

PROVING GOD II
The Ten Commandments and Other Rules for Life
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OPENING WORDS

BELIEVE OR BE DAMNED!

I always wanted to stand in a pulpit and do that

Believe or be damned! It just didn't offer a persuasive argument for me.

GOD---ALMIGHTY GOD---ALL SEEING GOD---ALL CONTROLLING GOD---
REDEEMING GOD---JEALOUS GOD---VENGEFUL GOD---LOVING GOD—ALL
POWERFUL GOD---

A God like that has just got to leave tracks.

After all, the existence of the planet, Pluto, was a matter of faith before it could be proven. Scientific philosophers proposed the existence of atoms and then research scientists proved their existence---theory, faith, followed by proof---ditto with neutrons, quarks, brain functions, viruses, DNA, underground oil supplies, pre-historic birds, massive meteor strikes, black holes, a round world, and the Big Bang. I think we've got the round world theory on pretty sound footing, but the Big Bang issue is still a bit shaky around the edges.

God as a Being---God that influences---God of substance—A God that is more than a whimsical feeling through the ether.

Yes, a God like that has just got to leave tracks.

And the existence of such a God should be provable!!!

In October of 1999, in Chapter I of this series, we donned our hunting cap over our camouflage brain and went looking for God tracks. There's been rumors of God busy in the thicket of evolution, so we figured that's one good place to start. Start is kind of a misleading word here since some of us have been on this hunt all our lives. Anyway, we knew from our childhood research that God wasn't too keen on being found – look on His face and die and all that kind of stuff. We decided we wouldn't take that risk but we would settle for tracks, God tracks.

The rationale was and remains that nothing can make tracks like God. And if we found God tracks that were for sure, God tracks, and we could prove them to be so by eliminating all other possibilities, The hunt would be a success. Convincing others – well, that's another issue.

We plunged into the thicket of evolution, beat on our drums, rattled our cans, and tried to flush out God. We saw lots of tracks that others said, “That’s His imprint”. But the more we studied those imprints, the more we found support that those tracks were more and more easily explainable. Although they could be God tracks, they weren’t necessarily God tracks. The keys were time and the Darwinian process. We learned that with enough iterations, enough generations, enough time, the path from mud to man is understandable without divine intervention. We also learned that mud to man is random. It could have been mud to mork, mud to thwad, mud to whatever. It just so happens the creature that came up at the point creatures could talk about such things is homo sapiens – at least so far. What is today’s man a predecessor of? Well, hang around a few million more years and let’s see what happens. The process is continuing.

Today we’re into a different thick hunting God tracks. This thicket doesn’t have such a handy name as evolution. This thicket could be called morals, or virtue, or rules to live by, or something like that. Sociobiologists might call it the structure of society. How we deal with each other. According to the Bible, Koran, Torah – what is right and what is wrong – angels and sinners and all the shades from white to red.

Much of this talk on how we figured out how we should relate to one another to get along is plagiarized out of a number of books. Paramount among them are the Bible (no author given on the title page), Matt Ridley’s “Origin of Virtue”, “The Mammal in the Mirror” by David and Ilona Barash, father and daughter, and old Dan Dennert again in “Darwin’s Dangerous Idea” -- second half.

The rules of life as handed down from on high are similar regardless of the particular brand of theology—all gods seem to think pretty much the same on these issues. I guess there is an exception when it comes to the eye for an eye part, especially in the Middle East countries that start with “I”.

Let’s take a quick refresher walk through Exodus jumping in around Chapter 19 where the children of Israel approach Mount Sinai. God says to Moses “don’t let them come too close lest they gaze on me and perish.” (That’s why we stick with tracks – no need to take foolish chances). Once the chosen people are all there... gathered... waiting...expectant, God calls Moses and Aaron up the mount. Chapter 20 has Moses reporting God’s words...pretty much the Ten Commandments and finishes up with some altar building instructions. Chapter 21 moves on to rules for owning indentured servants, selling your daughter, and how to treat a misbehaving ox. In Chapter 22 God, through Moses, covers theft, trespass, usury, and a few other items on how to make society work. He gets into what some folks might call family values with “If a man entice a maid that is not betrothed, and lie with her, he shall surely endow her to be his wife. If her father utterly refuses to give her unto him, he shall pay money according to the dowry of virgins.” Things get a little touchy when he tells the people to be they kill the witches. At least I think that’s what is meant when he says, “Thou shalt not suffer a witch to live.” He gets into lying with beasts and stuff. (I’ll leave that discussion to someone else.) Then scares the wits out of you when it comes to orphans and sure widows. If you afflict either (not sure what that means, but you certainly don’t want to do it), his wrath shall wax hot and I will kill you with the sword and your wives shall be widows, and your children fatherless.” Chapter 23 gets into unjust judgment and a bunch of other stuff that makes society work. Chapter 24 has Moses back up on the mountain with God taking notes. I mean Moses taking notes...God never takes notes. In Chapter 25 and 26 Moses

gets the plans on how to build the tabernacle including how many cherubs and where to put them. Chapter 27 covers the altar and brass vessels. 28 through 31 assigns personnel to do the building and manning of the tabernacle, including priests, etc, but now we're into contracting – drifting away from rules of life. Chapter 32 reports how Aaron and the folks waiting around for Moses to come down the hill with all this, get bored and start melting gold to start their own version of who's boss. Well, Moses shows up at a bad time and throws a fit which ends up with all his writing smashed.. The Lord is generally peeved. The children of Levi are directed to do a bit of ethnic cleansing among some of the other tribes. Around 3000 die before he's got their attention. Then God threatens to destroy the rest of the Israelites and place his favors elsewhere. One wonders where elsewhere might have been – the Incas, the Norsemen, the Hottentots, the Huans in China? Fascinating to consider the consequences of that change of allegiance.

Anyway, Moses gets him to calm down in Chapter 33 and Moses gets a new set of tablets in Chapter 34. In Chapters 35 through the end, Chapter 40, the Israelites and God make a deal to work with each other. The Ark memorializing this covenant is built as are the other accoutrements and the Bible moves on the Leviticus...more laws to live and die by. And humankind has its laws – good laws in general, that seem to keep everybody in line and pulling in the same direction.

As for Moses, Aaron, and the other authority figures through the ages, they pick up a great argument stopper. “God said.” When those two magic words are put on the table, logical debate ceases. In rational poker, logic beats chaos. But God trumps logic. God taught humans how TO “just get along”. Those rules for life are God tracks. But are they?

Thomas Henry Huxley argued that nature was an arena for pitiless struggle between self-interested creatures. This placed him in a long tradition going back through Malthus, Hobbes, Machiavelli and St. Augustine to the Sophist philosophers of Greece, which viewed human nature as essentially selfish and individualistic unless tamed by culture.

Peter Kropotkin disagreed. Now Kropotkin is remembered as a Russian prince who dined at the Winter Palace by day and fomented revolution as the pamphleteer “Borodin” by night. He developed great renown as a firebrand speaker, which led to his arrest, exposure, imprisonment, escape, and exile in Western Europe and England. In 1888, balding, bearded, bespectacled, rotund and kindly, Kropotkin wrote what would be his legacy, the book, “Mutual Aid: a Factor in Evolution.” He argued with Huxley and others that life was not a bloody free-for-all, but was characterized as much by cooperation as competition. The most successful animals, indeed, seemed to be the most cooperative. If evolution worked by pitting individuals against each other, it also worked by designing them to seek mutual benefit. Kropotkin refused to accept that selfishness was an animal legacy and morality a civilized one. He saw that animals which acquire habits of mutual aid are undoubtedly the fittest. Where in Huxley's world of struggle could he explain altruism. He argued that from the most primitive tribes right on through the rural village to the structure of the Medieval guild, the more people helped each other, the more the community thrived.

Kropotkin's was not a mechanistic theory of evolution, like Darwin's. He could not explain how mutual aid gained such a foothold, except by the selective survival of sociable species and groups in competition with less sociable ones, which was just moving survival from the individual level to the group level. Is this tendency toward mutual aid one of the God tracks we've been seeking? Does society work because the

big he (or she) invented it? Or is it possibly an ancient product of evolved pre-dispositions. Literally, is it in our nature? One of the things that marks humanity out from other species, and accounts for our ecological success, is our collection of hyper-social instincts.

Yet to some people instincts are animal things, not human. The conventional wisdom in the social sciences is that human nature is simply an imprint of an individual's background and experience. But our cultures are not random collections of arbitrary habit. They are canalized expressions of our instincts. That is why the same themes crop up in all cultures – themes such as family, ritual, bargain, love, hierarchy, friendship, jealousy, group loyalty and superstition. That is why, for all their superficial differences of language and custom, foreign cultures are still immediately comprehensible at the deeper level of motives, emotions and social habits. It has been stated that our human history is about the billion-year coagulation of our genes into cooperative teams, the million-year coagulation of our ancestors into cooperative societies, and the thousand-year coagulation of ideas about society and its origins.

There is nothing in principle that stops cells working alone: many do, successfully, as amoebae and other protozoa. In one especially strange case, the creature can be either a single cell or a fungus-like growth. The slime mold consists of a group of about 100,000 amoebae that go their separate ways until conditions become unpromising. Then the cells all gather together in a mound, the mound grows taller, falls over and then sets off as a “slug” the size of a grain of rice, looking for pastures new. If it fails, the slug adopts the shape of a Mexican hat, from the center of which a ball of cells gradually grows upwards, supported by a long and slender stalk. The ball hardens into 80,000 spores, which wave in the wind, hoping to catch the body of a passing insect that can unwittingly transport them to a better place to start new colonies of independent amoebae elsewhere. The 20,000 stalk cells just die, martyrs to the fraternal welfare of the spores. How do these individual, independent creatures know to do that? No answer yet.

There was a revolution in biology in the mid-1960's pioneered especially by two men, George Williams and William Hamilton. This revolution is best known by Richard Dawkin's phrase “the selfish gene”, and at its core lies the idea that individuals do not consistently do things for the good of their group, or their families, or even themselves. They consistently do things that benefit their genes, because they are all inevitably descended from those that did the same. None of your ancestors died celibate.

The insight came out of both theory and observation/experiment. all sorts of behavior that had seemed puzzling when seen through the lens of the individual or the species, suddenly became clear when seen through a gene-focused lens. In particular, as Hamilton triumphantly showed, the social insects, by helping their sisters to breed, left more copies of their genes in the next generation than by trying to breed themselves.

The mental impact of this revolution in biology for those close to it was dramatic. Like Copernicus and Darwin, Williams and Hamilton dealt a humiliating blow to human self-importance. Not only was the human being just another animal, but it was also the disposable plaything and tool of a committee of self-interested genes....indeed, for one of Hamilton's readers the impact of the idea of the selfish gene was tragic. George Price taught himself genetics in order to disprove Hamilton's Stark conclusion that altruism was just genetic selfishness, but instead proved it indisputably correct – indeed, even improved the algebra and made some important contributions to the theory himself. The two began to collaborate, but Price, who was showing increasing signs of mental instability, turned to religion for solace, gave away all his possessions to the poor and

committed suicide in a bare and cold London squat, some letters from Hamilton among his few possessions.

In spite of the apparent veracity of the “selfish gene” theory, all human beings share a fascinating taboo, the taboo against selfishness. Selfishness is almost the definition of vice. Murder, theft, rape, and fraud are considered crimes of great importance because they are selfish or spiteful acts that are committed for the benefit of the actor and the detriment of the victim. In contrast, virtue is, almost by definition, the greater good of the group. Those virtues (such as thrift and abstinence) that are not directly altruistic in their motivation are few and obscure. The conspicuously virtuous things we all praise – cooperation, altruism, generosity, sympathy, kindness, selflessness – are all unambiguously concerned with the welfare of others. This is not some parochial Western tradition. It is a bias shared by the whole species.

George Williams put the question thus: “... could maximizing selfishness produce an organism capable of often advocating, and occasionally practicing, charity towards strangers and even toward animals?”

Each of our organs, each muscle, each tooth, each nerve and each bone plays its separate part in the whole enterprise. Nothing tries to do everything at once, which is why we can achieve rather more than slime molds can. This system of virtues, morals, and structure has made possible a society of individualist contributing to the whole. Can we discover a selfish, evolutionary route to the “rules for life”? If so, what we thought were God tracks, might not be.

Adam Smith in “An inquiry into the nature and causes of the Wealth of Nations”. Writing at the dawn of the Industrial Revolution, Smith prophetically described in a few pages the sole reason why the material wealth of the country and the world would vastly increase in the ensuing Two centuries and more. (He also recognized the alienating effects of too much specialization, writing that ‘The man whose life is spent in performing a few simple operations...becomes as stupid and ignorant as it is possible for a human creature to become, thus presaging Karl Marx and Charlie Chaplin.) Modern economists are unanimous in agreeing with Smith that the modern world owes its economic growth entirely to the cumulative effects of divisions of labor, as distributed by markets and fuelled by new technology.

Some biologist and most economists imply that specialization is a recent development. Matt Ridley believes the hunter-gatherers were subtly specialized hundreds of thousands of years ago. Modern hunter-gatherers certainly are: among the Ache of Paraguay, some men are known to be good at finding armadillos in their burrows: others are good at digging them out. Among Australian Aboriginal to this day there are people who are revered for certain skills and talents.

Would such a relationship between individuals develop without a “Virtues for Dummies” book from God? In Chapter One of God tracks, I mentioned the Prisoner’s Dilemma as a game playing tool that is as old as the hills in the area of economics. As a reminder, two prisoners are each faced with the choice of giving evidence against the other and so reducing his own sentence. The dilemma arises because if neither defects on the other, the police can convict them both only on a lesser charge, so both would be better off if they stayed silent, but each is individually better off if he defects. Many

believed the only rational approach is defecting – at least then you are never left sentenced to life.

Broadly speaking, any situation in which you are tempted to do something, but know it would be a great mistake if everybody did the same thing, is likely to be a Prisoner's Dilemma. If everybody could be trusted not to steal cars, cars need not be locked and much time and expense could be saved in insurance premiums, security devices and the like. We would be better off. But in such a trusting world, an individual can make himself even better off by defecting from the social contract and stealing a car. Likewise, all watermen would be better off if everybody exercised restraint and did not take too many oysters and crabs, but if everybody is taking as much as he can, the watermen who shows restraint only forfeits his share to somebody more selfish. So we all pay the collective price of individualism.

To reduce the complexity of life to a silly game is the kind of thing that gets economists and philosophers a bad name. But the point is not to try to squeeze every real-life problem into a box call "Prisoner's Dilemma", but to create an idealized version of what happens when collective and individual interest are in conflict. You can then experiment with the ideal until you discover something surprising and then return to the real world to see if it sheds light on what really happens.

Exactly this has occurred with the Prisoner's Dilemma game (although some theorists have to be dragged kicking and screaming back to the real world). A manic search began in the 1960's for an escape from the bleak lesson of the Prisoner's Dilemma – that defection is the only rational approach.

But cooperation is a frequent feature of human society; trust is the very foundation of social and economic life. Do we have to override our instincts to be nice to each other? Are people honest only when it pays them to be so. Since people are not invariably selfish, then they must not be motivated by self-interest, but by the common good. Was two hundred years of classical economics barking up the wrong tree?

The advent of computers allowed the development of game theory where large populations of "prisoners, if you would, played to a societal equilibrium. With many theorists exploring game theory of this sort, the discoveries on cooperation began. First, selfishness was not the rational thing to do after all –so long as the game is played more than once. Experiments confirmed this for when two colleagues played the game 100 times for small sums of money, the guinea pigs proved surprisingly keen to cooperate. On sixty of the 100 trials both cooperated and captured the benefits of mutual aid. Each admitted in notes made throughout the game that he was trying to be nice to the other to lure him into being nice back -until the very end of the game, when each saw the chance for a quick killing at the other's expense. When the game was played repeatedly and indefinitely by a single pair of people, niceness, not nastiness, seemed to prevail.

In the early 1970's, John Maynard Smith, an engineer-geneticist, saw that biology could use game theory as profitably as economics. And it is here that it helps us sort God tracks from, well, just tracks. Maynard Smith argued that, just as rational individuals should adopt strategies like those predicted by game theory as the least worst in any circumstance, so natural selection should design animals to behave instinctively with similar strategies. Maynard Smith called an evolved instinct that met an equilibrium an "evolutionary stable strategy".

But in the late 1970's, some scary things started to happen. Computers started using their cold, hard, rational brains to play the Prisoner's Dilemma, and they began to do exactly the same thing as those foolish, naive human beings – to be irrationally keen to cooperate. Robert Axelrod began to set up tournaments to explore this logic of

cooperation, another word for this thicket we are hunting in. He asked people to submit a computer program to play the game 200 times against each other program submitted, against itself and against a random program. The winning program was “tit-for-tat” or essentially do unto others as they do unto you. It beat all other programs and could only be beaten by itself.

What accounts for tit-for-tat’s robust success is its combination of being nice, retaliatory, forgiving and clear. Its niceness prevents it from getting into unnecessary trouble. Its retaliation discourages the other side from persisting whenever it is consistently treated poorly. Its forgiveness helps restore mutual cooperation. And its clarity makes it intelligible to the other player, thereby eliciting long-term cooperation.

Axelrod’s next tournament pitted these strategies in a sort of survival of the fittest war, one of the first examples of what has since become known as ‘artificial life’. This produced a fascinating series of events. First, the nasty strategies thrived at the expense of the nice, naïve ones. Only retaliatory strategies like “tit-for-tat” kept pace with them. But then, gradually, the nasty strategies ran out of easy victims and instead kept meeting each other; they too began to dwindle in numbers. Tit-for-tat now came to the fore and eventually, once again, it stood in sole command of the battlefield.

I could continue with more developments learned from this silly computerized version of cooperation versus predation decision-making, but suffice it to say that survival strategies beyond simply “tit-for-tat” showed ever-increasing success if the player possessed the ability to recognize and remember his opponent. The player could then utilize his previous experience with the individual to decide his next step. Some say this need to identify and remember drove us toward larger brains. When “players” of the survival strategy are programmed so they can share their knowledge of identity and reputation with other players, the computer reaches equilibrium sooner, more quickly eliminating the nastier variants. Others grab this fact as the driving force behind our complex language.

I wish we had time to take this next step into real life and talk about the mutual assistance between vampire bats of Costa Rica, African vervet monkeys, and other non-human creatures that exhibit an individual altruism with roots in “gene selfishness”. Many examples demonstrate the tendency toward altruism in many animals and in humans when they find themselves in rudimentary conditions. One memorable one is the prolonged trench warfare during the First World War. Encounters between the same opposing units occurred again and again changed the sensible tactic from hostility to cooperation, and indeed the Western Front was “plagued” by unofficial truces between Allied and German units that had been facing each other for some time. Elaborate systems of communication developed to agree terms, apologize for accidental infractions and ensure relative peace – all without the knowledge of high command on either side. The truces were policed by simple revenge. It became “tit-for-tat.” The “remedy” put into practice by generals on both sides was to move units about frequently so that no regiment was opposite any other for long enough to build up a relationship of mutual cooperation.

But the lesson for human beings is that our frequent use of reciprocity in society may be an inevitable part of our nature: an instinct. We do not need to be taught that “one good turn deserves another” against our better judgments. It simply develops within us as we mature, an ineradicable predisposition, to be nurtured by teaching or not as the case may be. And why? Because natural selection has chosen it to enable us to get more from social living.

Theorist Robert Boyd argues the importance for a successful strategy in ever larger groups to be highly intolerant of even rare defection, or else free-riders – individuals who defect and do not reciprocate – will rapidly spread at the expense of better citizens. The hardness of this position is at the core of many a debate within modern society.

From David Hume, “A Treatise on Human Nature, 1740”:

I learn to do service to another without bearing him any real kindness: Because I foresee, that he will return my service, in expectation of another of the same kind, and in order to maintain the same correspondence of good offices with me or others. And accordingly, after I have served him and he is in possession of the advantage arising from my action, he is induced to perform his part, as foreseeing the consequences of his refusal.

So what have we found in this thicket of rules to live by under the umbrella of “do unto others as you would have them do unto you”? It is true that we continually do things, day to day, hour to hour, minute to minute that set aside selfishness and immediate gratification. It is true that we take into consideration the impact of our actions on others. Is it true that those actions are “God tracks”? Or were we taught that over the eons by the basics of species survival? The ones and zeros on an IBM 7640 mainframe taught the same rules of cooperation and altruism in playing the “Prisoner’s Dilemma” in “artificial life”. If “Old Blue” and God get us to the same spot, it’s going to be a tough sell to prove to others that these imprints on our past are God tracks, for sure.

But don’t give up. There are more thickets and more hunts ahead. maybe one of those will uncover. Provable God tracks – if we only recognize them when we see them.