

involving group differences, this one is, or should be, purely celebratory. "Jewish Genius" was wonderful fun to write.

### Scientism

TO THE EDITOR:

Leon R. Kass's talent for moralistic invective is apparently not matched by a commitment to scholarly due diligence ["Science, Religion, and the Human Future," April]. Had he read my writings beyond one paragraph in a letter to the editor that he quotes (for that matter, had he read that same paragraph more carefully), he could not have written that I reduce the human mind to mere matter and am "unaware of the fact of emergent properties, powers and activities that do not reside in the materials of the organism but emerge only when the materials are formed and organized in a particular way."

This point, the foundation of my field, cognitive science, is one that I have made repeatedly, at length, and with all the expository power I can muster. The mind is not the brain but it is, as I say, "what the brain *does*" (Mr. Kass's parsing overlooks the crucial word "does"). By this I mean the brain's ability to manipulate information in ways that mirror logical, statistical, and other normative principles. As many philosophers have shown, this dissolves the apparent mystery that the brain is a physical object but can traffic in abstract ideas involving meaning and truth.

Mr. Kass is free to use the word "soul" to refer to the

software of the brain, but he is mistaken if he thinks that this equation, free of any conception of divine providence or survival after death, is compatible with the way the vast majority of people use the word. Nor is it clear how invoking a soul illuminates any intellectual problem beyond slapping a label on what we feel we do not understand.

The uselessness of soul-talk is particularly evident in the thriving science of consciousness, the study of "inner states" that Mr. Kass decrees to be impossible. In fact, every time your eye doctor gives you a test for color-blindness, he is quantifying your inner states. True, scientists and philosophers disagree on how to explain the very existence of inner experience. (Some argue it is a pseudo-problem, others that it is just an as-yet unsolved scientific problem, and still others that it shows a limitation of human cognition analogous to our inability to visualize four-dimensional space-time.) But no one has ever shown how mentioning the word "soul" or its religious associations provides even a glimmer of insight.

Mr. Kass believes he is doing the world a service by arguing that modern biology—and the larger enterprise of science and secular reason of which it is a part—poses a grave threat to meaning and morality. One may question whether the sowing of such fear is wise. Progress in our understanding ourselves as part of the natural world is intellectually exhilarating, conducive to human flourishing, and probably unstoppable. Rather than insisting that morality is a fragile Judeo-Christian antiquity

that must be sheltered from the blossoming of knowledge, one could show, as philosophers have done for millennia, that it has a robust foundation that is of a piece with that knowledge. Morality is rooted in the interchangeability of perspectives: the fact that an intelligent social agent, in dealing with other such agents, has no grounds for privileging his interests over theirs. Growing from an innate kernel of empathy, morality has been expanded by a cosmopolitan awareness that encourages people to imagine themselves in the shoes of people unlike themselves. No small part of this awareness is the modern biological sensibility that we are a single species, made of the same stuff arranged in the same way, and therefore with fundamentally similar feelings and interests.

Mr. Kass seeks instead to ground morality in the "truths" of an Iron Age tribal document. His exegesis of the first chapter of Genesis is unquestionably eloquent and imaginative. I look forward to seeing how he handles the later passages that celebrate genocide, tolerate slavery and rape, and prescribe the death penalty for idolatry, homosexuality, blasphemy, and working on the Sabbath.

STEVEN PINKER  
*Harvard University  
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TO THE EDITOR:

Those who fear that the advance of science is producing a belief in "scientism" that threatens Judaism and Christianity, and therefore Western civilization, can draw no comfort from Leon R. Kass's article. As he concedes, science "works": it cures diseases, creates nu-

clear weapons, and flies us to the moon and back. He might have added that religions also "work." They offer consolation to believers and admonish them to behave morally. They also promote intolerance, persecution of dissent, and calls to aggressive crusades.

Mr. Kass's analytical points about the limitations of science as a way of knowing in no way vindicate a theological alternative. What if, as he contends, all that is natural and human cannot be reduced to the quantifiable, measurable data that science relies on? Do the limits of science establish the validity of the religious perspective any more than Marx's critique of religion established dialectical materialism as scientific truth?

Mr. Kass himself relies on secular philosophy, not theology, to define the human nature that he thinks science cannot fully fathom. "Never mind 'created in the image of God,'" he writes, "what elevated *humanistic* view of human life" is defensible against scientism? Its challenges can be met "even without turning to religion." Accordingly, Mr. Kass cites Aristotle's concept of the soul, not the radically expansive concept developed by Judaism and Christianity. Similarly, his concept of morality relies not on the Decalogue or the Sermon on the Mount but on the efforts of "the giants of Western philosophy, including Leibniz, Spinoza, and Kant," to construct a basis for human freedom and dignity once nature had been ceded to science.

When he discusses beliefs arising from the acceptance of Scripture, Mr. Kass shows them to be either incredible or irrelevant. He acknowl-

edges that literalist readings of the accounts of creation and miraculous divine intervention are “misguided.” Yet, as he points out, miracles do matter for believers. Either Jesus rose from the dead or he did not, and “on the truth of his resurrection rests the deepest ground” of Christian faith. Should this truth be accepted or not, and if so on what basis? Having raised the issue, Mr. Kass avoids discussing it. Instead, he rests his case for the validity of the religious way of knowing on a reading of Genesis, which he says enables us to rise above mere animal existence and contemplate the grandeur of the universe and the mystery of its source. But even the “self-evident truths” we find there, he adds, “do *not* rest on biblical authority.”

What, then, *does* rest on biblical authority, if not the account of creation or miracles or the belief in resurrection? What exactly is left to counter scientism? What remains, it seems, is not theology or creedal, ritualistic religion but humanistic, philosophical rationalism.

SANFORD LAKOFF  
*University of California,  
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TO THE EDITOR:

Leon R. Kass’s statement that “there is nothing in Scripture to support” the “too neat” view that God “binds His power” in order to make science possible overlooks Psalm 148, which calls for the heavenly bodies to praise the Lord Who not only created them by His command but established them under permanent laws that they may not violate.

This idea that God made inviolable laws of nature goes beyond Genesis’s

teaching (cited by Mr. Kass) that the sun, moon, and stars are merely not divine. Conceiving of nature as governed by law is the starting point for science.

BILL LINDER  
*Kiryat Ono, Israel*

TO THE EDITOR:

Leon R. Kass’s article offers a magisterial tour of intellectual history. His exposure of the philosophical naiveté of many scientists confirms a longstanding suspicion of mine that the rise of scientism is not so much due to the advance of science as to the decline and trivialization of philosophy. His article also exposes the irony that the more materialism is embraced by human beings, the more alienated from nature man becomes—even though conformity to fate, or to nature, has nothing to do with achieving “mastery” over it.

HUGH MURRAY  
*Seattle, Washington*

TO THE EDITOR:

I appreciated Leon R. Kass’s salvo against the scientific project of objectifying nature and mankind. Mr. Kass ably shows the shallowness and uselessness of extending the quantitative imperative to places where it should not and cannot go.

Steven Pinker’s idea that “the mind is what the brain does” is about as useful as saying that “software is what your computer does.” Is your word processor nothing more than a pattern of electrons in transistors? How about the letter from a friend that you read on a computer screen? Much more than a ghost in the machine, software activates the machine; but it is, itself, a purely spiritual thing.

Software has a transcen-

dent, immaterial, and eternal existence independent of any physical representation, proved by the fact that it can be freely copied in all kinds of encoded forms and yet remain exactly the same software. Software is just the latest example of immaterial but very real things like songs, ideas, emotions, and human souls. It is particularly apt, though, for shocking adherents of scientism because it is embodied in that trophy of science, the computer.

BRIAN BECKMAN  
*Newcastle, Washington*

TO THE EDITOR:

Leon Kass’s “Science, Religion, and the Human Future” is a tour de force on a subject of perennial interest to those of us who espouse *Torah Umadda*—the confluence of traditional Jewish teaching and Western culture—and for whom the perceived conflict between the natural sciences and the teachings of the Torah is of special concern. I truly believe that Mr. Kass’s essay will become a guidepost for all who are dedicated to both science and religion, and who struggle with their relationship.

Mr. Kass writes that “being is hierarchic, and man is the highest being in creation.” If this is meant in a general sense, as a sort of literary flourish, I have no objection. But there is a good chance, I believe, that there are intelligent creatures, perhaps superior to man, elsewhere in this vast universe of ours. I have written about this in my book *Faith and Doubt*, where I show that the question of whether man is the “purpose of creation” is the subject of a dispute between two of the most prominent medieval Jewish

philosophers, Sa’adia Gaon and Maimonides.

Sa’adia believes that man is the “axle” of creation—and the midrash in various passages supports his view. Maimonides emphatically disagrees, maintaining that man’s supremacy is confined to what he calls the “sublunar” regions—our solar system, in contemporary terms. To be sure, Maimonides does not speculate about the existence of biological, sentient, intelligent beings flourishing on a planet of some distant star, but he finds no contradiction between the biblical teaching of the creation of man and the general idea that there may be other and perhaps superior beings elsewhere.

NORMAN LAMM  
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TO THE EDITOR:

Although they do not capture all the richness and philosophy of Leon R. Kass’s article, these lines by the poet E.E. Cummings address its essential spirit:

While you and I have lips  
and voices which  
Are for kissing and to  
sing with  
Who cares if some  
oneeyed son of a bitch  
Invents an instrument to  
measure Spring with?

JACKSON TOBY  
*New Brunswick, New Jersey*

LEON R. KASS writes:

Let me first restate the gist of my long, complicated, and yet very incomplete argument concerning the state of the age-old tension between modern science and biblical religion. I focused on the latest form of scientism, proclaimed by anti-religious bio-prophets, which insists that genetics,

neuroscience, and evolutionary psychology can offer a complete, purely scientific account of our humanity (morality and religion included), and which seeks to overturn our traditional self-understanding as special creatures with freedom and dignity—and thereby to discredit all religious instruction about how we are to live.

While esteeming the findings of these exciting new fields in science, I argued that the knowledge they provide must always be incomplete, owing to science's chosen conceptual limitations. No science of life can do justice to its subject if it does not even inquire into the nature, character, and meaning of our "aliveness," with its special inwardness, awareness, purposiveness, attachments, and activities of thought, while believing that it has "explained" these riches of soul by reducing them to electrochemical events of the brain. Because of these limitations, and because, as I argued, the biblical account of our humanity can be affirmed even in the age of science, I suggested, against the zealots on both sides, that biblical religion has nothing to fear from science, and that, conversely, scientists still in touch with their humanity have nothing to fear from scriptural religion.

IN THE course of my critique of reductionism, I accused Steven Pinker of arrogance and shallowness. I am tempted to say that his letter provides further evidence for the charge, especially as it progresses quickly from science (about which he knows a lot) to philosophy (about which he knows a dangerous little) to the

Bible and religion (about which he knows less than the village atheist). But some substantive points should be made.

In my article, I took him to task for the following remarks:

The supposedly immaterial soul can be bisected with a knife, altered by chemicals, turned on or off by electricity, and extinguished by a sharp blow or a lack of oxygen. Centuries ago it was unwise to ground morality on the dogma that the earth sat at the center of the universe. It is just as unwise today to ground it on dogmas about souls endowed by God.

I am happy to learn that Mr. Pinker denies saying that the "mind is the brain"—he says instead that "it is what the brain *does*," a position deftly skewered in Brian Beckman's letter. But one can hardly be blamed for thinking the man a simple materialist. Someone who boasts, even for rhetorical effect, that "the supposedly immaterial soul can be bisected with a knife" simply does not see that thought and awareness, like all powers and activities of living things, are immaterial in their essence and therefore cannot be so carved. This is not because they are the work of "ghosts in the machine" or because materials are not involved, but because the empowering organization of materials (the vital form), the powers and activities it makes possible, and the "in-formation" it manifests and appreciates are not themselves material.

When considered carefully, confident use of metaphors about brains "manipulat[ing] information

in ways that mirror normative principles" and "trafficking in abstract ideas involving meaning and truth," are just blowing smoke. The very ideas of "information," "normative principles," "meaning," and "truth" can never be discovered in the electrochemical descriptions of brain events. We know them, as we know any idea, only by acts of mind, receiving and grasping the *immaterial* units of intelligibility that, *mirabile dictu*, hitch a ride to audible sounds or visible symbols—like those you see when reading (i.e., seeing through them) on this page.

This is hardly the place to show Mr. Pinker why, especially as a psychologist, he should be open to the idea of *psyche* (soul). Suffice it to say that the human animal is constituted to be at once a source of its self-directed motion, beginning with metabolism and culminating in action; a source of awareness, as with sensation and intellection; and a source of appetite and aspiration, as with hunger and eros. What accounts for the unity of these vital and integrated powers and our capacity to direct them (partially) through knowledge and choice? Interested readers may look at my book, *The Hungry Soul: Eating and the Perfecting of Our Nature*.

Mr. Pinker is a careless reader and an even more careless thinker. I never said that modern biology poses a grave threat to meaning and morality. I said that *scientism* posed such a threat. I never said that progress in understanding human nature was not conducive to human flourishing or was anything but exhilarating, though I did say that scientism's *faith* in science's unqualified good-

ness was a moral prejudice that science itself cannot provide or confirm.

INDEED, nowhere is the silliness of Mr. Pinker's thinking more evident than in what he says about morality. How comforting to learn that morality is rooted in the fact that, thanks to our ability to see other persons' perspectives, no intelligent social agent has any grounds for privileging his own interests over theirs. How wonderful to learn that this cosmopolitan moral truth is supported by the discovery that we all share human DNA. Do the descendants of Darwin know nothing of competition and the survival of the fittest? Does their naturalistic morality really teach that it is immoral to "privilege" feeding my own children first? Or does not morality begin, rather, with the need to *control* nature, precisely in opposition to the excesses of naturally given self-love and love of one's own and (starting with toilet training) the unruliness of natural desires that embarrass rational self-command? Even leaving aside greed, cruelty, and natural lust, what about *amour-propre*—that natural form of comparative self-love found only among human animals and, famously, among scientists—that insists on recognition from and superiority to one's fellows?

Leaving aside the simplemindedness of his moral views, I would remind Mr. Pinker that "Love your neighbor as yourself" is a central teaching of biblical morality, promulgated centuries before his tepid and banal scientific translation. It did not require the discovery of the human genome, because that "Iron

Age tribal document" already understood and proclaimed our common humanity, based on the recognition of our equal god-likeness. Moreover, the Bible, unlike Mr. Pinker, understood that such a teaching had to be *commanded*, because it went against the grain of native human selfishness. In this respect, as in so many others, the Bible understands human nature in ways much richer than a science that sees man only through his genetic homologies and brain events. And it teaches us more wisely than homilies drawn from DNA analysis, embellished by naïve and wishful thinking.

SANFORD LAKOFF is of course correct in pointing out that the permanent limitations of science do not alone establish the truth of any competing account, including that of any particular religion. I was not trying, however, to establish the truth of biblical religion but merely to show that the new scientism's confidence that it can refute all religious teaching is ill-founded. Because the challenge directly attacks Genesis 1 and its teaching about the nature and cosmic standing of human beings, I sought to show that the biblical account of man can withstand the assaults of scientism, and that, in fact, the truth of man's "god-like" status is demonstrated performatively by our reading and reflecting on the text.

True enough, such anthropological vindication hardly reaches to the moral teachings offered later in the Bible—teachings, I would suggest, that are superior to those provided not only by scientific naturalism but by all of modern philosophy.

(The efforts of Leibniz, Spinoza, and Kant to develop a successful rationalist morality, in my view, all fail.) But such a defense of biblical moral wisdom requires much more argument, an introduction to which may be found in my book, *The Beginning of Wisdom: Reading Genesis*.

I am grateful to Bill Linder for sending me to Psalm 148, but I do not think the text sustains his interpretation that it offers a biblical basis for what we now call the laws of nature. After calling on the heavenly bodies to praise the Lord, the Psalmist says: "He has established them for ever and ever; He has prescribed a boundary [*hok*] that shall not be overstepped." I take this permanent "boundary" to refer to the articulated order of the heavens, with each creature in its place—an order, according to Genesis 1, carefully brought into being out of the watery chaos by a process of separation and distinction, reflected in speech—rather than to anything like the so-called laws of nature that quantitatively describe the motions of bodies. There is no question that the biblical order of natural kinds is intelligible; but the intelligibility is qualitative, not, like science, quantitative.

I am honored by the praise from Norman Lamm, and would not dream of disputing his account of the history of Jewish discussions about the uniqueness of human beings. I would agree that the discovery of extraterrestrial intelligent life would not require us to abandon biblical teachings that seek to instruct earthly creatures to be god-like. Precisely because man's god-like powers, in the absence of

godly wisdom, make him the most troubling of creatures, the necessity of the Bible's moral instruction is unaffected by what science might discover beyond our galaxy.

I should add that I suspect that Maimonides' qualification of man's supremacy as sublunar reflected Aristotelian notions about the higher dignity of the known, imperishable (and, in Aristotle's view, animated) heavenly bodies. Aristotle surely did not believe that there were, beyond the moon, super-intelligent *perishable* beings about which we knew nothing.

My thanks to Hugh Murray, Brian Beckman, and Jackson Toby (and through him, to E.E. Cummings) for their thoughtful contributions.

### Iraq

TO THE EDITOR:

Arthur Herman makes an interesting case for staying in Iraq in order to "win," but I remain skeptical for a number of reasons ["How to Win in Iraq—and How to Lose," April]. First, Mr. Herman says that we are there to create a free, open, and liberal society, but that is not how the war was sold to the American people. Second, there has been regular lying on the part of the administration concerning the success of our efforts and the financial and human costs (for example by restricting media coverage of coffins returning home).

Third, insufficient numbers of troops were sent, they were poorly supplied, and generals who dissented from the Pentagon's preconceived notions were

sacked. Fourth, massive amounts of money have been wasted in the reconstruction effort, and companies like Halliburton have received noncompetitive contracts and made vast amounts of money off the war. Fifth, America is not paying for this war as we go. We have gone into debt to pay for it, and taxes have been cut. The cost continues to grow, and there is no end in sight.

Given the systematic untrustworthiness and incompetence of the Bush administration, how can an ordinary citizen like myself support the war? How can one's natural response to the whole initiative be anything but skepticism? Of course, I would like to see something like the surge strategy work, but this administration is so incompetent, so unrealistic, and so untrustworthy that it is surely foolish for me to go on believing.

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CHURCHLAND

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TO THE EDITOR:

Arthur Herman writes that the French in Algeria in the 1950's won the fight on the battlefield against the Islamic insurrection but lost the war because of perfidy at home by the likes of Jean-Paul Sartre and Simone de Beauvoir. Similarly, the United States military had the North Vietnamese against the wall in 1972, but we had to withdraw in defeat and humiliation thanks to the antiwar Left at home. Finally, he argues, just as we are poised for military victory in Iraq with the surge and the new leadership of General David Petraeus, the toothless Democrats are