and flourish?

Admitting to speculation, Kass suggests that we not only find ourselves in a world that matches our capacities, but that those capacities can perhaps be said to help the world itself realize the fullness of its being: "the kinds

and levels of soul complement and answer to the kind of a world this is… by evolving to complement the things that are, soul *completes* the things that are. Are not the looks and beauty of a flower incomplete until there exists a seeing being open to and aware of this beauty?"

If Kass is right, far from being lost in an alien cosmos, man finds himself at least partially at home in the world—a world the perfections of which both his senses and his mind can appreciate, and which might be said to find in man its own completion. As Nietzsche (of all people) suggested in *Schopenhauer as Educator* (1873), nature needs man "for the purpose of its own self-recognition." Man "divines [nature's] stammerings, meets nature halfway, and gives expression to what it actually intends." In this sense, pre-human nature was waiting to welcome us home.

Kass and Jonas do not pretend to have elaborated anything like a complete account of nature's purposes or the place of man in the whole. But they do offer a fundamental challenge to the doctrinaire, scientistic materialism that insists that *we know* that nature is a purposeless mixture of chance and necessity, that the fundamental truth of life is a mere struggle for survival, and that our human longings for so much more than survival are groundless contradictions of the grim truth at the bottom of things. While they do not promise us a nature "in which spiders do not eat flies" (as Karl Weintraub put it), they attempt to let us see again that we are indeed surrounded by trees lovely to look at and good for food. We emerge in a world that does, sometimes, present us with unmerited gifts that correspond to our deepest longings.

If this is the case, we may find some clues to the mystery of human happiness in the correspondences between the capacities we find within ourselves and the world in which we find ourselves. Perhaps our sensory powers, such as sight and hearing, have evolved both to help us survive in the world and to allow us to appreciate the lily and the mockingbird. Perhaps our sexuality and mortality point us toward replacing ourselves by procreating and educating our children. Perhaps our capacities for speech and reason are there to enable us to cooperate, deliberate, and seek understanding with the other human beings who surround us from the moment we enter the world. Perhaps our quest for the human good can find more grounding in the world outside ourselves than Locke and Bailey would have us believe.

If such an investigation of the correspondences we find between ourselves and the world does prove to offer us anything in terms of moral self-understanding, that guidance will not come in the form of plainly intelligible rules. Kass notes in *The Hungry Soul* that as the being with the

fullest powers, man is also the being with the biggest problems: the most omnivorous animal can be a civilized dinner guest or a cannibal; the most social of beings can be a true friend or an obsequious deceiver; the most imaginative of beings can hold up a mirror to nature or pervert it. Not only is human nature the most complex aspect of nature, but nature itself, as Aristotle (among others) recognized, sometimes makes mistakes. If we can find guidance for our lives by seeking to understand our place in the given, natural world, that effort will involve the work of divining nature's "stammerings," as Nietzsche put it. If our world offers some intelligible hints as to human flourishing, those hints are only intelligible to those who make the steadfast effort to understand.

Mortality and the Paradoxes of our Biotech Moment

Perhaps the greatest paradox of Kass and Jonas's picture of our existential situation concerns our mortality. To say that the world we inhabit is in some sense a fitting home for us is not to say that it is *simply* welcoming—it is a world where life eats life, and death and suffering are givens for all of us. However, as Jonas suggests, "life is mortal, not although but *because* it is life, in keeping with its primal constitution, for the relationship between form and matter that characterizes it is of this revocable, unassured nature. . . . a susceptibility to suffering is not a defect detracting from the faculty for enjoyment but is its necessary complement." In the 2001 essay "L'Chaim and Its Limits," Kass spells out the implications of Jonas's observation about life in general for human life in particular, suggesting that "to argue that human life would be better without death is . . . to argue that human life would be better being something other than human." Kass develops an extensive catalogue of human activities—from parenting and teaching to appreciating beauty and striving for high accomplishment—which are intertwined with our sense of our own finitude and mortality. It may be that the very experiences that cause us to affirm that being is better than non-being—from the satisfaction we gain from rewarded striving to the appreciation of the joyous vitality of a child—are inextricably bound up with our sense of our limitedness and perishability: no satisfaction can come from the defiance of boundaries if those boundaries are not felt realities; there is no appreciation of the renewal of life without awareness of decline and death.

In "The Case for Enhancing Humans," Bailey responds to the argument that accepting our mortality is the price of enjoying what Peter Lawler has called "the distinctively human goods: love, family, friends,

country, virtue, art, spiritual life, and, most generally, living responsibly in the light of what we really know about what we have been given." But his response consists of saying that, should we achieve indefinite longevity, we will have more time and energy for such activities. The problem to which Kass and Lawler point, however, is not a problem of time and energy but rather of disposition or orientation. We can see what it means to be truly oriented toward one of the distinctively human goods that Lawler mentions in Tocqueville's brief yet potent account of the life of Pascal, a life driven by "an ardent and inexhaustible love of truth":

> In a crowd of men one encounters a selfish, mercenary, industrial taste for the discoveries of the mind which must not be confused with the disinterested passion that lights up in the hearts of a few.... If Pascal had envisaged only some great profit, or even if he had been moved by the desire for glory alone, I cannot believe that he would ever have been able to assemble, as he did, all the powers of his intellect in order better to discover the most hidden secrets of the Creator. When I see him tear his soul in a way from the midst of the cares of life to tie it wholly to that search, prematurely breaking the bonds that hold it to the body, so as to die of old age before forty, I halt in bewilderment and understand that it is no ordinary cause that can produce such extraordinary efforts.

For someone consumed by the project of staving off his own mortality, to keep up with the latest life-extending technologies and maximize his health through time spent on the treadmill and money spent at the pharmacy are literally matters of life and death. One dedicated to such pursuits will be profoundly ill-disposed to tear his soul from the midst of the cares of life to devote it, as Pascal did, to the search for something we can really and truly know, something that does not change. While few of us have the potential to be a Pascal, many of us have some small experience with Tocqueville's proposition that we enjoy the truly sublime goods of human life only when we forget ourselves, when we allow our anxiety for our bodies, fortunes, and futures to die, at least momentarily. Such self-forgetting is the converse of the technological frame of mind.

This paradox—that the acceptance of mortality might be the price of enjoying the truly human goods—is but one of the many moral conundrums Bailey would have us ignore. Instead, Bailey would have us believe that our biotech controversies consist of all-or-nothing decisions in which every embrace of technology implicitly endorses a project of limitless liberation from the constraints of nature, and every rejection of technology implicitly endorses a pseudo-Rousseauian return to savagery.

The real challenge, however, is not to choose between these two unpalatable options, but to articulate an account of ourselves and our world that does justice to the genuine tensions we face in our attempts to navigate the moral landscape of our biotechnological moment. To truly think morally about the questions raised by this moment is to seek the distinction between legitimate attempts to improve health and relieve suffering and illegitimate attempts to enhance away our humanity. It is to seek not to halt all scientific research in the name of loyalty to holy nature, but rather to reconcile science and morals by pursuing science within moral limits.

"The Case for Enhancing People" is obviously the work of a sharp and curious mind, but Bailey's libertarian commitment blinds him to the moral difficulties of our biotechnological moment, and condemns him to endlessly exploring what Chesterton called "the clean and well-lit prison of one idea." When we step outside that prison, we find ourselves confronting a complex political, historical, and moral-existential landscape in which there are no easy answers. Politically, we face both the difficult task of attempting to responsibly shape mainstream moral life without going overboard in "childproofing our culture," as Yuval Levin has put it, and the sobering reality that technology and individual liberty do not always exist in harmony. Historically, we stand before an uncertain future, in which there is no reason to believe that all technological change issues in genuine human progress. Morally, we confront unprecedented decisions regarding how we will or will not use our newfound biotech powers, decisions we must make not in some realm beyond good and evil, where we are free to endow the story of our lives with whatever meaning we choose, but in a world we experience as morally inflected, wherein we are bound to make our choices as responsibly as we can, in the light of the good as we understand it. Existentially, we are neither alien beings dwelling in a world that provides mere raw material to be conquered and reshaped to our liking, nor parts of an eternal and harmonious whole in which our place is clear and unquestionable. Rather, we are moral and intelligent beings uneasily at home in a partially intelligible world, which leaves to us the task of teasing out its riddlesome guidance. One of that world's riddles seems to be that the enjoyment of the distinctive goods that make life worth living is inextricably bound up with the willingness to die. It would be easier for everyone to believe that such paradoxes and tensions will all work out for the best in the best of all possible worlds that is just around the corner, but the price of moral clarity is understanding that we do not, and will not, live in that world.