

"INTELLIGENT DESIGN," NATURAL DESIGN, AND THE PROBLEM OF MEANING IN THE NATURAL WORLD

Robert Pollack

Without free will we cannot repent. Yet repentance in one's own mind—that is, the admission of a secret that one has kept from everyone else—is of course central to our actions. For Jews, it is the cornerstone of the observance of the Day of Atonement, Yom Kippur.

We read in Deuteronomy 29, line 28

Concealed acts concern the Lord; but with overt acts it is for us and our children to apply all the provisions of this Teaching.

This is a very clever and subtle obligation: on reflection, it is saying that concealed acts also require us to apply the provisions of “this Teaching/Torah,” but for concealed acts, the provision is precisely that we are to admit them before the Lord so that they are no longer concealed. Full repentance requires the full surrendering of secrets.

Rabbi Adin Steinsaltz is a major figure in the Jewish world, a commentator and translator of Talmud and other ancient Jewish texts into modern Hebrew—which won him the Israel Prize—and also into Russian, English, Spanish and French. Here is how he expresses this notion of repentance:

Certain sages include repentance among the entities created before the world itself. The implication of this remarkable statement is that repentance is a universal primordial phenomenon; in such context it

has two meanings. One is that it is embedded in the structure of the world; the other, that before we were created, we were given the possibility of changing the course of our lives. In this latter sense repentance is the highest manifestation of our capacity to choose freely—it is a manifestation of the divine in human. By repenting, we can extricate ourselves from the binding web of our lives, from the chain of causality that otherwise compels us to follow a path of no return.



Now, in order to make this notion clear by example, I wish to share with you all a story of a decision to let go of a secret, and of its unexpected consequences. The story begins with an excerpt from a talk I gave on winning an award from a synagogue about six years ago:

. . . A little history: my mother's parents came to New York from Vinnitsa in Ukraine, not far from the birthplace of the Baal Shem Tov. They were more pious than learned, with a tendency toward superstition; I clearly remember the red thread tied around my brother's neck when he had a bad case of appendicitis. My father's parents came from Ciechanowiec near Bialystok in Poland. They were small businesspeople, neither learned nor pious, but serious about their Jewishness; one of my grandfather's brothers left Poland for an illegal immigration to Palestine in 1936, under Jabotinsky's wing.

My parents both shunned the synagogue, choosing instead to raise my brother and me in the ideals of a totally secular vision of eventual Redemption through political action. That meant that though I learned Yiddish—the language of the Jewish working-class—I was carefully kept from Hebrew, and my Bar Mitzvah, such as it was, would not have been an event any of us would want to revisit.

Neither of my parents was able to attend high school, dropping out in their early teens to work, and then being trapped in the great economic Depression of the 1930s. Though their political convictions kept me from synagogue, they had no hesitation about seeing that I went to school. When I entered Columbia College in the fall of 1957, I was traveling not that much less of a distance from my parents, as their parents had traveled when they crossed the ocean fifty years before. When I

met Amy and we married in 1961, it was a union of two secretly pious but very uninformed Jews.

All this was true, but it was not the whole truth. I had kept the missing part secret for half a century. I was able to state it in public only a few years ago, when I was asked to present a question to Rabbi Steinsaltz, before an audience of hundreds of observant Jews who had gathered together to honor him.

As part of such evenings' festivities, the Rabbi intends to teach, and toward that end I was given the honor to sit on the stage with him and pose a question. I took it as the chance at last to repent from my secret, by telling this story, in the form of a question to the Rabbi:

... here is a simple family problem for you: What is the right thing to do in terms of honoring ones' parents, when one or both of one's parents are dishonorable? How does one balance the obligation to honor them with the obligation to honor one's country, one's fellow Jews, and one's own family?

Take a person who has had some reasonable success in life. Imagine his life some forty or fifty years ago. He is an American boy with two Jewish parents, themselves born of immigrants from Poland and Ukraine. Both parents have been open members of the US Communist Party from before the war, through the worst periods of McCarthyism. Now the boy is in College, and he meets one of the first Soviet visitors to an American university, and introduces him to his parents.

The Russian is of course a KGB agent. He recruits the father, and the father attempts to get the son to obtain secrets from his school laboratory, for the Russian. The son declines, chooses to keep silent rather than turning in his father, marries, and goes to Israel as a scientist, supported with grants from the American government to carry out cancer research in Israel. There the father visits, and tries to get the son to obtain secrets from Israeli military research establishments. The son again declines and chooses to keep the father's behavior a secret.

The father and mother die, unrepentant; the son remains burdened with this story, which he feels he must continue to keep secret. Now, what is your advice to the son: how was he to honor his parents while they were alive; how is he to honor them now?

I'm really curious, as this is of course my own story.

The Rabbi's answer was clear. He referred to the commandment which can be read as saying, "Honor your parents; I am your God." He said that according to Jewish law and tradition, to honor one's parents need not be to obey them; rather, one honors them by following the Laws given by God to Moses at Sinai, regardless of whether or not one's parents approve.

His answer was of course not so schematic; rather, it was a set of stories in turn. In one I remember, from Talmud, he said that when a judge receives testimony concerning his father's role in a criminal act, the son may pass any judgment on the father short of the death penalty, which he may not exact; in another, Talmud says that a father may not escape punishment from the court for abusing his child on grounds that a child is his property; he is to be punished as if he had abused a total stranger.

The rest of the evening went on as if I were in a dream. I had lived for four decades in silence, certain until then that the secret of my father's requests could not be spoken without the direst consequences to me and everyone around me. But the Soviet Union had fallen, I was a *Zakayn*, an Elder myself, and people were crying with me, not yelling at me.

As the evening wound down an old—really old - man came up to me to tell me the following story in turn: almost sixty years earlier he and his father had been taken by the Gestapo to a death camp. His father had told him to stand by him on line; until then this man was, as a boy, absolutely enthralled by his father, and he had never disobeyed him. At that moment though, he did disobey, and went to another line, with younger men and boys. Of course his father was on the line that led directly to death by suffocation, and his corpse was burnt to ashes while the boy was left to live.

Only that night after I spoke, he told me, was he able at last to tell anyone this story; he too had kept it a secret for even longer, afraid that if he told it, he would be severely punished for having disobeyed, and thereby having lived while his father died. Like me, he said, he had kept alive a fear for decades past the time when anyone could, or would, punish him for any reason attached to his own behavior at an impossible moment. We embraced, he left, and I went to tell the Rabbi what had happened. The Rabbi's response was immediate:

That's why you were here tonight; not for me, not for yourself, but for him.

* * *

What has science to contribute to this problem of knowing why one “is here,” that is, why one chooses to do one thing and not another? What has science to say about the larger question, “How does one know right from wrong?” These questions of what is right, what is wrong, and what has science to say about how we decide, all go to the matter of free will. They therefore also go to the heart of the problems raised by the notion of “intelligent design.”

Here are two pointed answers to my questions, from past generations, one from a great scientist, and the other from a great humanist:

“What I’m really interested in is whether The Lord could have made the world in a different way; that is, whether the necessity of logical simplicity leaves any freedom at all.”

“Science is meaningless because it gives no answer to our question, the only question important for us: what shall we do and how shall we do it?”

As it happens, the first quote is from Einstein, and the second is from Tolstoy. But the matter they struggle with is the same, and their ways of expressing it are not that different after all. In this context, we may begin to understand the lure and the snare of “Intelligent Design.”

It is a way of laying the cruelty and loss of life we least can understand at The Lord’s feet, so to speak, and saying of the pain and loss: “this is a measure of The Lord’s intelligence.” Surely that cannot be right—how much better is either Einstein’s question or Tolstoy’s answer—they may have little in the way of overt religious content but at least they both avoid the religious arrogance of claiming to understand The Lord’s Intelligence, and the obtuseness of claiming that intelligence to be reflected in a natural world built upon mortality and then filled with human cruelty.

Religious thought has two terms that must be brought into play here, for us to understand what they, and we, are facing: theodicy and eschatology. Theodicy refers to matters that seem to challenge the notion of a The Lord that is at once all-powerful, all-knowing, and all-good.

Students of theodicy distinguish between challenges of this sort that arise from our own avoidable actions—think Auschwitz—and challenges that emerge unbidden and unchosen from nature—think of the suffering victims of the tsunami, or of the city of New Orleans so like the city of Nineveh after Katrina

broke her dikes, or of any sick child. Of these two kinds of evil, the challenges from nature are by far the most difficult for us to fathom, as they are the ones we cannot control by making the right choices. Human evil made an evacuation plan that had no place in it for people too poor or sick to drive out of the city on their own, before Natural evil overspilled the levees of New Orleans.

In terms of theodicy, Einstein is asking whether The Lord has any choice but to permit what we perceive as natural and human suffering, and Tolstoy is answering by turning away from science altogether in the face of the problem.

Eschatology deals with matters of endings, in particular with the implications of the notion that this world may end but that if it does, it will not be the end of us. "Intelligent Design," by arguing for the evidence of The Lord in this world, seems to have little to say about eschatology. But on reflection it is probably of interest to most people precisely as an expression of a particular eschatology, in which the theodicy problem above is reduced in importance by the notion that all suffering in this world—though it might well be part of The Lord's design—is but a preamble for a world to come, in which a totally new Intelligent Design will provide all the solace, peace, and love of which nature seems so severely depleted.

Well, we can run but I do not think we can hide. The absence of purpose, the impossibility of perfection and the centrality of individual mortality—Frost's "multiplication table of life"—is the Natural Design of life. But while facing up to these aspects of Nature brings with it the risks Frost describes, acknowledging the reality of Natural Design also offers us a great opportunity, to choose to repent, and to act not to do harm but to do good.

This is why as an article of faith, "intelligent design" is truly powerful, and deeply troubling. As science, it is meaningless: nothing in nature supports it; nothing in nature demands it; nothing we can do will either prove or disprove it. But as a belief, it distracts us all from acts that we—as individuals but more important as families, faiths, nations and even as a species—can perform in this world, to diminish the catastrophic consequences of natural disasters and human cruelties.

I want to argue that it is time to shed our denial, the denial that leaves us—like the badly rattled friends of Job—trying to escape the burden of theodicy by reducing the Lord's purposes to ones we can easily understand. We can then look again at Natural Design, with neither fear nor false certainty about matters we cannot know. Here is what we find, and here is where my wife Amy's drawing, following this text, will be useful.

* * *

First, we find that all life is related. Second, we find that our lives—every human life—is lived best in relationship with others, and that whether or not two persons think they are related, they are. These two aspects of Natural Design, though they do not relieve us of the burden of mortality, do point us in an unexpectedly liberating way, to a life of meaning.

Life's Relatedness

The tens of millions of kinds of living things which can have fertile offspring with each other—we call them species—share a common ancestry. Out of this fact of common descent comes the unlikely notion of a species having a finite lifetime. Species are not the stable entities they seem to be; each collection of slightly different individuals capable of producing fertile offspring despite their differences is transient. As the variants in each species jostle with each other for food, space and a fighting chance for their offspring some will survive and others not; in time species will change as a result. Eventually—a species' lifetime that can run for many millions of years or can be much shorter—it will either die off as it is pushed aside by other species invading its ecological territory, or be supplanted in that territory by a new species emerging from a minority of its members.

The two notions of common descent and species mortality were well laid out by Darwin and confirmed by others immediately thereafter, but it took another century for another unintuitive insight to complete today's scientific understanding of the origin of species: the fact that inherited changes in a chemical called DNA could accomplish much of what the Darwinian ideas of common descent and origin of species required.

DNA, assembled in long, informationally rich threads called chromosomes, forms the genome of a species. A genome carries all the information necessary for the construction of each organism in a species; organisms in a species vary from one to the next because their genomes vary. Each of us carries our version of the human genome in each of our million billion cells. Each of us—and each individual in every species—becomes slightly different from the others because the copying of a DNA genome from generation to generation is never error-free.

When error generates new sequences of DNA that happen to encode enhanced survivability in a species' offspring, a new fertile population may emerge from an existing species. In time it may become a new species, replacing

its parent; species themselves are thus no different from the individuals that make them up: like individuals, species are born, live, and die. That is why either replacement or simple disappearance is the certain fate of all species, including our own. These facts from science tell us, in other words, that our species—with all our appreciation of ourselves as unique individuals—is not the creation of design, but the result of the sifting out of meaningful texts from a set of randomly-generated typos.

In earlier times there were no humans, and even earlier times there were no mammals, nor vertebrates, nor any organism bigger than a single cell. From those earliest times until now, all that we might want to think of as progress has been simply the selection of one subset of DNA sequences or another from a constantly refreshing pool of copying errors. We can be fairly certain that replacement or death will be the fate of all humanity as a species, just as death is the certain fate of every person.

The methods and strategies of science have thus brilliantly succeeded in explaining how we got here and where we are going next, and the explanation seems at first sight to leave absolutely no room for meaning, nor for purpose. A mutation just happens to land in the sperm or egg that will make one individual and not another; no design to its occurrence is either necessary nor even demonstrable. This most successfully defended null hypothesis of science has been so amply confirmed that there is no longer any reason to doubt it.

The living world, ourselves included, is intrinsically imperfect and intrinsically unperfectable. It changes, but even the changes that make each of us individually unique and interesting to each other are meaningless differences in DNA, creating the differences among us toward no purpose beyond the possible improvement in survival of one or another particular version of DNA over time. Even that imputation of purpose to the data may be unjustifiably teleological.

I am not exaggerating the seriousness of this problem: scientific insight into the meaninglessness of DNA-based life is not simply missing meaning. It is the demonstration that a satisfactory, even elegant explanation of the workings of this aspect of nature actually conflicts with the assumption of purpose and meaning. There is neither the need, nor any sign, of an unknowable designer in these data, nor any sign that greater meaning and purpose will one day be drawn from these data.

Honest scientists know their limits. Newton excused himself from the task of finding meaning in his discovery of the laws that govern the movement of stars and planets by saying "I have not been able to deduce from phenomena the

reason of these properties and I do not feign hypotheses.” Unless we force science to do just what Newton did not deign to do, and simply articulate our wishes as if they were in the data though they are not, we must accept the meaninglessness and purposelessness of our presence on Earth as the verdict of testable science.

Yet you may, as I do, find it impossible to understand your place in the universe on these facts alone, and find yourselves asserting with me the irrational certainty that there must be meaning and purpose to one’s life despite these data. This irrational certainty that there is meaning—based not on data but on emotional necessity — is itself a data point about the living world that can and must also be understood.

Free will is the irrational key here: the fact that we find within ourselves the capacity to choose — on any grounds at all, but especially on irrational grounds, against judgment, against data, against survival, against reason, even against death — to learn, remember, teach and act in this way and not another, returns meaningfulness to us.

The framework of Jewish understanding of our place in the world, our responsibilities to the Lord, and to each other, is built upon the unique human capacity to make irrational choices as well as calculated decisions. Decisions may be made by members of other species, and the selective advantage of brain wired for logical planning is plain, but only a person can make a choice despite calculation, rather than because of it.

The Lord, who has existed before time and the universe began, created both time and the universe in order to have, in time, creatures—the word means things created—with free will, who could then choose to say thanks for their and the world’s existence. For thanks to be proper and meaningful—the proper form of thanks is to bless the Lord—these creatures would need absolute free will to choose whether or not to do so.

Hence the unavoidability of randomness, accidents, and for that matter evil in religious terms: all must be allowed to result, whether by the wrong human choice or by truly random occurrence, because to allow any to be preventable by pre-determining human choice, would be to gut the purpose of the Creation. The absolute requirement of human free will in this religious vision shifts human choice into the foreground, and mechanisms of natural selection which yield a person who can make the unexpected choice into the background.

This line of argument is articulated beautifully in Adin Steinsaltz’s book *The Strife of the Spirit*, in the essay “Fate, Destiny and Free Will.” I had not yet read his

essay when he and I first talked about these matters. I had just read an earlier article by Richard Dawkins, and was quite astounded by his capacity to reduce religious thought to an especially successful kind of ideational parasite. Rabbi Steinsaltz's answer was to give me a reference to his essay, with the passing remark: "The Lord says, 'Get Me a thinking creature, I don't care how.'"

From that religious perspective, natural selection would be a wholly natural mechanism which would eventually yield creatures with the capacity to propagate ideas, but also the capacity to exercise free will, that is, to make a choice of thought or action that is totally free of utility in terms of natural selection, either in the mental or in the physical sphere.

In my religious terms, then, it is the scientifically empty, unprovable reality of free will that allows us to accept an idea, or not. That choice—available to all people as our human birthright—makes us all the active determiners of our fate rather than the passive vectors of our thoughts. In my scientific terms, free will is a fact of nature that can put all other experimentally derived facts of nature on a par with the unknowably derived, felt impulse to violate natural selection by acts of loving kindness.

Human Interdependence

How then can those of us who are religious and who accept the natural world as it is, move beyond the small satisfaction of recognizing "intelligent design" as a surviving but otherwise meaningless meme, when confronting our own unsatisfied yearning for meaning? Each religious scientist will have his or her own answer.

Mine is grounded in the fact that no mind can properly emerge in the brain of a tiny child unless that child is deeply and completely loved in its first few years of life. From this fact comes the idea that we are therefore each obliged to spend our lives in acts of loving kindness, out of simple gratitude for that gift having been given to us in our beginnings. This idea may be only a meme as well, but the acts it impels will relieve the real pain of Natural Design.

Pain, suffering, unreasonable maldistribution of good and bad fate: these are the very stuff of natural selection, the visible expression of the random genetic variation which provides nature with the eerie capacity to produce some living thing that will survive any contingency. To work against these aspects of life is to work against its deepest mechanisms, and also to work against the meaninglessness of these mechanisms.

We face today a local, national, international, and global failure to extend

to strangers the minimum amount of respect and love that is the only fully human relationship between any two people. In his 1987 novel *A child in time*, Ian McEwan says of a senior civil servant,

The art of bad government was to sever the line between public policy and intimate feeling, the instinct for what is right.

At a time when the line seems quite completely severed in our country if not the world, we must try to understand, and teach how to correct, this scandal of neglect and denial that embarrasses our science and trivializes our faith.

We have been around only a very short time.
Amy Pollack



We are on a rocky, metallic planet composed of the dust of dead stars, orbiting a middle-aged star born of the same stardust some 5 billion years ago. Our sun may live another 5 or ten billion years but no more. It sits in an arm of a galaxy born some 10 billion years ago, in a universe born some 13.75 billion years ago. This drawing by my wife Amy asks that you think of each million years since that beginning of time as being a page in a book. Today that bookshelf would hold 30 volumes of 450 pages each.

The first 21 volumes would have nothing in them about life that we have found as a fossil. From fossil and sequence evidence, we can infer that the informational molecule DNA would have been born some time in that volume, because archeobacteria, the first forms of life, would appear in the seas in volume 22.

Bacteria would continue to be the only shape life took for volumes 23 and 24 as well, though the ones emerging in volume 24 would change the planet's atmosphere to one rich in Oxygen, by bacterial photosynthesis.

Big-celled forms of life like paramecia and diatoms would appear for the first time in volume 25.

Living things made of many big cells would appear in volume 27.

Animals would remain in the seas where life had begun until the first forms of animal life on land—the first tetrapods—march on shore at the end of volume 29.

Dinosaurs would appear in the middle of volume 30. They would for the most part be wiped out by an asteroid on page 385.

Only the last 65 pages of the last volume would have anything to say of significance about mammals, like the cat.

The last ancestor of both us and our nearest relative, the chimp, would have lived and died only by page 440. From that ancestor many other ancestral hominoid species would follow, each coming and going in the last ten pages.

We humans would have a note about our emergence in Africa, on the last tenth of the last page of that last volume.

And then, somewhere toward the last sentence so far, would be the emergence of language, texts and, in that mental world, thoughts of imagined and imaginary creatures like *Alice in Wonderland*.

The period at the end of that sentence, would hold the time since science took hold of our imaginations as a way to understand all this.

—Bob Pollack, 2007



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TITLE: |DdINTELLIGENT DESIGN,|DD NATURAL DESIGN,
AND THE PROBLEM OF MEANING IN
SOURCE: Cross Currents 57 no1 Spr 2007
PAGE(S): 125-37

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