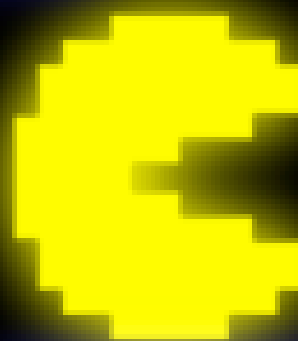


# MECHANISM

THE UGLY TRUTH

THAT NOBODY  
WANTS TO KNOW



DAREL REX FINLEY

# MECHANISM



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**The Ugly Truth That Nobody Wants To Know**

Darel Rex Finley

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PDF revision 1, October 20, 2005

PDF revision 2, November 20, 2005

PDF revision 3, November 29, 2005

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*For Shawn*



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## Introduction

*Consider this*

*Consider this*

*The hint of the century*

*“Losing My Religion” — REM*

WHEN I WAS A BOY, growing up in the plush, upper-middle-class, waterside city of Nassau Bay, Texas, I would ride my bicycle around the neighborhood, and one of my frequent stops was the local shopping strip which included a grocery store, a drug store, a music store, and other venues. Shopping centers delighted me, and my love of them would later bring me to identify the modern shopping mall as perhaps the supreme creation of humanity.

Unlike shopping trips in the car with my mother and sisters, going to the grocery store on my bike gave me the opportunity to explore areas that I otherwise might not have seen. I discovered that that the strip center had a backside. It was ugly, industrial, and generally uninviting. Boxes and crates sat around in random piles. The doors were gray, opaque, and anonymous. It seemed a completely different world from the customer-facing side. I realized that behind the pretty facade of a storefront and its shopping interior there was an ugly, functional area that was necessary to make the whole store work, but not nice to look at or interface with directly. The strip center, it seemed, was designed to hide all its ugly facets and present to the customer only the magical, finished products and services.

As I have wandered through life, I could not help but notice that the shopping center of my youth is closely analogous to all the good things in life. I remember

my surprise when as a small child I first found out that all books had authors and illustrators, who wrote every word and drew every picture. The realization was shocking; prior to that, I had a vague impression that the content of a book was somehow generated by the printing press that mass-replicated it. I was even more shocked to later learn that the Saturday morning cartoons I enjoyed each week — Bugs Bunny, Daffy Duck, etc. — were hand-drawn one frame at a time. 1977's *Star Wars* was the first motion picture to spark my curiosity into how movies are made, and the more I researched it, the more amazed I became both at how phony it really is, and how much work goes into such a short presentation.

My uncle Larry is a magician, so in my preteen years I wanted to be one too, and I learned a few illusions. Again, I was impressed at how much effort and specialized equipment went into making the impossible seem possible — and how important it was to keep the preparations and rehearsals secret from the audience, to whom the whole effect must seem effortless, as if you just waved your hand and wished it to happen — and it did.

The best tricks were always the ones that seemed bafflingly impossible. For example, a fellow student in grade school once pulled out a pack of playing cards in its box and asked me to name any card, out loud. I named the four of spades, whereupon this student proceeded to thumb through the deck face down until he came upon a single face-up card: the four of spades! My astonishment was amplified when he pulled that card out of the deck and showed me that it had a very different pattern on its back than did the rest of the cards. My mind told me that I had just witnessed the impossible, and for several hours I debated whether I wanted to be able to perform that trick for my friends, or preserve the magic by spending the rest of my life not knowing how it was done. Curiosity won out, and a trip to the local magic shop revealed how absurdly non-spectacular that trick really was. Soon, I was performing it for numerous friends and relatives, and though I knew that nothing even remotely impossible was going on, I could delight in the knowledge that they were experiencing the same wonder and amazement that I had known when I first witnessed the feat.

Many years later I had a similar experience while strolling through Opry Mills Mall in Nashville, Tennessee. The proprietor of the magic store spread out

a deck of cards face up and asked a boy in his small audience to name a card. The magician took the chosen card out of the deck and placed it under a rubber mat on the counter. Then he gathered the rest of the deck together, and turned it over to reveal, on the back of the top card, a crude, marker-drawn picture of a stick man with a top hat. The magician riffed through the cards and a jerky, animated cartoon unfolded: The stick man lifted the hat off of his head, reached into it, and pulled out a card — the exact same card that the boy had chosen! Again I had that rare thrill of witnessing the impossible, and again my curiosity was piqued. I wondered if the boy was a stooge — but then, at the urging of the boys, the magician made the mistake of performing the same trick again, and instantly I realized how it was done. Like most magic illusions, the effect is best when the audience is fresh and unspoiled, and has the experience impressed upon their minds for the first time. Having figured it out, the magic was ruined for me — but I could still appreciate the ingenuity of how the audience is fooled, and I can perform the feat for others if I am inclined to spend the time setting it up. Magicians are *quintessential* artists. A skilled painter or sculptor creates work that is startling in its ability, but magicians go further, performing feats that amaze by their apparent *impossibility*.

Professional photographers, I learned, shoot many hundreds of photos, but display only a carefully chosen few. Sometimes their shutters click rapidly, shooting multiple shots of the same subject in the span of just a few seconds, in the hope that maybe one of the captured images will look especially delightful — and of course most of the people who view that photo will never know about all the other photos that weren't published.

What happens when the functional underbelly of a work is inadequately concealed? The work is spoiled. To me, second-rate, traveling carnivals exemplify this phenomenon. The seedy down-and-outers (fugitives?) running the rides, the water hoses and electrical cables snaking about, the metal-cage whirligigs with exposed mechanisms, the row of portable toilets — all show far too much of how the carnival really functions. The best and most beautiful things *do* depend on such ugly necessity, but find artful ways to conceal it.

Often a photographer will get two shots of the same scene that each offer something of value, and must choose which one to display and which to sacri-

fice. Sometimes the photographer succumbs to the temptation to show the alternate version of the photo too (perhaps in a collection book) or an uncropped or unadjusted version of the photo. Every time I see this, I feel sharp disappointment, and realize that the photographer should never have done it. Once the decision is made which version of the photo to display, the photographer must stick with it, to avoid shattering the illusion of perfection that the solitary, magical photograph has created.

This is even more true of motion pictures. Once audiences across the land have been exposed to the original, theatrical version of a film, it only hurts to later release “improved” versions of the movie. The illusion of a great motion picture is that the events it portrays seem so real that the audience members walk away feeling as if they were *really there* and witnessed something that *really happened*. Making any changes to the film later only serves to detract from the reality of the events, much like trying to rewrite the history of actual events to suit one’s tastes of how those events should have happened. The director of the film is usually oblivious to this problem, because he has become accustomed to modifying and revising the film (during its postproduction), and so can easily forget that the audience does not experience it that way.

Computer programs are another form of magic art. When I was a teenager and mastering assembly language, I would amaze my computer-nerd friends with the things I could make the computer do, but I rarely gave them a glimpse of how much code or how many hours of debugging were involved in accomplishing those feats. They never saw the mistakes or the crashes of the unfinished program. When every bug was eliminated, and the program performed flawlessly, its reams of confusing code hidden away in a compiled application file, *then* it would be released to its audience, and in their eyes the program seemed to have appeared overnight, as if I just thought it would be neat to have, waved a wand, and *poof* there it was.

Robert Greene’s marvelous bestseller *The 48 Laws of Power* contains a chapter entitled “Make Your Accomplishments Seem Effortless.” In that chapter, Greene describes how much more people will like you, and want to cooperate with you, if you seem to perform amazing acts with no apparent effort. Even though the people around you know, logically, that some effort must have gone into your

accomplishments, the human tendency is to mentally minimize the effort that goes unseen, and the effect is one of perceived supernatural ability. Most of Greene's book is focused on how to foster an image in the eyes of others that conceals the mental and physical mechanisms behind it, and makes you appear to be what others want to see; what they want to believe it is *possible* for a person to be — but in reality is impossible.



As far back as Plato, there has been a strong belief among many cultures, religions, and philosophies that truth equals beauty — that beauty is somehow intrinsically linked to truth, and vice-versa. But in fact, it is not. The truth is ugly and pragmatic, and *beauty is an illusion*; an elaborately crafted illusion whose purpose is to please its viewers by creating the appearance that beauty is real. No one really likes to admit this — it's no fun, and it seems to spoil life. The idea that beauty is a lie is galling, but can be made more palatable by shedding the idea that all lies are necessarily evil. Some lies are intended to enrich or protect our lives and, should they be exposed, instead of recoiling in disgust at the ugly truth behind the beautiful lie, we can instead choose to turn the tables and become the new magicians, creating beauty for others. Instead of cursing the magician's fakery, we can take our turn with the magic wand.

The running theme of this book is that all things beautiful and magical are in reality concealing an ugly, complex, tediously created machinery, which is intentionally hidden from the beholder, so that the illusion of beauty will not be ruined. Many of the most cherished sentiments of humanity are centered around beauty having a life of its own, separate from ugliness and difficulty — so many statements found herein will be detestable, or at least cynical, to most readers. When an idea presented here strikes you as repulsive, remember that it must have once seemed repugnant and pessimistic to believe that humans live on a relatively tiny ball that drifts through a mostly empty universe. Ideas that seem cynical to the point of grotesquery today, have a way of becoming mundane knowledge tomorrow.

Science is the endeavor to find out how our world *really works*, and to some degree it requires us to put emotion aside — save the emotion of curiosity. The idea of setting emotion aside conjures up visions of *Star Trek's* Mr. Spock — a perpetually calm person who knows no anger, fear, sadness, or joy. But Mr. Spock is actually a misconstrued embodiment of the difference between logic and emotion, which are accurately defines thusly:

*emotion: the desire that a particular goal be achieved*

*logic: the tools of analysis and planning by which a goal may be achieved*

We can see by these definitions that logic is useful only in the presence of emotion. A hypothetical person who had logic, but no emotion, would have no goals to which to apply logic. Mr. Spock was not devoid of emotions — he had emotional desires to survive, to serve Starfleet, to perform scientific exploration, and to live by the Vulcan codes of behavior and honor.

What would an emotionless person be like? Would such a person perhaps be catatonic, doing nothing but sitting and staring, and waiting to die? No — to do nothing is an option, so even that would have to be emotionally preferred. We can see then, that a purely logical person, devoid of emotion, is not even theoretically possible. Any person or device with logical capabilities is also equipped with emotional directives. Even a logic engine much simpler than the human brain — a pocket calculator, for instance — includes emotional desires: the desire to await instructions received through key presses, and to then respond to those instructions by performing accurate calculations and displaying their results.

Phillip Johnson, founder of the modern Intelligent Design (ID) movement, says, “From science we may learn a great deal about how the world works, and how to get whatever it is we want, but unless we have another source of knowledge we will have no way to reason about the purpose of life and or exactly what it is that a rational person ought to want.”<sup>1</sup> This unfortunate choice of words betrays the fallacy in the whole attempt to tie the ID movement to exhortations to

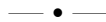
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<sup>1</sup> *The Wedge of Truth*, p. 37

behave morally. Johnson admits that science can tell us only *how* to do things, not what to *want* to do — but then he sticks in the word “rational” and violates his own premise.

The concept of “what a rational person ought to want” is a contradiction in terms. Reason (logic) is a tool that we use to figure out how to get what we want — emotion is the category of our wants. Wants do not spring from logic; to want to do anything (or nothing) is extra-logical. As Johnson himself has pointed out, logic is a way from getting from assumptions to conclusions. A purely logical being would have no assumptions (e.g. I want a red sports car) in the service of which to apply its reasoning powers.

The emotional desire relevant to scientific discovery is *curiosity*, but it is far from the only human emotion. Humans also have a strong desire to experience *unspoiled beauty*, and as we shall see, this comes into conflict with science, even in the minds of many scientists. To discover the truth around us, we must be willing to spoil the beauty, and content ourselves to experience beauty only vicariously, through the eyes of our young children, or the eyes of the audience members who view the carefully controlled end-products of our (extrascientific) artistic efforts.



The past century, the last of its millennium, has seen the split of civilization into two vehemently opposed camps. In the USA, these camps are called the Conservatives and the Liberals, or alternatively the Rightists and the Leftists.

The Conservatives (or Rightists) believe in the time-honored traditions of human society, such as religion, family, limited sexuality, and a strong military, plus some newer developments such as the free-enterprise system. The Liberals (or Leftists) view these traditions as arbitrary straightjackets which need to be overthrown to maximize human freedom. Liberals oppose also the free-enterprise system because they correctly perceive it as an obstacle to their planned eradication of restrictive traditions. Liberals recognize that, left to their own devices, most people will opt for the traditional routes in life — or that if change



comes, it will come much more slowly than could be achieved with direct government control.

Virtually all American politics (and much world politics) are centered around this fundamental dichotomy. It is the major contention of this book that almost no one, on either side of the split, wants to know what is actually true, even though the truth is usually right in front of their noses. Rather, people embrace any argument that supports their own, preferred vision, even if it does so only by eroding the strength of the other side. For example, Leftists embrace Darwinian evolution and materialist reductionism because those are powerful tools against religious scripture and its moral codes, from which the Left seeks freedom. Conversely, Rightists reject evolution (in its purest formulation) and reductionism for similar reasons. Neither side harbors much genuine curiosity to know whether or not Darwinism is actually true — and if not, what is.

People are at their most logical when criticizing others' positions, not when defending their own. When criticizing someone else's position, it is easy to find the flaws and draw attention to them. But when advancing their own position, those same people find it easy to gloss over or minimize flaws. We usually think of criticism as "negative," and advancing your own proposal as "positive." For example, politicians are frowned upon for running "negative" ads that smear their opponents. But how much useful information does a voter receive from a purely "positive" campaign, in which both candidates present rosy pictures of how they will lead the electorate to prosperity and security? It takes a "negative" campaign to reveal what is wrong with each candidate, and it is the negative campaigning that generally provides the voters with their best insight into what each candidate will do if elected.

The pursuit of truth is similar to an election in that the Right and the Left do wonderful jobs of revealing each other's flaws, but are far weaker when it comes to promoting their own, comprehensive vision. The time has come to skim the best of both sides and form a new vision that is free of obvious flaws. Many topics will be covered in this book, and some of the chips are going to fall one way, while others will fall the other way. Some will fall in a third direction, and others will disappear altogether into the void of meaninglessness. I cannot claim to have all the answers, but at the risk of being called arrogant, I believe that this

book will be the beginning of a true and frank discourse on what is really going on in the world, and most previous arguments will be seen to be heavily tainted with philosophical/social preferences — colored by what people wish was true.

When Minnesota governor Jesse Ventura said that “organized religion is a sham and a crutch for weak-minded people who need strength in numbers,” he unsurprisingly drew heavy criticism, but refused to back down. One of his aides explained that the governor believes in something called “brutal honesty.” Be prepared — there is going to be a lot of brutal honesty in this book, including many things which you may not want to know.

## Religion, Evolution, Design

*Between the velvet lies*

*There's a truth as hard as steel*

*"Holy Diver" — Dio*

FOR RELIGIOUS CHRISTIANS IN THE U.S. — particularly conservative ones who are more likely to disapprove of the teaching of evolution — certainly one of the most beloved Christmas shows is Frank Capra's 1946 film, *It's A Wonderful Life*. So ingrained is this movie in the American religious psyche that Stephen Jay Gould, America's most prominent advocate of Darwinian evolution until his untimely death in 2002, couldn't resist titling his most famous book "Wonderful Life," as a neat summation of the Cambrian fauna described in its pages.

Capra's film tells the heart-rending tale of George Bailey, a man who, faced with an overwhelming financial and legal crisis, considers ending his life by jumping off of a bridge, saying "I suppose it would have been better if I'd never been born at all." Then an angel takes him on a tour of the town as it would have been if George Bailey had never been born. George is horrified by what he sees, and begs the angel to give him a second chance. When George is given that chance, his friends rally around, and his crises are abruptly averted. Everything is fine once again. Tied in with a Christmastime theme and a Twilight Zonish narration by godlike entities in space, the movie projects an overall feeling that we are each special, irreplaceable, and watched over lovingly by our creator.

*It's A Wonderful Life* typifies not only the feelings of many religious, but also the feelings of most *anti-religious Darwinists*, such as Stephen Jay Gould, about their opposition. Darwinists feel that those who doubt the creative powers of random mutation and natural selection are simply clinging to a childhood model of living under the protective wing of loving, all-knowing parents, with all unpleasant punishments inflicted deliberately as acts of “tough love,” to teach us lessons. (And indeed, the desire to retain this sense of childhood security probably *is* at the root of most religious thinking.) Darwinists feel that to keep science safe from the historically demonstrated threat of religious suppression — or even theocracy — they must educate the religious on the true nature of the world. And what is that nature? The world is a cold, uncaring, materialistic place that happened to produce humans by accident. It cares not for our fates as individuals, nor even for our survival as a species.

Although enjoyable to watch in any case, *It's A Wonderful Life* is easily dissected and shown to be logically wanting. Why would George Bailey be gasping in horror if he had never been born? Half of what he's horrified about is that his friends don't recognize him — but what's really horrific about not recognizing someone who's never born? That's something we all do every day without even thinking about it.

Other things about the sans-Bailey town are more objectively horrifying, but each of them relies on the shaky assumption that George Bailey is the only person who could have or would have done any particular good deed. If George didn't save his brother, the other kids would have stood around and passively watched him drown, and if George's brother didn't shoot down the enemy attack plane to save his navy ship, no one would have — perhaps the antiaircraft gun would have stood unmanned while the officers on deck watched, like deer in headlights, as the plane came in to kill them. If George didn't notice the misfilled prescription, then whoever was working for the pharmacist wouldn't have even bothered to check its accuracy. If George didn't provide an affordable alternative to Potter's excessive loan rates, nobody would have. And if George didn't propose marriage to Mary Hatch, she would have become an old maid. Real life isn't like that. If you had never met your spouse, in all likelihood that person

would have married someone else — perhaps someone worse, but perhaps someone better.

When George decides not to suicide after all, what happens? His crisis disappears instantly and turns into renewed success. Is that realistic? Hardly. Persons who change their mind about suicide at the last minute usually suffer profoundly at the hands of the crisis that drove them to suicide's edge, and many of them then suicide later anyway.

And as with Capra's optimistic film, the general Christian Sunday-School picture of a benevolent, loving, perfect creator who watches over us, can be easily refuted by numerous counterexamples. Human history abounds with mass violence, tragic plagues, earthquakes, and other immense disasters. In the animal world, individuals routinely suffer horribly at the hands of others, and often do so as a necessity of the predator species's survival. Further, our bodies are rigged from the start to slowly degenerate into a feeble state that eventually proves fatal. What sort of all-loving, parent-like creator would do these things? It is no small surprise that the Christian religion also teaches the existence of a supremely evil being, Satan, who is said to be the source of all suffering and tragedy. God, we are told, allows Satan to inflict sufferings upon us in order to teach us, and to test our faith. But this explanation turns the Sunday-School creator into a tautological emptiness — all pleasant things in our lives can be attributed to God's love, while all unpleasantness can be attributed to God's allowing Satan to test our faith.

For generations in the western world, the presumptive alternative to the Christian tautology was generic atheism. And it is important to note that the idea of humanity as an unintended, accidental byproduct of a purely materialistic universe has been around well before Darwin. Celebrated, empiricist philosopher David Hume, who died over eighty years before anyone had even heard of Darwinian evolution, argued forcefully that life on Earth is an unplanned feature of the universe. So what did Charles Darwin add? Darwin became a household word, and solidified the movement, by proposing the *mutation-selection* mechanism — known today simply as Darwinism or evolution — by which something as complex and designed-looking as a human body could come about naturally without any prior intent. Thus, Darwinism did not give birth to the atheist

movement; rather, it provided atheists with their most powerful tool in their social battle against the religious. It gave their beliefs the authority of science in an age when the scientific method has so improved our lives as to be beyond skepticism. It is thus small wonder that at the turn of the millennium, we find ourselves living in a world in which belief in Darwinism is largely equated with science, logic, and even rationality.

Nine years before the millennium's turn, however, a small fly appeared in the ointment of evolution. UC Berkeley law professor Phillip Johnson published a book called *Darwin On Trial*, in which he pulled together and analyzed the evidence and arguments over evolution, and found evolution to have much more in common with fundamentalist religion than with hard sciences like chemistry and astronomy. His exposé showed that the Darwinists have been using a rhetorical arsenal of tautology, equivocation, and redefinition of science itself to elevate their theory to the status of dogma — and all while the evidence has steadily soured in virtually every field where it might be scientifically applied to Darwin's core thesis. Johnson's book has spawned a new movement of science-minded doubters of evolution, which has come to be known as the "Intelligent Design" movement, or *ID* for short. New authors have breathed life into the movement: Michael Behe, William Dembski, Stephen Meyer, Jonathan Wells, Cornelius Hunter, Guillermo Gonzalez, Jay Richards, Rich Halvorson and others. Most have come under fierce attack from evolution believers everywhere, but the movement survives and expands nonetheless.

Perhaps the most important strategy of evolution's defenders, and the one strategy almost completely *undiscussed* by Johnson in *Darwin On Trial*, is to embrace the false dichotomy of fundamentalist religion versus Darwinism. Examine Table 1-1, and observe how inescapable it seems that evolution must be true. With the issue framed as in Table 1-1, statements of extreme dogmatism seem almost reasonable:

It is absolutely safe to say that, if you meet somebody who claims not to believe in evolution, that person is ignorant, stupid or insane (or wicked, but I'd rather not consider that). —Richard Dawkins

**TABLE 1-1**

**Dichotomic comparison of evolution and Christian God; antievolution items omitted.**

|   | Mutation-<br>Selection<br>Evolution | Sunday-<br>School<br>Christian God |
|---|-------------------------------------|------------------------------------|
| Life developed in stages over 4-5 billion years.                        | ✓                                   | ✗                                  |
| Species re-use much code from pre-existing species.                     | ✓                                   | ✗                                  |
| Species contain minor design imperfections.                             | ✓                                   | ✗                                  |
| Some species are poorly adapted, and go extinct (e.g. the dodo bird).   | ✓                                   | ✗                                  |
| This world contains a lot of cruelty, suffering, waste, and unfairness. | ✓                                   | ✗                                  |

If you insist on teaching your children falsehoods — that the earth is flat, that “Man” is not the product of evolution by natural selection — then you must expect, at the very least, that those of us who have freedom of speech will feel free to describe your teachings as the spreading of falsehoods, and will attempt to demonstrate this to your children at our earliest opportunity. Our future well-being — the well-being of all of us on the planet — depends on the education of our descendants. —Daniel Dennett, *Darwin’s Dangerous Idea*, p. 519

Evolution is smarter than you are. —“Leslie Orgel’s Second Law”

Einstein’s theory of gravitation replaced Newton’s, but apples did not suspend themselves in mid-air, pending the outcome. And humans evolved from apelike ancestors whether they did so by Darwin’s proposed mechanism or by some other yet to be discovered. —Stephen Jay Gould, *Hen’s Teeth and Horse’s Toes*

[O]ur brains were shaped for fitness, not for truth. —Steven Pinker, *How the Mind Works*

The cosmos is all there is, or ever was, or ever will be. —Carl Sagan, *Cosmos*

It is fair to say that even though Darwinists treat it as their primary enemy, biblical fundamentalism is actually Darwinism's best ally. By filling the antievolutionist seat with anti-science scripturalism, the religious have handed evolution a victory-by-default. Cornelius Hunter has devoted an entire book to this subject, showing in *Darwin's God* that from its inception in the 1850s to the present day, evolution's primary — if not only — defense has been to contrast it with the Sunday School vision of a singular, hyper-perfect, omniscient, and infinitely loving creator. A few examples of evolutionist logic from Hunter's book:

- Charles Darwin was “concerned” that “tons of pollen go to waste each year.” (p. 10)
- Mark Ridley and Tim Berra claim that the sharing of genetic code between species can be explained only as a product of Darwinian evolution, because intelligent designers would not reuse code; they would write the code for every new species entirely from scratch. (p. 44)
- Martin Gardner says, “Because there are millions of insect species alone, this requires God to perform many millions of miracles. I cannot believe that.” (p. 81)
- H. H. Lane asserts that imperfectly adapted organisms prove evolution, because in the creation scenario they would “indicate a lack of skill or foresight not to be thought of in an all-wise and all-powerful Creator.” (p. 92)

And Hunter quotes evolutionist Ernst Mayr practically admitting the charge of Hunter's book, that evolution has won because of the scriptural nature of its most forceful opposition:

The greatest triumph of Darwinism is that the theory of natural selection, for 80 years after 1859 a minority opinion, is now the prevailing explanation of evolutionary change. It must be admitted, however, that it has achieved this position less by the amount of irrefutable proofs it has been able to present than by the default of all the opposing theories. —Mayr (as quoted on p. 64)



None of this should be taken as evidence of some kind of conspiracy — active or passive — on the part of evolutionists to lay down a smokescreen over the problems with their thesis. Rather, it should be interpreted as a case of the evolutionists fooling themselves into thinking that they can use the context of the culture war to evaluate the validity of their proposition. The key error is in thinking that as long as you come to an anti-religious conclusion, it must be kosher to start with religious presumptions. (See Figure 1-1.) This can lead to false conclusions because, in fact, science does *not* permit religious presumptions, and *does* allow religious (or at least partially religious) conclusions, as depicted in Figure 1-2. The key to understanding how the dichotomous culture war has obscured these truths is to remember that a partial confirmation of a religion does not necessarily validate the entire religion — Figure 1-3 shows that a third option (generic ID) is also compatible with the design conclusion.

What are the evolutionists actually doing in Table 1-1? They are simply eliminating huge portions of the chart, on both the horizontal and the vertical. The horizontal is missing an entire column which could be called “unspecified, human-like designers,” and the vertical is missing any piece of empirical evidence that detracts from the credibility of mutation-selection evolution. Com-

**FIGURE 1-1**

**Misunderstanding of scientific logic — arriving at an anti-religious conclusion does not excuse starting with a religious premise.**

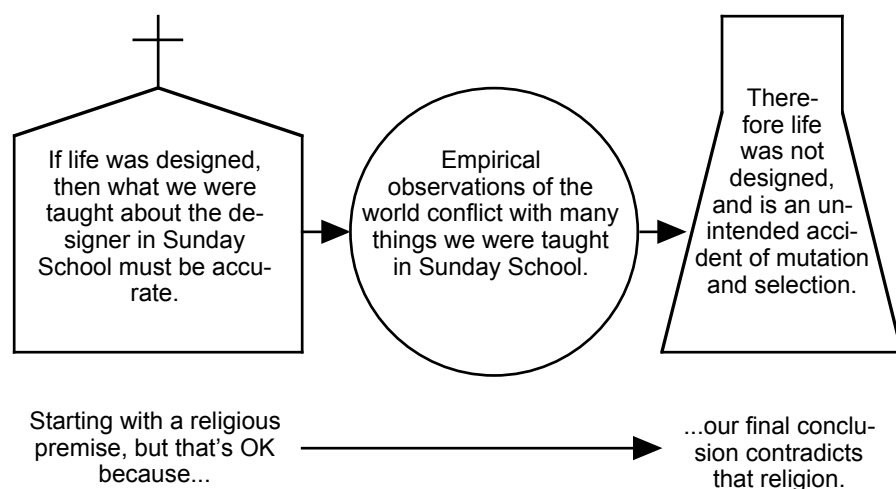
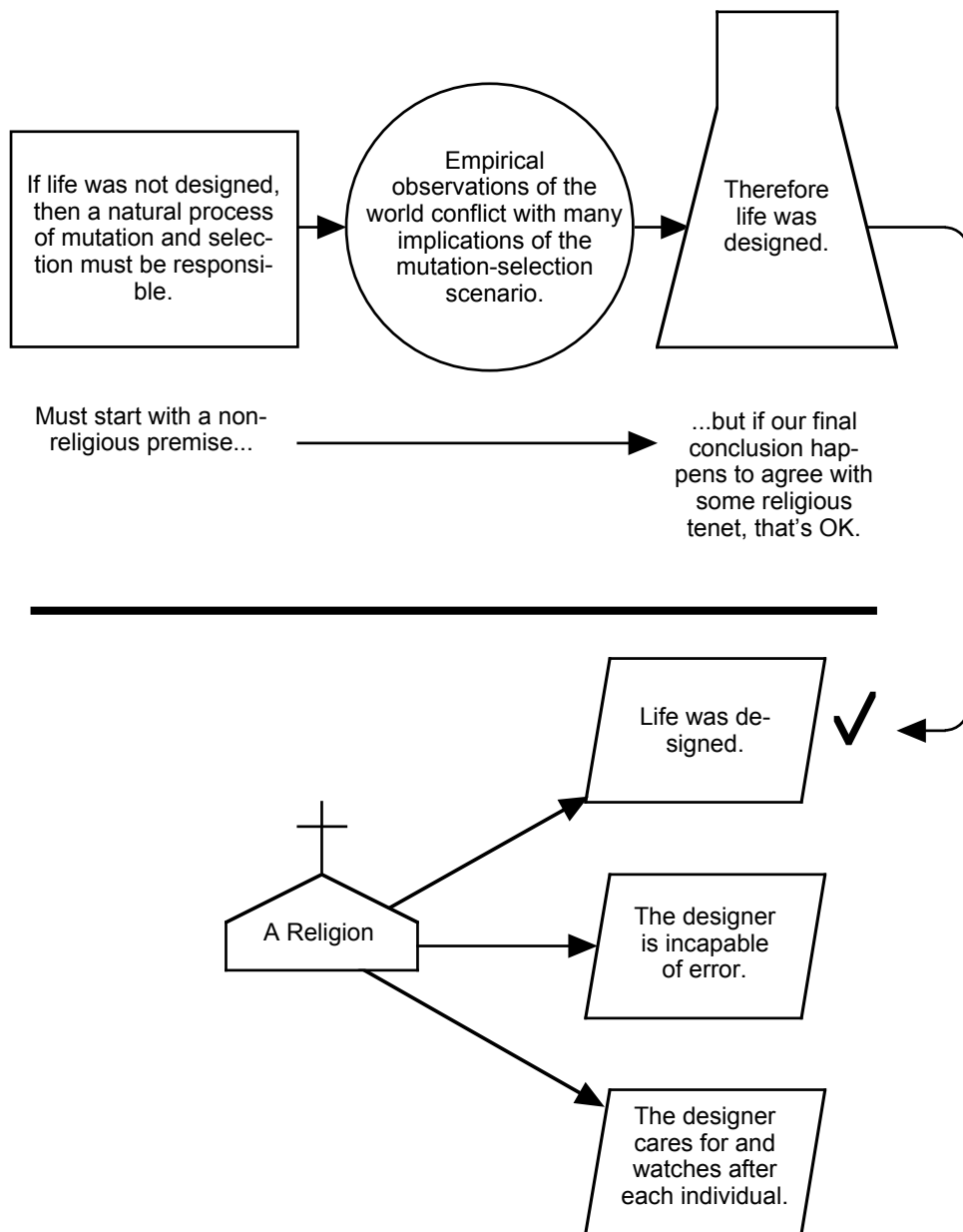


FIGURE 1-2

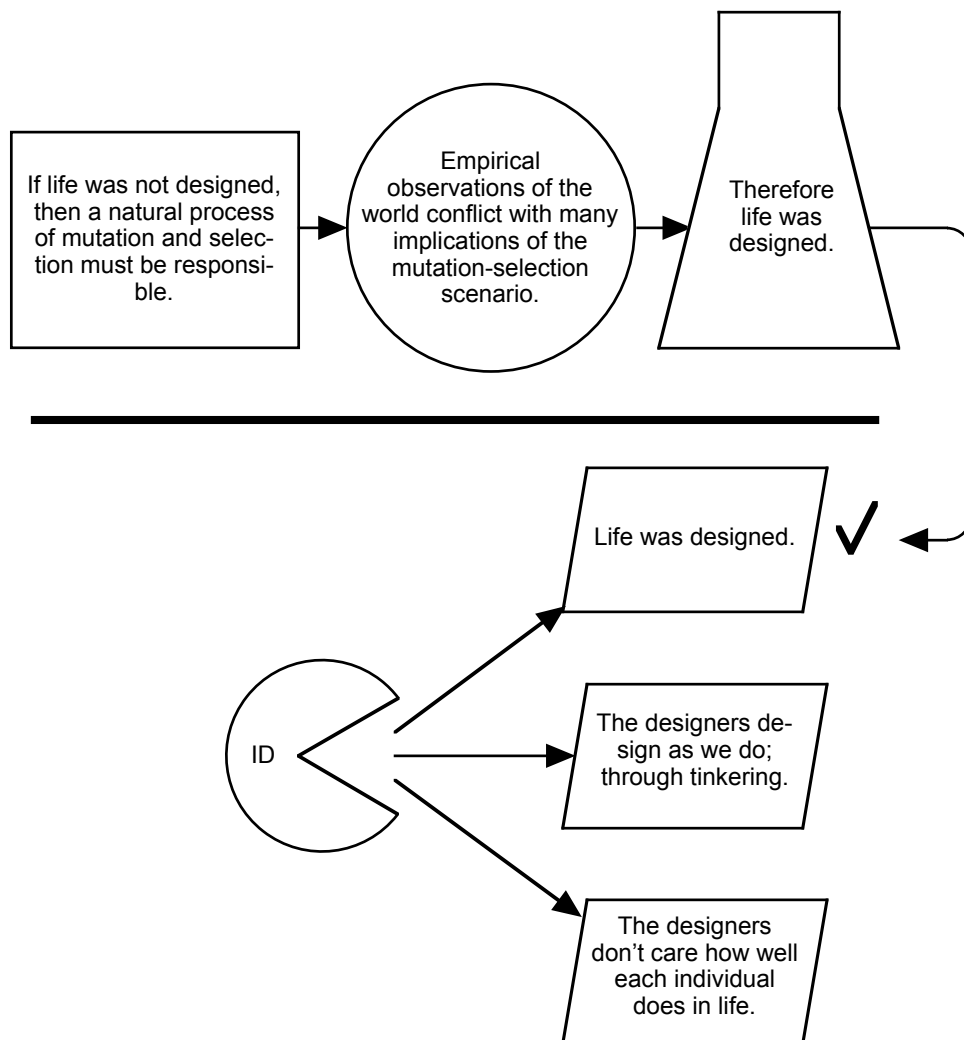
Correct application of scientific logic – science does not allow religious premises as logic input, and does not prohibit religious compatibility in its output.



pleted, the chart looks like that depicted in Table 1-2. Now, the case for evolution looks incredibly weak, and “Human-Like Designers” wins as the inference to the best explanation — in fact, the *only* known explanation that is compatible

**FIGURE 1-3**

The design conclusion is also compatible with non-religious design scenarios.



with all the available evidence. Table 1-2, however, is virtually unknown among all but those who keep up with the ID movement as a hobby. Ironically, the blame for this situation lies squarely at the feet of Christianity. Christians have done little to discourage the false dichotomy of the two-column Table 1-1, because encouraging it makes their view the only alternative to the purest forms of atheism (i.e. the view that humans are an unintended accident). Johnson is a self-admitted Christian, and although he is careful to avoid blatant promotions of his

TABLE 1-2

Three-way comparison of evolution, Christian God, and human-like designers.

|   | Mutation-<br>Selection<br>Evolution | Sunday-<br>School<br>Christian God | Human-Like<br>Designers |
|---|-------------------------------------|------------------------------------|-------------------------|
| Life developed in stages over 4-5 billion years.  | ✓                                   | ✗                                  | ✓                       |
| Species re-use much code from pre-existing species.   | ✓                                   | ✗                                  | ✓                       |
| Species contain minor design imperfections.   | ✓                                   | ✗                                  | ✓                       |
| Some species are poorly adapted, and go extinct (e.g. the dodo bird).   | ✓                                   | ✗                                  | ✓                       |
| This world contains a lot of cruelty, suffering, waste, and unfairness.   | ✓                                   | ✗                                  | ✓                       |
| Cost-of-substitution model (Haldane) indicates that large numbers of advantageous mutations must occur simultaneously and propagate as one. | ✗                                   | ✓                                  | ✓                       |
| Fossil species appear abruptly without incremental transition, but look related to pre-existing species.                                    | ✗                                   | ✗                                  | ✓                       |
| Cambrian explosion has all phyla appearing at once (~550mya), then no new ones thereafter.  | ✗                                   | ✗                                  | ✓                       |
| Mosaics (e.g. platypus) mix modern features from multiple lines of descent.   | ✗                                   | ✓                                  | ✓                       |
| Biochemical structures exhibit irreducible complexity; incompatible with incremental functionality improvement.                             | ✗                                   | ✓                                  | ✓                       |

religion in *Darwin On Trial*, his subsequent books contain just such promotions (more on this later), and even in *Trial* Johnson passes on the opportunity to lay out a three-column chart such as the one in Table 1-2.

It is small wonder that those who dislike Christianity's influence on human society tend to embrace Darwinism as an anti-religious blunt instrument. This guarantees that Christians will be nearly the only supporters of ID; which, in

turn, creates the situation where ID can be plausibly dismissed as Christian creationism in a white lab coat.



The reason it is so hard for most science-minded people today — who broadly may be religious, agnostic, or atheist — to believe that mutation-selection evolution could be false, is because of these two questions:

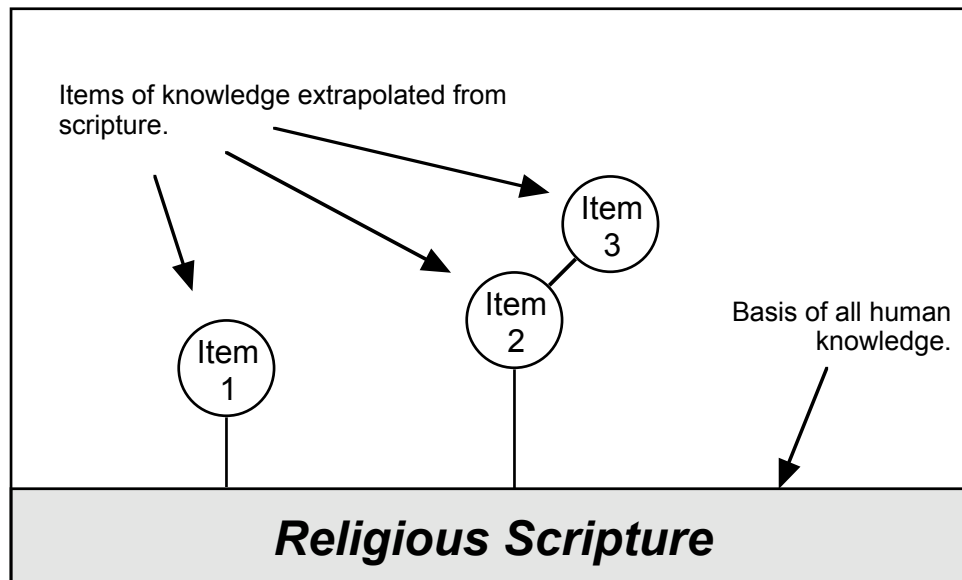
1. *How could virtually the entire science community be convinced that something is correct if it is not, and*
2. *If the whole science community can be wrong about something like this, then how can we know when they're right about anything? What value is science if the overwhelming consensus of the science community is not reliable?*

Any argument against evolution, such as that advanced in Table 1-2, must be accompanied by a reasonable response to these two questions — otherwise it will be overshadowed by the impression that science itself is being questioned, and worse still, that an ulterior religious agenda is at work. And this should not be surprising, because so many people historically (and still today) have believed in an antiscientific, scripture-based vision of the human quest for knowledge.

Figure 1-4 shows us the religious approach to human knowledge: Scriptures handed to us by our creator(s) are to be taken at face value, and additional knowledge can be extrapolated from those scriptures, as they logically require or allow. Science might have some limited role in this arrangement — such as in jet engine design — but not in any field claimed by scripture, such as biological origins. Figure 1-5 depicts the scientific approach to human knowledge: Science — the painstaking gathering of empirical data, and the application of logic and mathematics to that data to confirm or refute well-defined theories — is the base, the table, on which we perform our quest for knowledge. Theories are laid out on this table to be tested, and are either confirmed, or found wanting and hence discarded.

FIGURE 1-4

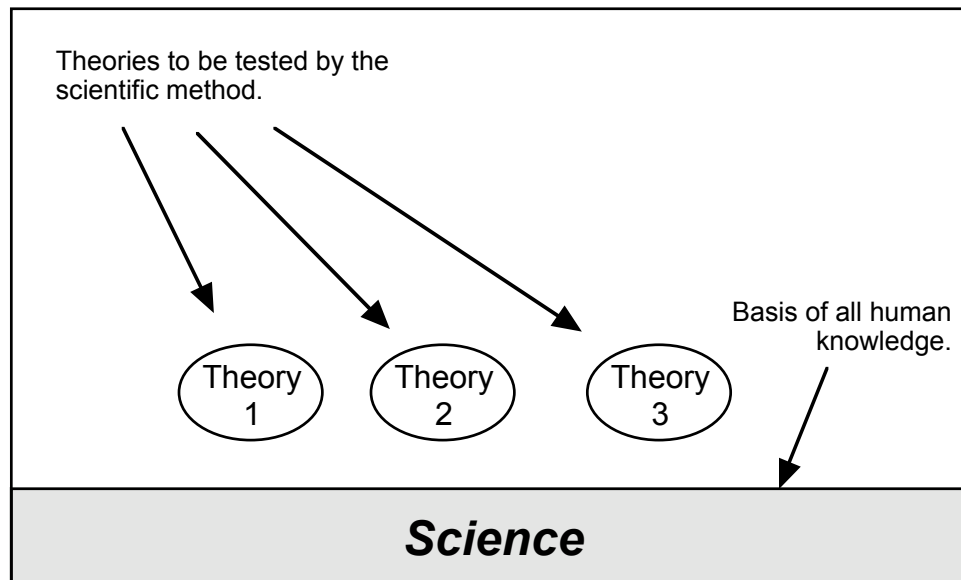
The scriptural approach to human knowledge.



One way to attack evolution would be to adopt the scriptural approach to human knowledge (under some specific religion such as Christianity) and then simply to point out that evolution is not compatible with many assertions of scripture. As evidenced by the content of my antievolution arguments above, however, I prefer the scientific approach. I subscribe to the scientific mindset outlined in Figure 1-5. Why? While I cannot prove *scientifically* that it is the right road — for that would be a circular argument — I can nonetheless offer rhetorical reasons to adopt science over religion. My reasoning (and I assume probably that of most scientific persons) is simply that even if we *were* put here by some creator(s), why would those creators then hand us a list of scriptural truths that cannot be distinguished from fictional scriptures made up by false religions? And the gravity of this question is only compounded when the purported scriptures conflict rather strongly with many pieces of empirical evidence. So if we have creators, it would seem that they have given us not scriptures of revealed truth, but rather the mental capacity and characteristics needed to perform scien-

**FIGURE 1-5**

The scientific approach to human knowledge.



tific exploration of our world, and thereby to find out what there is for us to know.

Some religious people find this idea offensive, since it might be taken to imply that we don't need God; that we can figure everything out ourselves. Besides being based on an emotional desire to need God, this concern is also mistaken in that it fails to notice that the ability to perform science has been given to us in very specific ways. Science requires each of the following characteristics, to name just a few:

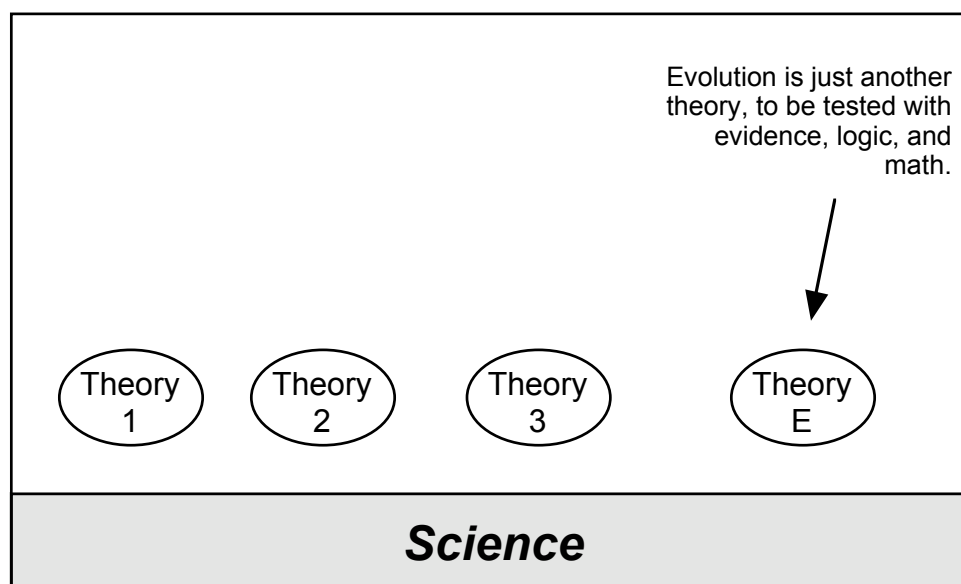
- complex logic comprehension
- math comprehension
- curiosity about biological origins and other deep subjects
- physical ability to perform fine manipulations of objects, to study them, to control fire, and to ultimately develop technology

One need only look at the lives of domestic cats or forest animals to appreciate the intellectual and morphological gifts humans have been given, and how much we depend on those gifts in our quest of scientific discovery. And although the future is always unknown, we can look back on the past of humanity's technological advancement and see that there appears to be a chain of connected discoveries waiting to be made, laid out for us perhaps, without which we would be trapped at some relatively low level of technology forever. Gonzalez and Richards take this issue to a whole new, and more objectively verifiable level in *The Privileged Planet* (more about this later in the chapter), in which they show that the bio-coincidences of our universe are accompanied by another set of remarkable coincidences that conspire to allow intelligent life to scientifically discover how the universe works.

What role does Darwinian evolution play in the scheme of science? There are actually two very different conceptions of this. Figure 1-6 shows the concept that evolution is simply another theory to be tested, and either verified or refuted, on the table of empirical science, just as are all scientific theories. The other concept, diagrammed in Figure 1-7, sees evolution as fundamentally ingrained into the

**FIGURE 1-6**

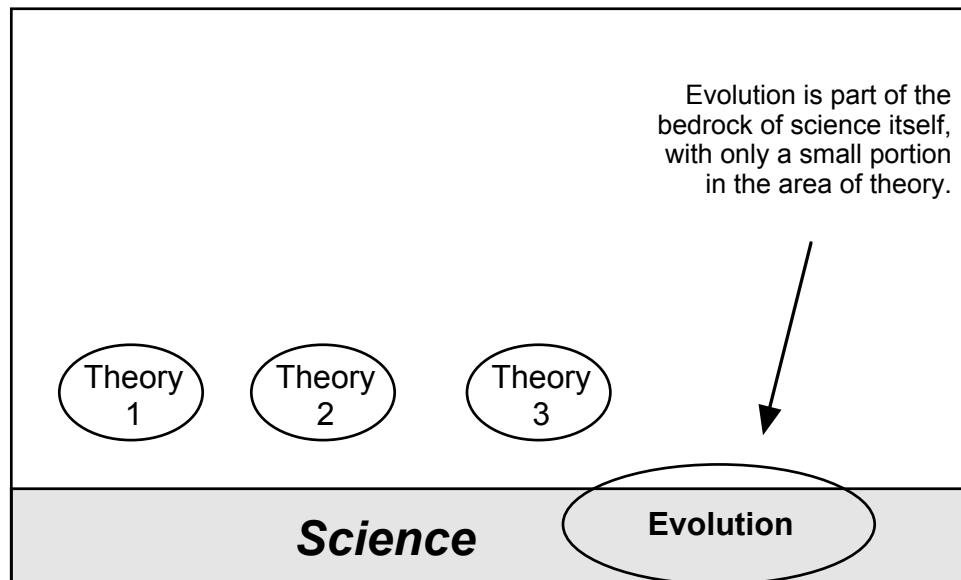
Evolution as a theory of biological origins.





**FIGURE 1-7**

**Evolution as part of the definition of science**



bedrock of science itself. In this conception, an attack on evolution is — intentionally or not — an attack on science. Evolution cannot be uprooted without causing severe harm to the platform of science, and potentially paving the way for an infection by religious scripture.

Most scientists (and many other persons besides) subscribe to the Figure 1-7, evolution-as-part-of-science's-definition conception, not the Figure 1-6, evolution-as-another-theory conception. How come? The answer is that the scriptural mindset and the scientific mindset represent the two sides of a *huge, global, culture war* that has raged for the past few centuries. Scientists naturally feel threatened by the scriptural side of this war. Darwin's idea of variation-selection evolution, almost as soon as it was published, became a political football in this culture war. Both camps have recognized that evolution is a powerful weapon for the scientific camp to use against the scriptural camp. This is because the most extreme members of each side simply *must* take opposite sides over evolution: Extreme scriptural literalism is not compatible with evolution, and the strictest

form of atheism probably requires evolution (or something very much like it) to be true, for life to have appeared on Earth and come to its present state there. Since the handiest way to fight a culture war is to stigmatize your opposition with the position of its most extreme members, it was inevitable that evolution would be associated with the scientific mindset, and antievolutionism with the scriptural mindset.

A conversation between Christian author Rick Warren and political pundit Bill O'Reilly<sup>2</sup> reveals how strongly the scripture-vs-evolution dichotomy can rule the mind:

RW: If we are just random chance, random accident, I'm just educated slime that happened to be a freak accident of nature, then the truth is my life doesn't matter and neither does yours. But I don't believe that. I believe there is a creator, that he has a plan for our lives ... and that you were made for a purpose.

BO: So you believe in a God that's a micromanager, that basically is watching every move you make and hoping that you don't disappoint him, and hoping that you use your potential? Is that a God that you believe in?

RW: I believe ... obviously, I believe in a God ... and, by the way, people often will tell me, see, you know, I don't believe in God, and I say, oh, really. And they expect me to be shocked as a pastor. But I'm not so interested in people saying they don't believe in God as to why they don't believe in God, and...

BO: Well, they want proof. You know, they want proof.

RW: ... what kind of god they don't believe in. I say tell me the kind of God you don't believe in, and I often say will say I don't either.

BO: But again ... but my question is do you believe in the micromanage ... a micro-God who just watches you all the time to make sure that you do or don't do certain things?

RW: Absolutely I do. In fact, Jesus said that every hair on our head is numbered. The Bible says that every day of our lives were planned by God who loves us and wants what's best for us.

O'Reilly is trying to nudge Warren in another direction, but it is apparent that Warren wants to believe that either Christian scriptures are literally the delivered

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<sup>2</sup> The O'Reilly Factor, December 17, 2004

word of our singular creator, or we weren't created at all and must be accidental "slime." The two sides of the culture war are the only two possibilities that Warren even cares to consider.

Lost in the fevered fight of the culture war is the possibility that humanity might have been planted in this universe by creators who *haven't given us scriptures*, and who wrote our genes directly because the content of those genes *can't* evolve by random mutation and natural selection. This is the answer to the first question, "*How could virtually the entire science community be convinced that something is correct if it is not?*" — Answer: Scientists are fighting against scriptural fundamentalists for the survival and integrity of their profession, and it is simply a matter of expedience that evolution must be used as a highly effective weapon in that battle.

The second question is now easily answered too: "*If the whole science community can be wrong about something like this, then how can we know when they're right about anything? What value is science if the overwhelming consensus of the science community is not reliable?*" The value of science is lost if we cannot trust the science community's consensus — or at least have a way to distinguish between reliable and unreliable claims of that consensus. Fortunately, it turns out to be an easy distinction to make: We can simply keep in mind that since scientists are in a social war with antiscientific scripturalists, one should be aware of the possibility that the scientists may overreact and swing too far in the opposite direction from their opponents. What is the probability that a lengthy, detailed, religious scripture will just happen to be wrong about *everything*? Not very good. Scriptural fundamentalists can damage the scientific assessment of a valid idea simply by *supporting* it, and thus smearing it through association with their anti-science campaign. So if a scientific consensus is not relevant to a culture war (e.g. optimal jet engine design), it can be trusted implicitly. But a consensus about evolution must be carefully scrutinized since it is tightly associated with the culture war.

Remember that science ultimately is an *individual* practice, since you have only the data which you have received through your own, individual senses. Data you have gathered indirectly through a consensus of scientists must be evaluated in the context of different reasons that such a consensus might form.

Phillip Johnson did no biological, paleontological, or geological data gathering himself, but was able to form a comprehensive, scientific argument against evolution simply by collecting the data from several different evolution-related fields, and asking whether it really supports the theory at all.

Further, whenever scientists start claiming that a theory is part of the scientific bedrock itself, it should be automatic cause for skepticism. No theory needs to merge into the scientific platform. The premise of science has been well-defined, and is pretty much common sense. Questions of high detail, such as “where did the human anatomy come from,” are not properly part of the scientific method itself, but should be formulated into theories that can be tested by science. Every theory is a candidate for refutation, and if any specific theory is refuted, the scientific method remains unscathed. If the scientific mindset of Figure 1-5 is correct (and I think it is), then evolution is a theory about things that happened long before any religious scriptures had even been written. Hence, the war of science-vs-scripture is utterly irrelevant to the scientific evaluation of evolution, which should be done independently and objectively as depicted in Figure 1-6. It is concern over the threat of scriptural forces in society that overrides such objectivity. I am not implying that most scientists know evolution to be false, but say it is true for the sake of protecting science from fundamentalist religion. Rather, the typical scientist knows that evolution has problems in her *field of specialty*, and refrains from drawing attention to those problems because she believes that (a) “Evolution is heavily verified in other fields, and so is certainly true — these problems in my field will be solved someday soon,” and (b) “It can’t be a good idea to give ammunition to the antievolution, anti-science forces of the culture war.”

— • —

*The only legitimate use of a computer is to play games.*

— Eugene Jarvis

## *Being Serious*

Both sides of the culture war suffer from a deep desire to believe in something *serious*, something that holds mysterious, almost magical power, and inspires feelings of somber awe. The idea that our origins might be more relevant to feelings of excitement, entertainment, adventure, and outright fun, is not looked upon highly by either evolutionists or scripturalists. To them, the idea that this life might be a big videogame, with us as the players, is just downright silly, and not the proper discovery of an awe-filled explorer. The idea that our creators have more in common with Toru Iwatani and John Carmack than with Jesus Christ and Muhammad (or a purely “spiritual” being so high above us as barely even to be aware of our existence) is, to say the least, anathema in the minds of most.

Persons who recognize life to be a form of entertainment have traditionally not gone into the fields of religion or science, for the simple reason that it’s a lot more fun to party and frolic on the beach. Hence, both of the two human pursuits that lay claim to potentially understanding the purpose of human existence historically have been populated with individuals who harbor a strong disdain for the idea of *fun* as a way of life. So it shouldn’t be too surprising that the religious camp believes in a creator of infinite wisdom, and pegs this life as the ultimate test which will send us to infinite joys or infinite miseries, for an infinite amount of time. And it should also not surprise us that the “scientific” alternative is a universe in which we exist for no reason, have no purpose, and will simply slip into an oblivion of nothingness when our lives here are over (which also implies that everything you do in this life is supremely important). Nobody wants to look at a *fun* scenario. Why? Because it doesn’t inspire awe.

The geeks and nerds of history have dominated the religious and scientific professions, and they never have been particularly good at having fun. But to-

day we stand at the threshold of a new age: the age of the fun-loving geek. For the first time in history, thanks largely to modern technology and affluence, it is possible for the individual to participate in the roles of both partyer and philosopher, technologist and *bon vivant*. Information is so rapid and widespread that actual lab work has become mostly the province of professional lab technicians, and theorizing about what the data means is an activity that anyone of sufficient intelligence can practice in their spare time. In an older age, a person such as myself who prefers to spend most of his time in pursuit of enjoyment — music, movies, relationships, thrills, artistic projects, and the like — would have no access to the best information in either science or religion. But today it's all out in the open, just waiting for someone to put the pieces together; someone not blinded by a deep-seated disdain of recreation. If I was of a previous generation, I could never have considered that I might be vicariously experiencing the several-decade life of a selected human brain, for entertainment purposes, recorded from a fabricated universe whose events hold no more ultimate, metaphysical, moral gravity than do the goings-on in a Pac-Man maze.

Allan Bloom's 1987 bestseller, *The Closing of the American Mind*, is a striking exposé of cultural relativism and nihilism in academia and intellectual society, eclipsed only by Dinesh D'Souza's 1991 *Illiberal Education*. D'Souza's book is narrowly focused on the effects of the universities' racial and sexual policies (a subject touched by Bloom on pp. 94-96 of *Closing*), and so D'Souza largely avoids writing a general lament at the loss of humanity's myths, but Bloom does not. Bloom's opening chapter includes the following denial:

I am not saying anything so trite as that life is fuller when people have myths to live by. (p. 60)

But his very next paragraph begins with this sentence:

The moral education that is today supposed to be the great responsibility of the family cannot exist if it cannot present to the imagination of the young a vision of a moral cosmos and of the rewards and punishments for good and evil, sublime speeches that accompany and interpret deeds, protagonists and antagonists in

the drama of moral choice, a sense of the stakes involved in such choice, and the despair that results when the world is “disenchanted.”

Bloom’s explicit denial is belied by the rest of his book, which indeed sends exactly the message he attempts to deny he is sending: that *life is fuller when people have myths to live by*. But Bloom’s book is written from a very relativist standpoint — he goes to great pains to avoid endorsing or offending any particular religious or cultural camp (save the camp of relativism and nihilism). Vague references to “the Book” (the Christian bible, perhaps?) are as close as Bloom comes to saying that any specific vision is actually true. And yet he spends his whole book expounding on the travesty of a society that no longer believes in any particular vision except success and enjoyment, which Bloom condemns with disgust.

Bloom is making two mistakes. First, instead of shrinking from the obvious message of his book, he should embrace it. He should openly say, “Yes; life is fuller when people have myths to live by.” Because, as a general rule, it is. Why does Bloom fail to make such an open admission, and indeed feel the need to explicitly deny it? Because saying “life is fuller when people have myths to live by” actually *discourages* belief in those myths. With his explicit denial Bloom hopes to avoid creating a backfiring book that disillusion its readers — but the book has that effect anyway because you can’t promote multiple, conflicting myths in a *general* way. You have to pick a specific myth and endorse it to the hilt, at the expense of most others. Bloom can’t do that, because he wants to appeal to the broadest possible audience, so he is doomed to write a book that amounts to nothing but the final, twisted paroxysm of a dying outlook: the scriptural view of the quest for human knowledge.

Are things really as bad as Bloom thinks they are? His second mistake is to think that if people don’t have myths to live by, their lives won’t just be *less full*; they will be profoundly *empty*. But there is no evidence of this. Perhaps experiencing a great disillusionment is bad for the productivity and innocuousness of any particular individual. But time marches on, new generations are born, and the idea that we have been handed scriptural truths by our singularly perfect creator is not missed by persons who were never persuasively taught it. Many

writers have been convinced that a society that loses its scriptural basis will be a bizarre, frightening, nightmare culture, like that depicted in Orwell's *1984* or Huxley's *Brave New World*. But take a stroll through any typical, secular, suburban neighborhood or shopping center and ask yourself: Is this a disaster? Is this a horrific, nightmarish society? It can be judged so only on the basis of strict religious tenets such as that people are *meant* to worship their creator; are *meant* to study the Christian or Islamic bible, and are *meant* to retreat into morose, lifelong guilt over one transgression of a scriptural commandment. Like the Amish, some religious believe that we are simply *supposed* to live in a certain, holy way, and no matter how vibrant and successful humanity might become by living another way, it will all be somehow, secretly evil, and something for which we will be horribly punished when this life is over.

Of course, there is no way to prove that hell doesn't exist, and so fundamentalist Christians exploit this by saying, "*Maybe* hell doesn't exist, but can you take the risk?" The problem is not that the risk of hell is imaginary — since we can't prove the nonexistence of hell, the risk is quite real — the problem is that you can't *avoid* the risk. For example, what if God finds individuals who spend their lives praying and singing hymns in church insufferably boring, and punishes those people by sending them to hell? And what if God is entertained by those humans who live juicy lives, full of daring and intrigue, and so rewards those individuals with admission into heaven? We are often admonished to be modest because God approves of modesty, but what if he actually doesn't like it, and would prefer that we be brash and assertive? That might seem like an absurd proposition — but it *might* be true, so can you take the risk? Better start living an interesting, daring life while there's still time!

### *How Science Works*

The desire to look serious is probably responsible for the great modern myth about science, which is that it is performed by objective, rational individuals who have expunged their ulterior motives and dedicated themselves to the relentless pursuit of empirical truth, and that science *depends* on their objectivity for its suc-



cessful function. The ugly reality is that science works *despite* the falsehood of that myth; despite the ulterior, extrascientific, even petty motives of its practitioners.

Science weeds out false theories by three methods:

1. **Fear of Peer Review** (most frequent) A scientist finds out on his own that his idea is wrong and, out of fear of embarrassment and discreditation, privately buries the idea without ever publicly announcing it. This method is the closest that the myth comes to reality.
2. **Peer Review** (less frequent) A scientist thinks he has verified his theory, and goes public with it. Then other scientists try to corroborate it, but without success. The scientist has publicly committed to his theory and doesn't want to let go of it, and so he is sloughed off by the science community along with his incorrect theory.
3. **Generational Peer Review** (rarest) The whole science community becomes convinced of something that later turns out to be false. In such case, the theory slowly perishes by attrition, as its believers retire or die, and are replaced by a new generation that has no massive, vested interest in the theory.

Once a scientist publicly advocates for a particular theory, then it is extremely difficult for him to back down. This is because of the universal human desire to appear *infallible* — incapable of significant error. The desire to appear infallible stems from the tendency to think others are infallible until you find out that they are not. That is why, for example, indecisiveness is so universally reviled — it is litmus-test proof that a person does not know what he is doing. Decisiveness, on the other hand, while not actually proving infallibility, and maybe even hindering overall accuracy, nevertheless at least maintains the appearance of infallibility in the eyes of the beholder, or leaves open the possibility. To be taken seri-

ously, therefore, scientists must waffle around with different ideas only in *private*, and choose very carefully when to go public with an idea.

Humanity has a strong, built-in desire to believe in superhuman individuals, who always know the right thing to do, and who never make mistakes. Humor is almost always based on someone else's failings, errors, or suffering. When someone else makes a mistake we are amused, when someone seems devoid of mistakes, we are filled with awe and respect. To win the confidence of others, appearing in their eyes a powerful leader and not a clownish buffoon, one must be careful to present a perfect facade in their direction, and to hide all mistakes and difficulties.

Science would work much better if people did not have this craving of infallibility, but fortunately science can still work rather well with it, because individual scientists are expendable, and even a whole generation of scientists will inevitably die off and give way to a new generation of young scientists who can say, "I never supported that theory!" The idea that a system can function reasonably well even though each human member of that system may be wildly dysfunctional to the point of being unable or unwilling to perform the task correctly as an individual, seems paradoxical to say the least. But systems like that can work simply because of the power of peer review (method #2 above), the fear of peer review (method #1 above), and in extreme cases — where a bad theory slips into the intellectual circle — peer review performed by a new generation upon the beliefs of the older, disappearing generation (method #3 above).

As shall be discussed further in chapter three, the desire to murder is quite common in the population, but is kept at bay by the equally common desire that murder be suppressed generally. The typical individual, if free to do what he wants, would murder at least once in his life, but does not do so because of the system that has been developed to deter murder. This system is a sort of peer review where the population, in the form of democratically enacted police, courts, and prison systems, decides whether any particular individual can safely be allowed to roam society on his own volition. The *fear* of peer review deters most murders, the *act* of peer review removes most murderers from society, and in extreme cases where a murderous regime has taken over society (e.g. the Soviet Union), *generational* peer review scraps the bad system. (Note that the defeat of

Nazism was a case of *active* peer review by the world community against the Nazi government of Germany.)

The system of democratic elections is another case in point. How many voters actually know much about the candidates? How many of them are smart enough to know what the officeholder *should* do, much less what a particular candidate *will* do? How many eligible voters stay away from the polls because they know that their one vote has no realistic chance of swinging the election? And yet the system works anyway, because if an officeholder enacts policies that seriously disrupt the lives of large numbers of people, then even if those same people would have *supported* those policies weeks or months ago, they will now vote against that politician (active peer review) just because their lives are being harmed. Even if those people wouldn't normally *bother* to vote, they will now go to the polls just for the personal satisfaction of being able to say that they voted against that politician. And politicians, under the guidance of intelligent advisors, seek to avoid disrupting the lives of the populace because they want to be reelected (fear of peer review). Finally, if an undemocratic government takes over, it will eventually spin out of control and wind up meeting the fate of the Soviet government as mentioned above. And it is worth noting that democratic governments generally do not become antidemocratic on a whim. The Soviet government was formed during the same year that the autocratic czar was deposed, and the Nazis took power in Germany during a time when the population was under the yoke of the Treaty of Versailles; an insane policy that no democratically elected government would dream of imposing on its own people.

Juries deliberate in secret because all the principles of procedural impartiality and fairness which are triumphed in the courtroom are trampled in the jury room. If lawyers were allowed to view the deliberations, the objections and appeals would never end. The real reason we have a jury system is not because twelve people can be expected to obey all the dictates of the court while happening to reach a mutually agreed-upon decision, but rather to remove corrupting power from judges and place it in the hands of twelve relatively ordinary people who hear this one case only. This prevents the massive infection of corruption which has compromised the entire way of life for people in countries without the jury system (e.g. Mexico).

This same phenomenon of dysfunctional individuals coalescing into a functional system is also on display in the ID movement itself. What are the ascientific motives of ID proponents? Most of them appear to be Christian, and although some (like Behe) go to great lengths to separate their religious beliefs from their scientific logic when arguing for ID, it's still a safe bet that most ID proponents are attracted to ID because of its compatibility with Christianity's claim that humanity was created on purpose. However, as noted above, science works despite the ascientific motives of its practitioners. The ID movement's nascent success in replacing Darwinism with a general theory of creative intent is strictly due to the power of its scientific arguments. Many Christians have promoted something called "creation science" for decades without success precisely because it lacked powerful scientific arguments (not to mention a commitment to scientific methodology).

Johnson and Dembski, more than any others, have contributed immensely to the success of the ID movement, but each seems to want to carry that success a bit further than it actually goes, and ascientific, preferential desire is the likely culprit. Both authors have openly criticized the power of such desire in their own books:

People almost invariably arrive at their beliefs not on the basis of proof but on the basis of what they find attractive. —Blaise Pascal, *The Art of Persuasion*, used by Dembski as the opening motto of *The Design Revolution; Answering the Toughest Questions About Intelligent Design*

How can a scientist keep from descending into dogmatism? The only way I know is to look oneself squarely in the mirror and continually affirm *I am a fallible human being. I may be wrong. I may be massively wrong. I may be hopelessly and irretrievably wrong* — and mean it! It's not enough just to mouth these words. We need to take them seriously and admit that they can apply even to our most cherished scientific beliefs. (This injunction holds true as much for design theorists as for Darwinists.) Human fallibility is real and can catch us in the most unexpected places. —*The Design Revolution*, p. 51

Everybody is subject to the temptation to rationalize. The temptation is probably greatest for those with the most intelligence, because the more intelligent we are, the easier we will find it to invent convenient rationalizations for what we want believe and to decorate them with high-sounding claptrap. Unless we take the greatest precautions, we will use our reasoning powers to convince ourselves to believe reassuring lies rather than the uncomfortable truths that reality may be trying to tell us. —Johnson, *The Wedge of Truth*, p. 36

Based on the context of the above quotes, it can only be assumed that Johnson and Dembski are referring to evolutionists who find the prospect of ID uncomfortable. But (as Dembski does briefly admit) the warnings apply equally well to Johnson and Dembski themselves, who might be rationalizing an unsupported attachment of Christianity to the ID movement.

In science, you don't get to pick where your research will ultimately lead. Johnson and Dembski should know that as well as anyone, since they routinely cite evidence that was gathered not by themselves or any other ID proponent, but by scientists who are mostly (and often fiercely) committed to the truth of Darwinian evolution. G. H. Hardy, the British mathematician, would be rolling in his grave if he knew the lesson he taught us about wanting your scientific pursuits to serve a particular interest: Hardy devoted the latter portion of his career to obscure fields of "pure mathematics" because they had no practical value and thus would not be used by men to do evil in the world. In *A Mathematician's Apology*, he said "There is one comforting conclusion which is easy for a real mathematician. Real mathematics has no effects on war. No one has yet discovered any warlike purpose to be served by the theory of numbers or relativity, and it seems unlikely that anyone will do so for many years." Alas, poor Hardy could not have known that his work in "pure math" would one day prove very useful in cryptography and other military applications. Scientists and mathematicians who really want to ensure that their work does not wind up furthering a position or cause which they find repugnant would be well advised: Quit your profession today and take up one that does not involve discovery of that which you did not create.

## *Reductive Explanation*

In a way, the dichotomy of scripturalism vs. evolution is perpetuated because both sides are trying to “explain” life with a neat, beautiful, awe-inspiring little aphorism that pretends to include mechanistic detail but really doesn’t. Religion is heavily motivated by a desire to retain the sense of awe and wonder that one experienced as a young child. Since, as an adult, the mechanisms are learned and the beauty subverted, religion provides a way to project awe and wonder up to the next level above this universe. Life, we are told, was created by an infinitely wise being for mystical purposes that we can’t really fathom. What is more, this entity simply waved his hand and said “let there be complex life forms,” and *voilà*, there they were. Darwinism, by contrast, looks not up but down to the simplest processes operating in nature and says that they created life as we see it on Earth. Both scenarios lack mechanistic detail — or even causal adequacy as pointed out by Dembski.<sup>3</sup> The dichotomy stays strong because neither side has any motivation to attempt to unseat it. Like Gould and Dawkins fighting over whose line of specialty (the study of extinct or of living organisms) should take the fall for Darwin, scripturalism and evolutionism are locked in battle over which is the correct way to avoid seeing the matter-of-fact nature of our designers. Real design processes are complex, tedious affairs that do not reduce to simple aphoristic nutshells.

One of the best questions I received when debating evolution on the internet was, “Why would God design life to look like a process of evolution?” At one level, this question is an appeal to Occam’s razor — the principle that science should prefer simpler explanations when given a choice. I agree with Occam’s razor completely, because if phenomenon X can be adequately answered by one explanation which consists of, say, 20 bits of information, or with another explanation which requires 26 bits of information, then the latter has six extra bits of information that are not necessarily inferred by X, and thus whose content might be arbitrary — and one day, provably wrong. (In fact, there would be a 63-out-of-64 chance that those six extra bits will turn out to be wrong.)

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<sup>3</sup> See his article “Evolution’s Logic of Credulity: An Unfettered Response to Allen Orr.”

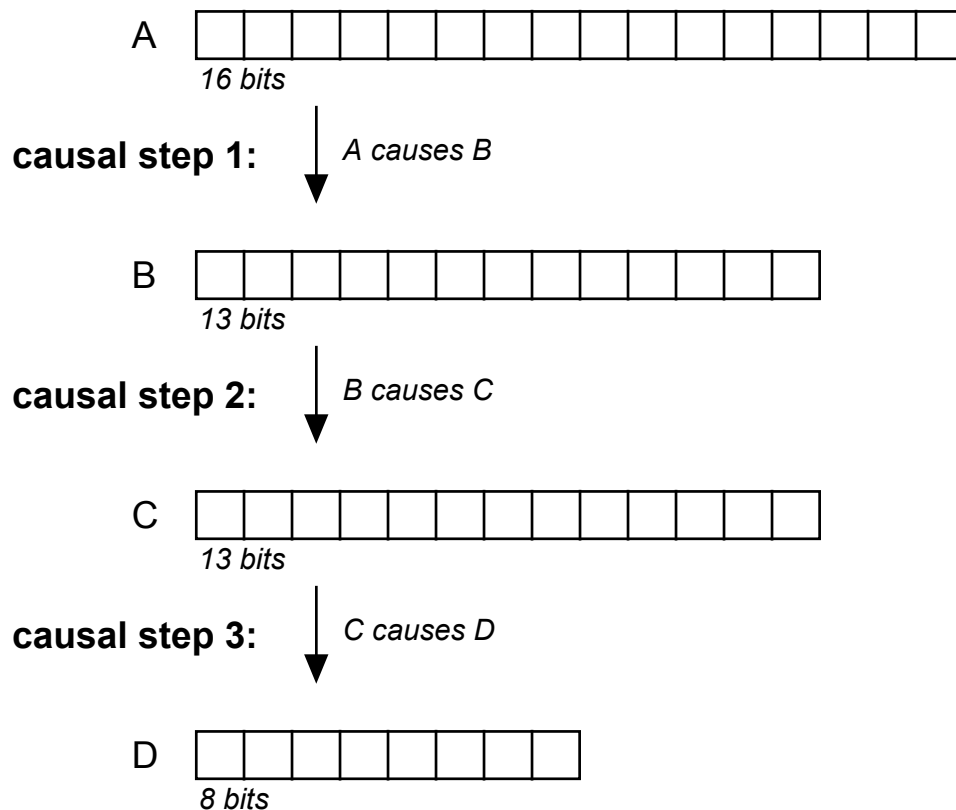
But — to be even a *candidate* for Occam's razor, an explanation must be fully compatible with all known evidence, and as noted in Table 1-2, human-like designers are the only known candidate, so Occam's razor is essentially inapplicable. The "looks like evolution" question is actually a presumption of the truth of evolution. To really answer the question properly, we first have to know what "looks like evolution." If evolution is true, then life on Earth looks like evolution, but if evolution is false, then what would "look like evolution," absent creators? — a sterile planet with no life (or only bacterial life if we exclude origin-of-life from our definition of evolution). Since Earth is teeming with diverse, complex, multicellular life, it can be said to "look like evolution" only if evolution is assumed. One should keep in mind that any theory of how life reached its present state, whether ultimately true or false, is going to be at least roughly compatible with how things "look" on Earth, since that is the phenomenon which the theory is intended to explain.

Occam's razor, however, brings up an important point. Both Behe and Dembski assert that scientific explanations do not have to be reductive, because we know that a pencil-making machine is far more complex than the pencils it creates. This is their counterexample to evolutionists who insist that all scientific explanations must be reductive.

[S]cientific explanation is not identical with reductive explanation. Richard Dawkins, Daniel Dennett, and many other scientists and philosophers are convinced that proper scientific explanations must be reductive, explaining the complex in terms of the simple. The Law of Conservation of Information, however, shows that specified complexity cannot be explained reductively. To explain an instance of specified complexity requires either appealing to an intelligent agent that originated it or locating an antecedent instance of specified complexity that contains at least as much specified complexity as we are trying to explain. A pencil-making machine is more complicated than the pencils it makes. A clock factory is more complicated than the clocks it produces. What's more, all causal chains from pencil to pencil-making machine or from clock to clock factory ultimately trace back to intelligence. Intelligent causes generate specified complexity; natural causes merely transmit pre-existing specified complexity (and usually do so imperfectly). —Dembski, *The Design Revolution*, p. 163

FIGURE 1-8

Specified information reducing (or maintaining) in size during a sequence of causal events.



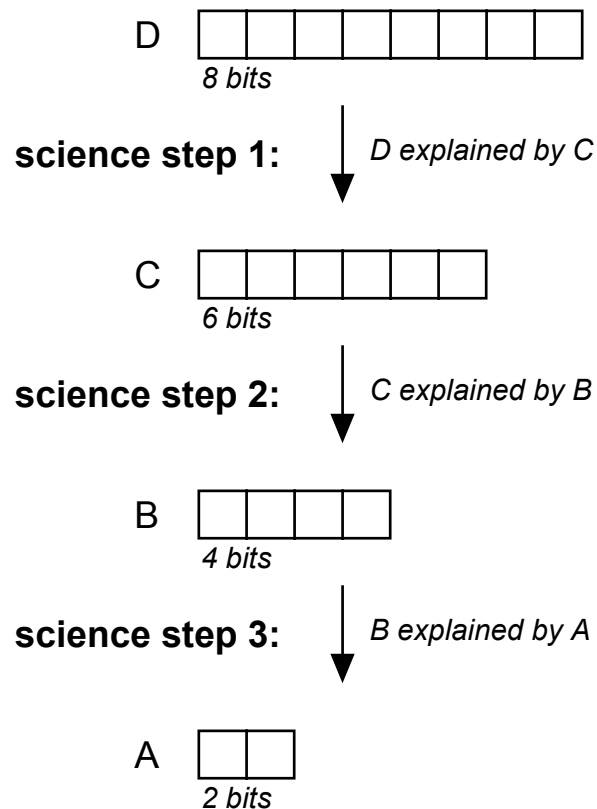
Dembski's Law of Conservation of Information, the "fourth law of thermodynamics," implies that *all* causes are *expansive* — that is, the cause contains at least as much specified information as the caused. This seems certainly consistent with the pencil-making machine, with human-designed objects and, as far as I know, with every other example we have of cause and effect. A process of expansive causes producing reductive effects is diagrammed in Figure 1-8.

But there is a problem. Human science *is itself a stochastic process*, and is therefore subject to the same Law of Conservation of Information. That means that if our science has to start with the current phenomenon — the eight-bit item D in the figure — and derive explanations from it, those explanations must, just as



FIGURE 1-9

Specified information reducing (or maintaining) in size during a sequence of scientific explanations.

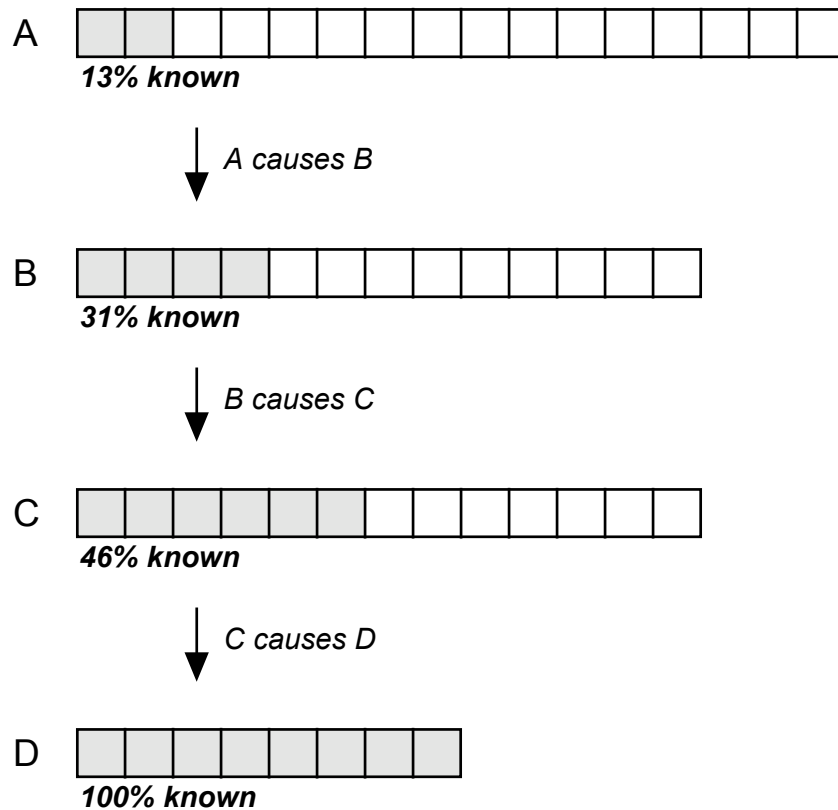


Dawkins and Dennett claim, contain less information than D, as illustrated in Figure 1-9. Note that Figure 1-9 is dictated by Occam's razor, because the mere eight-bit fact of D itself is simpler (i.e. less information-rich) than an "explanation" that contains more than eight bits. Therefore, any explanation that contains 8 bits or more would be no better than simply citing D as its own explanation.

This could be taken as evidence that the Law of Conservation of Information is mistaken. But I think it is correct. It has already been rigorously proven for deterministic processes, and it is very easy to turn a deterministic process into a stochastic process with the simple addition of a pseudo-random-number algo-

**FIGURE 1-10**

Specified information from a set of scientific explanations (Figure 1-9) mapped over the actual causes (Figure 1-8) to which they refer.



rithm, which by itself is simple and information-poor. Pseudo-random number algorithms are known to be every bit as good as theoretically “true” random sequences for all purposes but encryption — i.e. for all purposes but fooling an intelligent agent who knows about the algorithm itself. As far as making huge quantities of essentially random data, these algorithms work fine. Mixing such an algorithm into a deterministic process makes it every bit as capable of randomness as a stochastic process, while still remaining completely deterministic. Therefore, whatever general laws can be applied to deterministic systems also can be applied to stochastic systems.

The discrepancy between Figure 1-8 and 1-9 simply means that there is a difference between a *cause* and a scientific *explanation*, and the latter necessarily contains less information than the former. If we map the information quantities from Figure 1-9 back onto the sequence of Figure 1-8, we get a rapidly decreasing level of knowledge about past events, as depicted in Figure 1-10. This is completely consistent with our real-life experience that scientifically derived information about past events is always dramatically less complete than knowledge of current events. So, scientific explanations *do* have to be reductive, but do not contradict the Law of Conservation of Information because an explanation describes only a small subset of the information contained in the cause to which it refers. Several examples follow:

- A forensic pathologist determines that tissue damage in a corpse is from multiple stab wounds inflicted with a knife or knifelike weapon. The pathologist's explanation ("this man was stabbed to death") is reductive, but the cause (the murderer and all his complex motivations, plus all the details of exactly how he encountered and killed the victim) is expansive. The pathologist's explanation implies the existence of the complex (expansive) cause, but does not provide most of its detail, only a few points (i.e., this man was stabbed to death; he didn't die naturally of old age/disease).
- A huge amount of implied detail (e.g. exact particle positions) is left out of the Big Bang theory, but the theory is still reductive because it doesn't claim to have all that detail; only a small set of facts about the event.
- Hash algorithms convert all the data in a computer file (maybe thousands or millions of bytes in length) into a small piece of data (maybe eight bytes). The cause (the original file) is very expansive compared to the caused (the hash). The original file cannot be recovered from just the hash.
- The algorithm that generates public keys from private keys seems to be the reverse of the hash algorithm mentioned above — it takes your short, private password, and converts it into a large paragraph of characters: the public key, which is then made available to the public. Is this an example of a reductive cause? No, because the public key looks effectively *random*,

and random data has no specified information at all. Only by revealing the private password and showing that it generated the public key can you prove that the public key contains any specified information whatsoever — and in so doing, you demonstrate that it contains exactly the same amount of specified information as its cause (the private password).

- The military alphabet code replaces letters with whole words; for example, “cat” becomes “charlie alpha tango.” This looks expansive, but isn’t, for the same reason as with the public key generator. “Charlie alpha tango” is nonsense until you realize it’s just longhand for “cat.”
- Edgar Allen Poe’s *The Raven* indicates the existence of an intelligent agent (Poe) but reveals only a tiny subset of the information contained in his brain at the time he wrote that poem.

The example of Poe, an intelligent designer, is especially relevant to ID — we can infer that life was designed by intelligent beings, but know relatively little about what goes on in the minds of those designers.

And so we have easily answered the Dawkins/Dennett charge that explanations must be reductive. But Dembski cannot answer it this way and must leave the issue inadequately addressed, because he is wedded to the idea that human minds (and the minds of our designers) are not composed simply of a quantity of specified information and a logic engine, but are instead magic fountains of specified complexity. We shall return to this issue in the next chapter.

The “looks like evolution” question should properly be rephrased thusly: “Why would creators design life to superficially look like the product of Darwin’s theory, even if that theory is false?” This question can be answered directly: If false, Darwin’s theory is just one of a virtual infinity of false theories about how life reached its present state. It is unrealistic to the point of absurdity to expect human-like designers to avoid making anything that even partially resembles the purported product of any one of those theories.

At its deepest level, the “why would God...” question is really an unstated subscription to the false dichotomy illustrated in Table 1-1; a presumption of the hyper-perfect, Christian designer. But in its most general form, the word “God” is widely understood to mean “the being(s) which created the universe in which

we live.” Throughout this book, I use the terms “creators” and “designers” to mean the same thing. I think of our designers as an engineering team of sorts.

If we were created by some sort of designers, then most of us instinctively want to know: What are our creator(s) thinking? What do they want? Why did they create us? And so on. In our attempts to answer these questions, two conceptions of a creator’s mind may be employed:

**Rational** — Our creators think in much the same way as we do, and probably have similar types of motivation.

**Magical** — God thinks in a way that is incomprehensible to the human mind.

Most people who talk of God’s thoughts and motives will use either of these two formulations at their convenience, failing to notice that the two are incompatible (or tautological when mixed). For purposes of this book, I will stick to the rational conception, for the simple reason that if the magical conception is true, then we cannot hope to understand anything about why we are here, or what is going on, etc. The rational conception is therefore the necessary starting point to even approach the subject.

That is not meant to imply that we are as smart as our designers — it just means that we *think in the same way*, utilizing the same rules of logic and reason, and the same process of mental planning refined by empirical experimentation. If our creators know more than us, it is because they have been around longer, have greater information storage capacity in their brains (as it were), and have access to things which we do not. Thinking about the creators’ motives, therefore, is a lot like thinking about the motives of your next-door neighbor in a god-like position, such as having an ant farm on his desk, or working in a lab with test animals, or raising livestock — or writing a videogame on his computer.

Given this view of our creators, we now get to the question “do they exist?” This question can be answered in one of two ways: Scriptural or scientific. The scriptural method says that “God has told us that he exists (as recorded in holy scripture) therefore he does.” This logic fails, of course, because it is circular. Be-

fore we know whose (if anyone's) scripture to believe, we must already have decided that God exists, and additionally that he has originated a holy scripture.

### *Anthropic Tuning*

That logical fallacy leaves us with the other method: Science. Until recently, science didn't tell us much about whether the universe was created, but now it tells us a lot. The famous "anthropic coincidences" clearly show that the laws of physics had to be very finely tuned — to a precision far, far greater than humans employee in their own endeavors — to generate an environment in which complex life can exist. Just a few of these remarkable facts (as collected by Michael Denton) are listed here:

- The same liquid (water) that has the right viscosity for life, also happens to be transparent to the narrow range of biologically useful light frequencies, while blocking almost all other frequencies. This same liquid has polarized molecules which allow it to act as an excellent solvent, and has many other unusual properties that are either highly beneficial to life or absolutely necessary for life to function.
- This universe contains an abundance of stars that emit almost all their light in the narrow, biologically useful range.
- The one element (carbon) which is most useful in biomolecules — due to the wide variety of other elements to which it will bond and the relative strength of those bonds — happens to have just the right nuclear energy level (relative to oxygen and beryllium) to be produced in biologically useful quantities during stellar fusion.
- The amount of radioactive heavy metals generated by stellar fusion is just right to provide Earth-like planets with the tectonic energy needed to keep a fresh supply of raw materials near the surface, while not so much as to prevent the surface from cooling to a livable temperature.

Denton summarizes these and many other strikingly biocentric coincidences in *Nature's Destiny*.

The atheist/materialist community has come up with two ways of answering these observations. One way is to claim that we can't really know how long the odds need to be before a design inference is warranted. By this reasoning, there might be a staggering number of universes to which we have no scientific access, say  $10^{1000}$  universes or more, each with its own arbitrary (random) set of physical laws. Most of those universes are sterile, but a very small percentage of them can (and perhaps do) harbor complex life, and ours happens to be one of those. No intentional bio-tuning of our universe was necessary.

This logic is not wrong, but it is being critically misapplied. All it really means is that any scientific conclusion is ultimately tentative, and subject to future revision if new kinds of evidence (or mistakes in current evidence/logic) are discovered. In other words, the bio-coincidences of our physical laws *do* warrant the scientific conclusion that this universe was intentionally designed for us to live in — but that conclusion, like all scientific conclusions, may have to be revised in the future if we find a way to detect and examine other universes, and there turn out to be a spectacularly immense number of them with apparently random physical laws. Using the bare gazillion-universes hypothesis to *reject* the design conclusion, however, is actually a rejection of the scientific method. Applying that same logic, we could, with equal or greater ease, obliterate *all* scientific conclusions and have no science to work with whatsoever.

For example, suppose I set up twenty bacterial colonies in separate petri dishes. Then I select ten of them at random to receive a dose of alcohol, and the other ten colonies get a dose of sugar-water. Next I wait a while and observe which colonies survive and which ones perish. To my delight, I find that the ten colonies that got the alcohol all died, but the other ten did not. This, I think, indicates that alcohol is bad for bacteria. But does it? Each colony could survive or perish: that's two possibilities. Twenty colonies means there were  $2^{20}$  different possible outcomes, or about one million ( $10^6$ ). Are those odds long enough to give me scientific confidence that my results are meaningful? Maybe not — just  $10^6$  other universes where this experiment is being performed with different (and

random) results would be enough to invalidate my conclusion that alcohol harms bacteria.

But hey, maybe I can perform the experiment again and see if it happens the same way. To my delight, I find that it does. Now the odds are 1 in  $10^{12}$  of coincidence. Those are long odds indeed — but still not even close to  $10^{1000}$ . I will have to repeat the experiment 165 more times to elevate the odds to 1-in- $10^{1000}$ , and will even that be enough? The gazillion-universe principle does not indicate what odds are long enough, and some have calculated the odds of coincidental bio-tuning to be vastly greater.<sup>4</sup> Clearly I can never repeat my alcohol/sugar experiment enough times to be sure. (Dembski argues a similar example involving piano-playing skill in *The Design Revolution*, pp. 122-5, and he addresses well the concept of a gazillion universes on pp. 119-20.)

Now of course, proponents of the gazillion-universe hypothesis don't intend that it be applied to everyday science experiments on microbial colonies, or even to origins experiments that come to atheism-compatible conclusions, such as the synthesis of amino acids by the sparking of a simpler chemical mixture. Instead, they want to selectively apply their gazillion universes to neutralize the conclusion that our universe was set up with us in mind, but not any other conclusion, such as that alcohol kills bacteria. This leaves us to wonder, on what unstated principle *P* do we decide when to invalidate a scientific conclusion with gazillion-universes and when not to? Whatever *P* is, *it* is the real reason to reject the design conclusion — not the bare hypothetical of a gazillion universes. We won't know until they tell us, but probably *P* is nothing but the specific preference that cosmological design conclusions be avoided — or more generally, a preference for the “Cosmological Principle” (CP) which mandates that there be nothing special or intended about humanity's existence.

Given the state of the evidence in cosmology, the CP is turning out to be nothing more than an overreaction to the mistake of simplistic geocentrism which was overturned by Copernicus in the year 1543. The CP is an attempt to prevent any similar mistake from being made, by precluding anything vaguely similar to

<sup>4</sup> Dembski (*Intelligent Design*, p. 266) quotes Roger Penrose pegging the odds at 1 in 10 to the *power* of  $10^{123}$ . To beat such odds I would need to repeat my bacteria experiment over  $10^{122}$  times, which at a rate of one experiment per day would take well over  $10^{117}$  centuries.



geocentrism from science. But science is supposed to be about finding out what is true, not dictating it with proscriptions like the CP. The mistake of the pre-Copernican geocentrists was *not* that they violated some overarching, infallible principle of ultimate human humility. Their mistake was that they failed to define their negative hypotheses: Lacking any obvious evidence that the Earth *is* moving through space, they then failed to pose the question, “If the Earth *was* moving through space, how would we know? What would that look like?” Milne, Gold, Bondi, and Hoyle, the founders of the CP, utterly misdiagnosed the ascientific characteristic of the geocentrists, and so instead of correcting that error they merely replaced it with an equally ascientific proscription.

A gazillion universes might exist — who knows? — so we can’t say that we have confidence beyond any shadow of a doubt that the universe was designed for us. But we can say that we live in a universe where the *methods by which we are able to figure out how to understand, predict, and control our environment*, if applied to the question of cosmological design, lead to the conclusion that the universe *is* designed for us. We can avoid that conclusion only by applying an intentionally *different* methodology, one that is useless for anything but proscriptively avoiding the conclusion of cosmological design.

As Rich Halvorson details in *Questioning Cosmological Superstition: Separating science from myth in our theory of the universe*, the widely taught fact of cosmological homogeneity has never been born out by empirical observations, which instead have consistently refuted homogeneity every time the field of observation is expanded. Homogeneity is simply a necessary correlate of the CP to reconcile it with observed isotropy, and has been taught as factual on that basis alone. Halvorson is careful to avoid jumping to any direct conclusions, but one obvious implication of isotropy (as seen from Earth), combined with a lack of CP-demanded homogeneity, would be that the Earth is at the approximate center of the universe. (That, of course, is precisely the sort of conclusion the CP insists be avoided.)

Why would our designers plant their life at the center of the universe? In pre-Copernican times, the reason would have been to crudely signify humanity’s supreme importance in the universe. But other, more mundane reasons are easily hypothesized: Perhaps we have been placed at the center of the universe to most

expediently facilitate our expansion throughout the universe (when our technology is sufficient to permit such expansion). Or, perhaps the phenomena of Lorentz contraction and time dilation are absolute, not relative as Einstein believed, and so the central area of the universe is the only area in which chemical reactions (and all other local events) are not markedly slowed down. Further, it should be noted: If we are in the approximate center of the universe, that doesn't even necessarily correlate with humanity's supreme importance — the approximate center of the universe is itself a rather big place, and our designers may have planted intelligent life on several other, relatively nearby planets.

Besides the gazillion-universe hypothesis, the other, more general way that atheists address bio-tuning in physics is to turn it on its head with something called the "strong anthropic principle." According to this principle, it doesn't matter how few universes there are, ours simply *has* to have the qualities required for intelligent life, because otherwise we wouldn't be here to discuss it. Since human science is impossible without humans, the existence of humans is a presumptive element in the foundation of human science, and not in need of scientific explanation.

This answer falls short in two ways: First, if the existence of humans is not in need of explanation, then why do these same people embrace Darwin's explanation of it? And second, the idea that we need not scientifically explore scenarios in which we would not exist is downright bizarre. We cannot now and perhaps never will be able to visit the core of a Sol-like star, so is it improper for us to ask what is in that core, and how it came to be that way? The story of the firing squad<sup>5</sup> crystallizes what is wrong with such tacks: Suppose I am sentenced to death and put before a firing squad, and the ten riflemen all aim and fire, but they all miss. The law says they get only one try to execute me, so I am freed. One day I am talking with a friend, and I say, "I've always wondered why they missed. I'm sure there's an explanation, but so far I haven't found one."

My friend replies, "Oh, I know why they missed. It's simple. If they hadn't missed, you wouldn't be here to wonder why they missed. That's why." I would then realize that my friend either didn't understand the question, or is deeply confused about what constitutes a scientific explanation of an event.

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<sup>5</sup> Originated by John Leslie.

Since Denton drew new attention to the anthropic coincidences with *Nature's Destiny*, Guillermo Gonzalez and Jay Richards have taken it to a whole new level with their book *The Privileged Planet*. In it, they show that the anthropic coincidences go way beyond the mere *survival* requirements of intelligent life, and extend deeply into the *science* requirements. In other words, a whole separate set of remarkable coincidences are required for this universe to support the process of scientific exploration by the intelligent life that lives in it. This indicates that we were not merely created by beings that want us to exist and survive in this universe, but who also intended that we figure out how our universe works, and develop the technology required to master and thoroughly populate it.



The belief that certain categories of conclusion are inherently antithetical to science, even if the current evidence points strongly toward such a conclusion, is greatly bolstered by past shifts in theory such as the change from Newton to Einstein. The laws of Newtonian mechanics seemed to be verified so heavily, and for so many years, but then they turned out to be wrong! This apparently indicates that we need a higher principle of science than just empirical evidence and the most obvious direction pointed by that evidence, to have assurance that our science is on the right track. In our times, probably the three biggest attempts to protect science from error via such a principle are: strict naturalism (a.k.a. materialism), quantum incomprehensibility, and the CP. Each seeks to prevent human science from making some critical, long-lived error that it made in the past, by protecting us from inherently wrong-headed ideas to which the evidence might otherwise lead us.

If such dramatic shifts of scientific truth really happened, they would provide a very bad answer to the question posed earlier in this chapter: *If the whole science community can be wrong about something like this, then how can we know when they're right about anything? What value is science if the overwhelming consensus of the science community is not reliable?* The answer would be that science is seriously flawed and possibly useless! Fortunately, such shifts do not really happen at all. It is very arguable that solid, multipoint, empirical verification of a theory has

*never* led us astray. In each case where it allegedly has, the fault lies entirely with a scientifically unjustified desire to extrapolate a conclusion beyond the scope in which it was verified.

To illustrate: Suppose I theorize that a certain physical phenomenon is governed by the formula:

$$y = a^2 / b$$

I and many other scientists perform numerous empirical tests that show this formula to be correct within the our very narrow degree of instrument error. From this we conclude that the formula is correct, and begin making all kinds of predictions based upon it. But we fail to notice that all our verifications employed data in which the element “b” is in the range -10 to +10. If some of our predictions based on this formula concern cases where “b” is, say, 250, then we shouldn’t be too surprised if the formula turns out to be a bit more complicated than we thought. What if the formula is actually:

$$y = (a^2 / b) * (1 + b^2 / 10^5)$$

In that case, tests where “b” never strays from the range -10 to +10 will probably give results that look just like the first formula, because the part of the formula in the second set of parends will disappear into irrelevancy. But when the value of  $b^2$  becomes a substantial percentage of  $10^5$ , then the first formula no longer applies. This is precisely what happened with Newtonian mechanics. To say that Einstein proved Newton “wrong” is a mischaracterization of the truth. Newton’s laws are used routinely in everything from bridges and skyscrapers to boats and satellites. Einstein did not replace Newton’s formulas, he just showed them to be a *special case* where the masses and speeds involved are in the range we typically see in our daily goings-on — that is, far less than the masses of planets and stars, and moving far slower than the speed of light.

In the movie *A Beautiful Mind*, John Nash (the mathematician played by Russell Crowe), declares that “Adam Smith was wrong,” and proceeds to develop a

unique thesis concerning the failure of classical economic principles. But to describe Nash's discovery as "Adam Smith was wrong" is gross overreaching. Nash showed that in certain, unusual situations (typically involving a small number of parties), Smith's laws didn't apply and might actually be counterproductive. But did Smith ever claim that his laws applied in that manner? Classical economics deals with large numbers of persons (thousands or millions) engaged in economic activity with each other. The pro-Smith evidence is manifest: Nations that embrace classical economics do much better than those that don't.

The oft-cited mountains of evidence for Darwinian evolution were not misleading, they were simply extrapolated (by Darwin and his followers) to realms in which they had never really been confirmed. The classic example is showing how a single finch species diversified into multiple finch species, and extrapolating from that to the claim that the same process turns bacteria into finches — never noticing that all the finch species under study are essentially identical in terms of what systems of adaptive complexity are included in their bodies.

Even the belief that the world is flat — today cited mainly as a smear against evolution doubters — was not a case of empirics leading us astray. Our planet *is* flat, at least within a radius of several miles as seen from anywhere near the ground. Within any distance that we typically travel as we walk or drive about on a given day, the curvature of the earth is so slight as to be completely dwarfed by local hills and valleys, and thus is insignificant. When we design buildings, neighborhoods, and even whole cities, we do not even bother to take the curvature of the earth into account, and no harm comes of it. Only the *extrapolation* of this flatness over arbitrarily large (and unviewable) distances was incorrect, and such was always based on mental assumptions, not empirical data.

Human science, when confined to the realm of solid, multipoint, empirical verification, does not lead us astray, and no higher-than-empirics principle (strict naturalism; CP) is needed to protect us from error. Our latest evidence is telling us that such principles are useless at best, and at worst it is *they* that lead us astray. The only principle science needs is the study of empirical evidence, and the testing of theories against that evidence.

So we are created, and the atheists are wrong. And not just the atheists, but anyone who thinks that life on Earth is an *unintended accident*, which includes many who will grant that this universe may have been created. Apparently, we were made by creators who think and plan rationally, who think like us, who can be easily expected to generate variations on pre-existing designs, just as we do with cars and computers. Who can be expected to reuse pre-developed code and concepts at will, often creating species that map onto a branching, version tree, but also occasionally creating homologies which do not fit into a pattern of strict version-tree branching.

Do our creators expect us to follow a specific moral code, and what will they do to us if we don't? Is there a true religion? Following the **rational** conception above — that our creators think in much the same way that we do — and other observations from the world around us, we can now easily conclude the following:

1. Our creators want humanity to survive and prosper, and have given us an environment rich with technological possibilities which permit us to flourish, grow, and advance through the universe.
2. Our creators do not require any large number of human individuals to know why humanity exists, nor what is our final destination or purpose. They have programmed our brains with an instinctive desire to survive and to learn to control our environment.
3. Our creators probably know that some individuals, due to genetic damage or misfortunate socialization, will act against the advancement of humanity. This does not concern our creators, because those counterproductive human individuals do not pose a threat to the overall plan — only a hindrance. The creators know that human society can deal with such problems. (The idea that humanity might extinguish itself is popular, but not realistic — it is discussed in detail in chapter eight.)

4. There would be no point in rewarding/punishing human individuals for how they furthered/hindered the advancement of the human race. From scientific experiments on both animals and humans, we know that rewards and punishments are effective only to the degree that they are applied *immediately* and *consistently*, and/or can be viewed by others for deterrent effect. The “divine judgment” purported by most religions meets *none* of these requirements; hence we can logically conclude that divine judgment of individuals is a story made up by those who sought to influence the behavior of others.
5. We can reasonably surmise that the creators have not communicated any particular religion to humanity directly, because there would be no point in doing so if it is not rationally distinguishable from invented ones.

These five conclusions render the scripture-vs-evolution culture war practically moot, since the key motivator on both sides is the association of evolution with the idea that humans are an unintended accident and are therefore not subject to divine judgment. We can see that this motivator is misguided in multiple stages, by what we have already determined — i.e. the anthropic coincidences demonstrate that humanity is no accident, but the conditions of meaningful reward/punishment demonstrate that humans are not subjected to afterlife judgment.

— • —

*Shopping is good.*

— *Hudson’s Bay Company slogan, early 2000s*

Christianity, as well as other major religions, tries to teach us to avoid the pursuit of materialistic goals; that it is wrong to be “worldly.” If we are in fact created,

but the religious vision of the creator is misconceived, then where does that take us? Perhaps we are *meant to be worldly*. Not under threat of horrific, other-worldly punishment if we don't — perhaps our creators simply meant for humans, as a group, to be very much a part of this world, at least while we're in it. If that is so, then, as I mentioned in the introduction, the modern shopping mall is a serious candidate for the pinnacle of human creation. It's simply a collection of the finest crafts that humans have been able to put together with their most advanced talents and technologies, all on display in an equally refined, modern venue. If the beauty of this world is the marvelous, distilled end-products of hidden tedium, then the shopping mall is where it all comes together in one place. Our society is filled with factories where raw materials are turned into refined materials or finished goods, schools where we learn the skills we need to realize our creative potential, governments that protect the creative from the destructive. All of it, it seems, comes together at the mall, where we can peruse the best things human knowledge and industry have produced.

Roads, neighborhoods, hospitals, grocery stores — all can be seen as in one way or another contributing to the creative potential that is unleashed in its maximum form at the mall. But what do churches offer? If churches contribute at all to this creative process, their contribution is consolation. Many individuals find it difficult or impossible to cope with the disappointments and unfairness in life. The ceremonies and doctrines of the major religions are tailored to consoling those who are anguished by these unpleasant realities.

For those who are disillusioned from religion, but who still have difficulty coping with life's harsher facets, atheism (or strict naturalism), completed by Darwinism, offers at least a relatively satisfying answer to the troubled inner question, "Why did this happen?" Darwinism's answer is that all the complexities of this life — including harsh unpleasantnesses — naturally sprung forth from extremely simple laws that don't really know what they are going to create. Darwinism's major appeal is its clever simplicity — it's the sort of explanation that scientists *like* to find (e.g. Newton's explanation for the motion of the planets and smaller objects here on Earth).

But the desire for clever simplicity can lead us to overlook critical mistakes. My father, David, once amused himself by telling me a simple proof that a hand-



ful of jellybeans must all be the same color, and challenging me to find the flaw in the proof. It went like this:

- If you have one jellybean in your hand, all the jellybeans in your hand are the same color (obviously).
- If  $N$  jellybeans in your hand must be the same color, then  $N+1$  also must. For example, if five jellybeans must all be the same color, then six also must, because you can take five as a subset of six several different ways.

That's it. Proof by induction tells us that if a proposition is true for  $N=1$ , and if it is also true that if the proposition holds for  $N$  it must also hold for  $N+1$ , then the proposition is true for all counting numbers. I couldn't figure out what was wrong with the proof, so my dad eventually told me: The second part ( $N$  to  $N+1$ ) doesn't work when  $N=1$ , because when one jellybean is taken as a subset of two jellybeans, the two subsets *don't overlap*.

Evolution is similarly flawed. Evolution tells a story of how complex machines, that have tweakable parameters, can be fine-tuned by a process of random variation and natural selection, and examples of this abound in nature. But the story always neglects to explain how that process takes us from one such machine to another one, except to throw up the word "gradually" in the hopes that no one will demand detailed elaboration.

Both sides of the scripture-evolution dichotomy want to retain a sense of inexplicable magic. They both want to believe that complex functionality can spring forth from nothing, either because a God wishes it, or just for no reason at all. But the scientific inference from all our experience is that complex functionality has to be painstakingly crafted in a process that involves intelligent planning, testing, experimenting, and fixing, and that draws its crucial information content from stores in the minds of the crafters.

Our creators apparently want us to spend our lives in our own process of creative invention, making products, shopping venues for those products, and our own simulated worlds in the form of movies and videogames. All of which serve the purpose of *entertainment*. Practically everyone in this world enjoys entertainment for at least parts of their lives, but the idea that the world exists *for*

that entertainment, and indeed that our entire life is itself a form of entertainment, is difficult for many to swallow, out of concern for the fate of morality. When he contemplates what we can expect from people who don't believe that their creator is judging them as individuals, Johnson<sup>6</sup> paints a horrific picture characterized by infanticide, thrill-killing, and indiscriminate slaughter. Moral concepts are believed to hold the very fabric of society together, and the fear of what might happen, if those concepts are undermined, is strong.

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<sup>6</sup> *The Wedge of Truth*, pp. 111-8

## ID and the Entertainment Inference

*I didn't say it would be easy, Neo. I just said it would be the truth.*

—Morpheus, *The Matrix*, Andy and Larry Wachowski

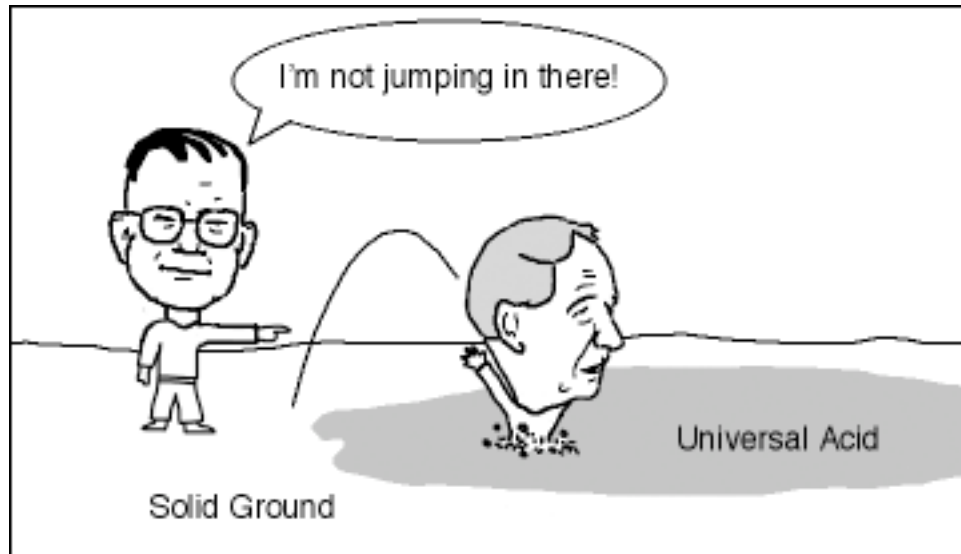
IN HIS ANALYSIS of fellow Berkeley professor John Searle's advocacy of Darwinism as the "universal acid" (i.e. the reductive explanation that says all human intellect is a product of the Darwinian process of survival of the fittest), Phillip Johnson employs a delightfully clever metaphor:

[Searle] is so skillful in argument that he almost holds his own even after leaping gratuitously into a pool of universal acid — but why accept the disadvantage?  
—*Objections Sustained*, p. 66

Johnson's image is illustrated in Figure 2-1. It seems like a winner until one contemplates a simple question: If a pool of acid is sitting around in a localized and highly avoidable spot, waiting for some persons to jump in while others don't, can that acid truly be called "universal?" And if it's not universal, then it's not the acid to which Searle was referring — therefore, on what grounds does Johnson depict Searle as needlessly flinging himself into it? Johnson seems to want to believe that a universal acid can (and does) eat its *proponents* while leaving its detractors untouched.

FIGURE 2-1

Johnson's flawed metaphor: Phillip Johnson declining to follow John Searle into a pool of universal acid.

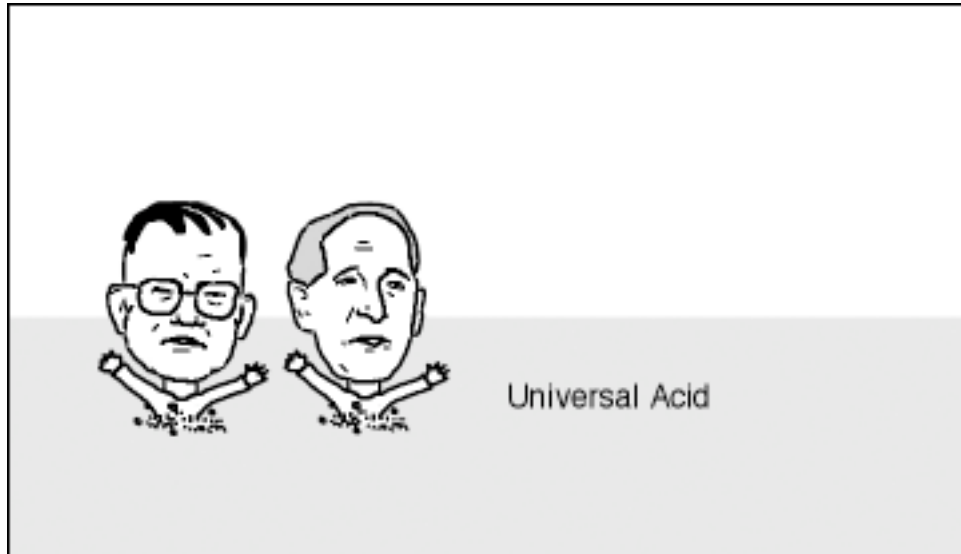


Universal acid either exists, or it does not. If it does, then, as pictured in Figure 2-2, it dissolves *everyone*, including Phillip Johnson (and Darel Finley, for that matter!). Such an acid makes no differentiation between those who advocate for it and those who don't; it simply dissolves everyone's position with equal thoroughness. On the other hand, if the universal acid does not exist (see Figure 2-3), then it dissolves *no one*: not Johnson, and not Searle. It fails to damage either person in the slightest, again independent of who may be advocating for its existence — because if it doesn't exist, it can do no harm at all.

If the acidless Figure 2-3 is the accurate metaphor, then Johnson cannot claim that Searle's arguments are eaten away by universal acid — but at least he can claim that Searle is wrong about one narrow point: the existence of the universal acid. But what if the universal acid *does* exist? As excellent exemplifiers of the dichotomy of the day, Johnson (the Christian) wants to believe that, thanks to the reliable authority of our creator God as the ultimate source of all truth and knowledge, there is no universal acid, while Searle (the atheist) wants to believe

## FIGURE 2-2

One way to correct Johnson's metaphor: A truly universal acid dissolving both Phillip Johnson and John Searle with equal facility.



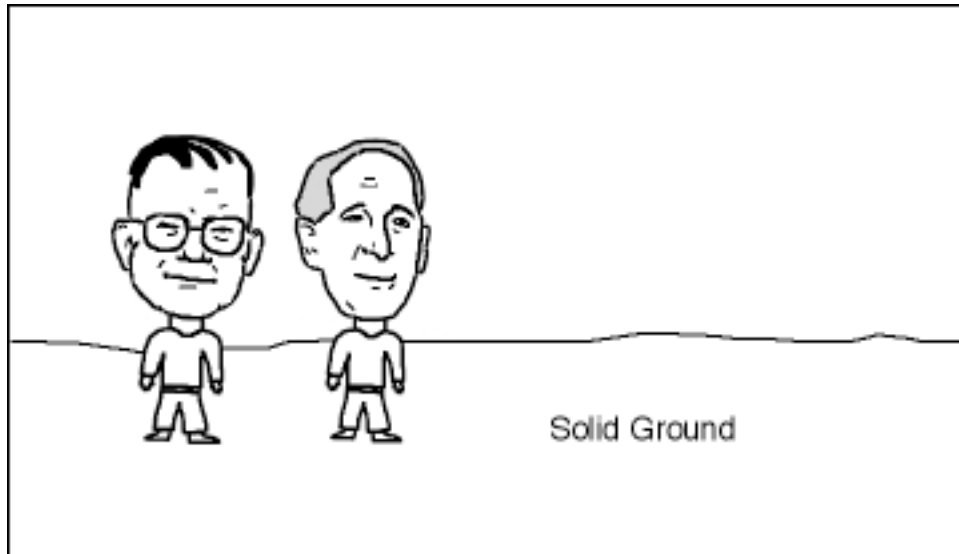
that the universal acid not only exists, but eats everything it touches down to meaningless mush. Both are wrong.

The universal acid exists, but it is not Darwinism; our designers cannot protect us from its effect; and it does not disintegrate everything it touches — instead, it merely strips every arguer of the veneer of infallibility. The universal acid is *self-reference* — the same self-reference that Johnson chided Stephen Hawking for failing to fully come to grips with in Hawking's *A Brief History of Time*. Unfortunately, Johnson didn't fully come to grips with it either.

[Hawking] recognizes that a physical theory of everything is inherently self-referential and hence potentially incoherent. The enterprise of science assumes that human beings — or scientists, at any rate — are rational beings who can observe nature accurately and employ logical reasoning to understand the reality behind the appearances. If a theory of everything exists, however, the laws it describes determine even the thoughts and actions of the scientists who aim to discover the theory. How then, wonders Hawking, can the scientists trust their own powers

### FIGURE 2-3

The other way to correct Johnson's metaphor: A nonexistent universal acid leaving both Phillip Johnson and John Searle completely unscathed.



of reasoning? How can they know that the laws of physics predict or permit the discovery of a true theory?

Naturalistic philosophy offers one line of escape from this conundrum, and Hawking takes it. The only validation of the mind's reasoning power that science can provide is Darwin's principle of natural selection, which explains all adaptive features of organisms in terms of reproductive success. The theory posits that evolution rewarded those organisms that were best at drawing correct conclusions about the world and acting accordingly to escape predators, find mates and so on. Right-thinking organisms would presumably excel at surviving and reproducing, and hence would leave more offspring than competitors who were more inclined to err. Eventually the ability to come to correct conclusions would become widespread in every population. In Hawking's words, "Provided the universe has evolved in a regular way, we might expect that the reasoning abilities that natural selection has given us would be valid also in our search for a complete unified theory, and so would not lead us to the wrong conclusions."

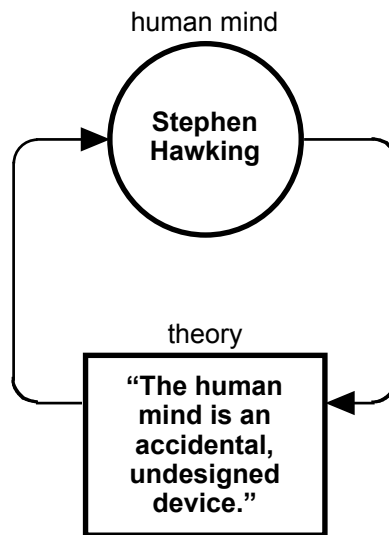
But one cannot avoid the problem of self-reference by invoking another theory in this way. Darwin's theory is just another product of the human mind, whose

reasoning is still governed by the hypothetical theory of everything, so the problem of reliability is merely displaced rather than solved. —*Reason In the Balance*, pp. 61-62

This issue is clarified with diagramming in the next several figures. Figure 2-4 illustrates the fundamental problem that Johnson identifies. We see that Hawking's assertion that the human mind is an accidental, undesigned device is

#### FIGURE 2-4

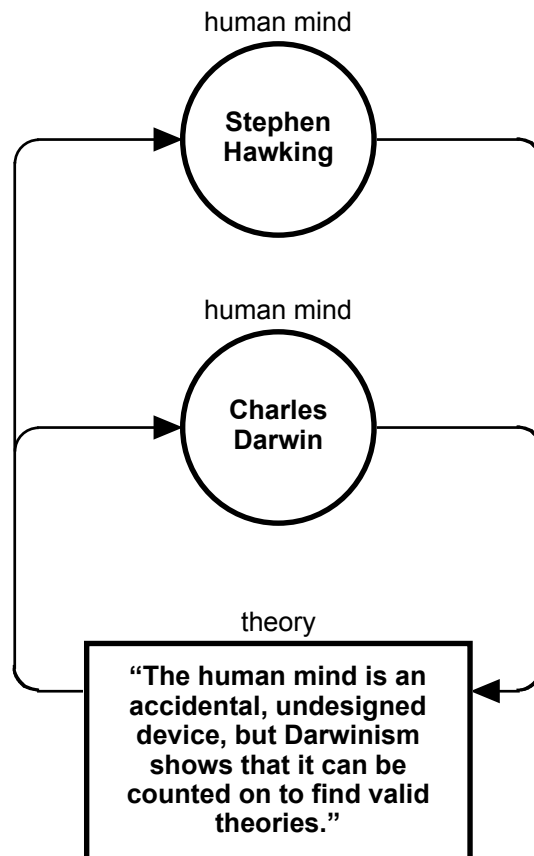
Hawking's commission of self-reference.



itself a reference to Hawking's mind: the same mind that just made that pronouncement. Hence, how can we know that Hawking's accidental, undesigned mind renders accurate statements? Hawking's way out is to invoke Darwinism as the reliable creator of accurate minds, and Johnson is quick to point out the error of this logic, as illustrated in Figure 2-5. But Johnson fails to take the next step, which is to apply the same logic to himself, as illustrated in Figure 2-6. Instead, Johnson implicitly *exempts* himself from the problem of self-reference:

FIGURE 2-5

Hawking's failed attempt to avoid self-reference by invoking Darwinism.



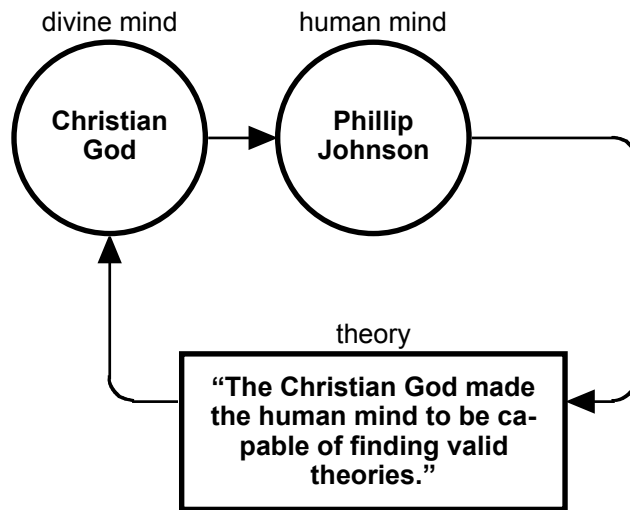
Logic tells us how to get from premises to conclusions but not how to know which premises we can rely on. If we try to derive our ultimate premises by reasoning from other premises, as modernists have been taught to do, we only make ourselves captive to circular reasoning. If reason is to be a reliable guide, it must be grounded on a foundation that is more fundamental than logic and that provides a basis for reasoning to true conclusions about ends. Instrumental reason is not enough. That is why the fear of the Lord is not the beginning of superstition but the beginning of wisdom. —*The Wedge of Truth*, p. 176

Imagine the reaction of his publisher if Crick had proposed to begin his book by announcing that “I, Francis Crick, my opinions and my science, and even the



FIGURE 2-6

Johnson's own failed attempt to avoid self-reference by invoking the Christian God.



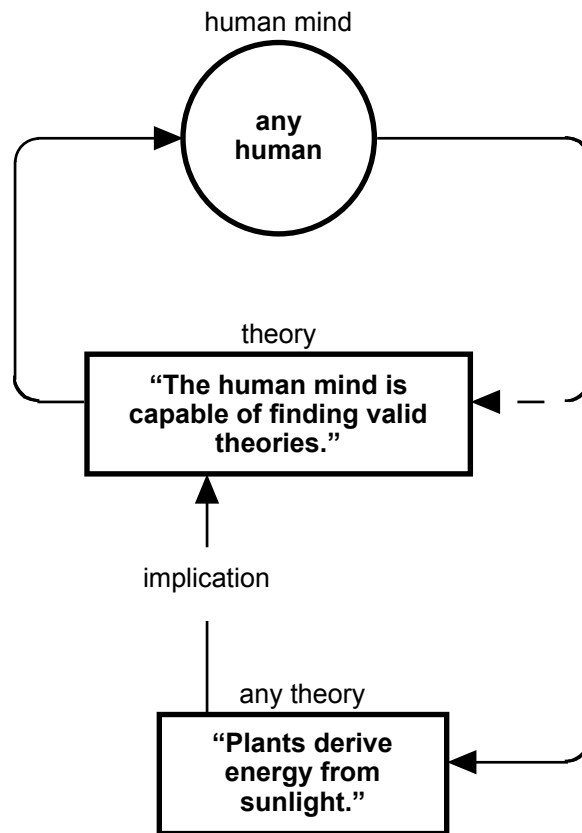
thoughts expressed in this book, consist of nothing more than the behavior of a vast assembly of nerve cells and their associated molecules.” Few browsers would be likely to read further. —*Reason in the Balance*, p. 64

The story of the great scientific mind that discovers absolute truth is satisfying only so long as we accept the mind itself as a given. Once we try to explain the mind as a product of its own theories, we are in a hall of mirrors with no exit. —*Reason in the Balance*, p. 62

But any theory of human origins advocated by a human (such as Johnson) — whether that theory be Christian, Darwinist, or something altogether new — is an attempt to “explain the mind itself as a product of its own theories.” Johnson’s “hall of mirrors” is one in which *everyone* resides, if they dare to opine about human origins at all. Even worse, Figure 2-7 shows that the problem of self-reference is completely general, and can be applied to any mind making any

FIGURE 2-7

The unavoidability of the problem of self-reference.



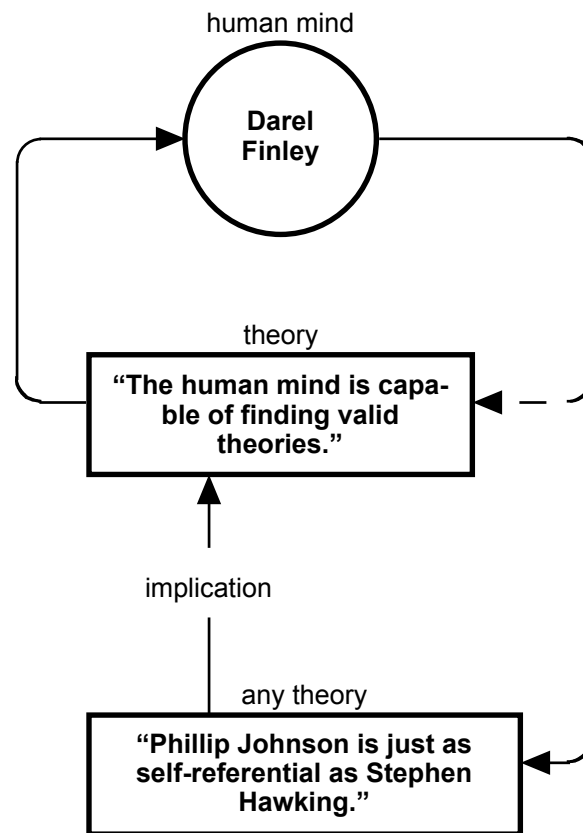
assertion. And of course, I, the author of this book, am no exception, as illustrated in Figure 2-8.

The problem of self-reference is simply unavoidable. It is a *truly* universal acid — but does that mean that all our arguments are utterly unreliable? I propose that it does not. Instead, it just means that we can never be 100% certain that we are not mistaken, or insane, or otherwise in error. It means that you simply have no choice but to presume your own rationality (as did Descartes) and proceed from there. That presumption might best be diagrammed as in Figure 2-9.<sup>7</sup>

<sup>7</sup> Note that Figure 2-9 is not intended to imply that all three conclusions on the right side of the figure are sound, rather that any one of them at least might be correct, and that the problem of self-reference does not preempt that possibility.

FIGURE 2-8

Finley's commission of self-reference in his analysis of Johnson's Hawking criticism.

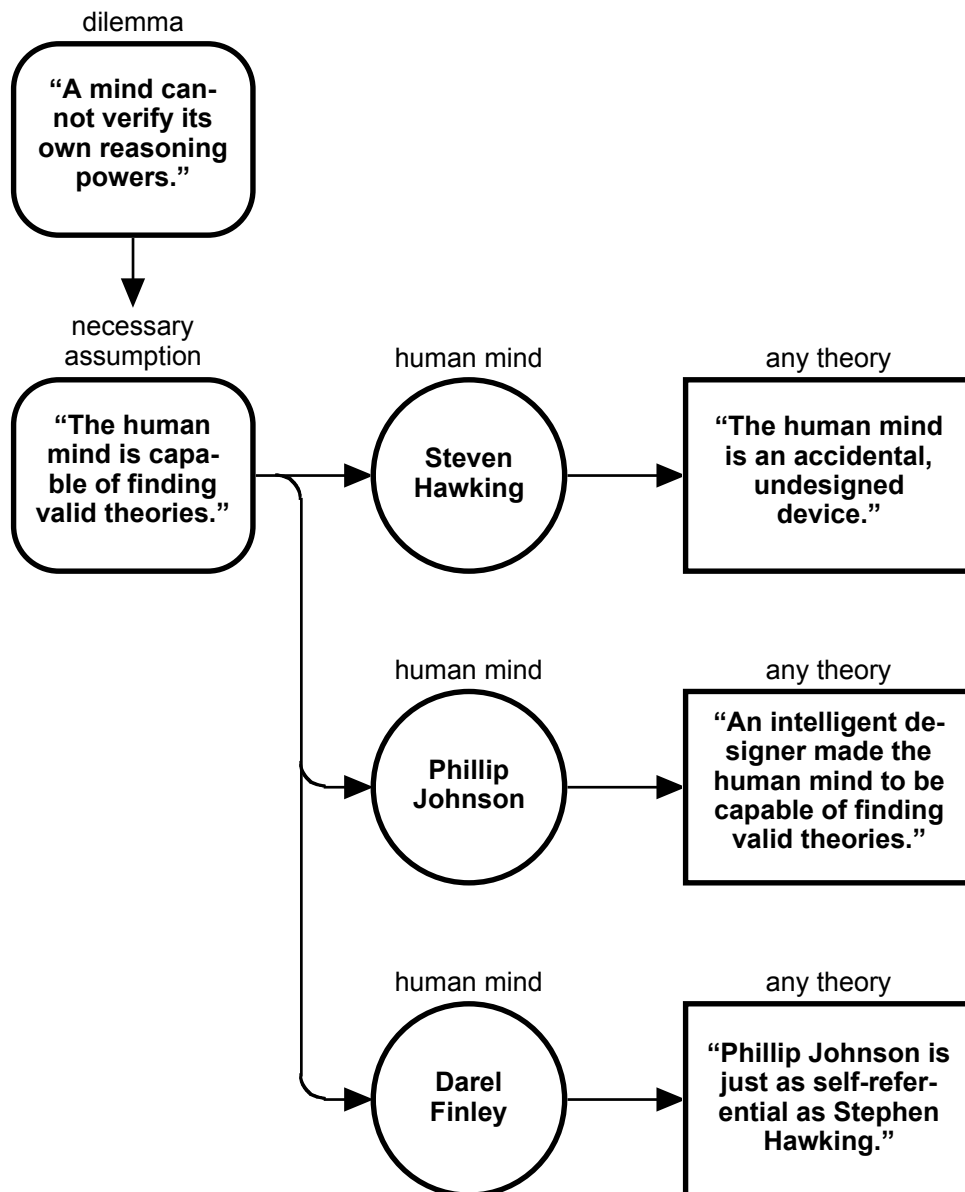


The good news is that the universal acid doesn't destroy the validity of our arguments; it just disallows us from having absolute confidence in them. No matter how good your logic seems to be, you always have to wonder if you are crazy, dreaming, or just overlooking some crucial mistake. What this means in practice is that each of us can doubt or disbelieve the validity of the arguments of others, but not our own, which we can only presume correct until and unless we discover otherwise.

Immediately after painting his fallacious picture of declining to follow Searle into a pool of universal acid, Johnson says that "Science is a wonderful thing in its place." But he neglects to spell out exactly what that place is. Is it the place of science to negate Darwinism and then quietly bow out of all discussion of human

FIGURE 2-9

Starting with the forced presumption of one's own rationality.



origins and purpose? That would be a very selective use of science — as selective as using the gazillion-universe hypothesis to negate a cosmological design conclusion and then quietly omitting that hypothesis from all other scientific pursuits (that one prefers not to negate). As Johnson himself has gone to great

pains to point out, Darwinism can be a very powerful *religion*, and if it can be defeated only by insisting that questions of humanity's existence be strictly subjected to the scientific method, then that method cannot be treated as a handy device for defeating Darwinism, but instead must be followed to its full set of logical conclusions, even if those prove satisfying to neither side of today's culture war. Johnson seems to think that having discovered a way to neutralize Darwin, we can now revert to what was widely believed before Darwin came onto the scene. That is incorrect; Darwin's defeat brings about its own set of discoveries, and paves the way for a new paradigm. Remember that Darwin wasn't wrong about everything — just about his central thesis of mutation and selection as full-blown designer. Many other facts that fall under the loose umbrella of "evolution" are not defeated by ID, because they were never logically tied to the blind-watchmaker thesis in the first place.

To underscore the point: In pre-Darwinian times, Christianity controlled the subjects of human reason, purpose, and morality. Johnson apparently believes that if ID can just get Darwinism off the table, then things can return to the way they were before Darwin — but they cannot. ID (in its modern, Darwin-negating form) wasn't on the table in pre-Darwinian times, and now that it is, it has to be taken to *its* conclusions, whatever they may be. ID cannot be used as a convenient weapon for zapping Darwinism, then stashed away in a closet, safely out of sight. Because once ID is tucked away, Darwinism just jumps right back on the table again, undeterred! No, ID is not like a screwdriver that can be gotten out and applied whenever convenient. Rather, ID is like a cat you adopted to get rid of mice that had invaded your house. It worked; the cat is efficiently annihilating the mice to your great delight — but now the cat is here to stay, and if you weren't expecting that, you might be very disappointed.

— • —

Neo: “*This isn’t real?*”

Morpheus: “*What is real? How do you define real?*”

—The Matrix, *Andy and Larry Wachowski*

As Johnson has faded from the leadership role in the ID movement, William Dembski has emerged as his successor. Although also coming from a Christian perspective, Dembski avoids overt attempts to reinstate the (Figure 1-4) scriptural approach to human knowledge, and instead has focused on developing the ID argument in a rigorous, mathematical form, that the Darwinian establishment cannot easily dismiss as mere rhetoric or subjective opinion. However, like Johnson, Dembski still seems to suffer from the desire to selectively apply his anti-Darwin arguments; using them to negate Darwinism and then quickly stopping before they also negate things that Dembski perhaps doesn’t want to see negated. For example, Dembski, like Johnson, appears to believe that the problem of self-reference — of verifying one’s own reliability — hurts the materialist position, but can be solved by referring to the Christian religion, which as we have seen above is no more a solution than is an appeal to Darwinism:

The only way around these strong finiteness limitations on human experience is for humans to transcend their biology. Christian theology holds such a promise by resurrecting and thereby transforming our physical bodies into spiritual bodies (see 1 Corinthians 15). The materialist, however, doesn’t have that option.

—*The Design Revolution*, p. 121

Self-reference aside, Dembski’s main thesis is *CSI*. He identifies *CSI* — Complex Specified Information — as the reliable indicator of intelligent action. *Information* is simply data in any format, such as the bits in a computer’s memory, or the nucleotide sequences in a DNA molecule. Information is *complex* if it contains at least enough bits of information to be beyond the scientifically reasonable reach of chance in the context within which the information resides (Dembski

calculates this at 500 bits for our universe), and is *specified* if it is non-repeating yet conforms to some independently identifiable pattern or goal.

I basically agree with Dembski's CSI thesis. It supplements Behe's irreducible complexity with a firm statistical foundation. But Dembski's arguments, like Johnson's, are infected with a basic confusion over the definition of intelligence. Recall Johnson's assertion that few people would bother to read further if Crick began a book with the sentence "I, Francis Crick, my opinions and my science, and even the thoughts expressed in this book, consist of nothing more than the behavior of a vast assembly of nerve cells and their associated molecules." Now, I think it very possible that Johnson's entire intellect is such an assembly of nerve cells and molecules; nevertheless I read his book cover-to-cover. And if all humans are such assemblies, how would that cause them to suddenly lose interest in reading each other's books? Johnson doesn't explain this, and I am left to conclude that he is simply confusing *intelligence* with *free will*, thinking that entities who do not freely choose — in the most metaphysical sense of the word "free" — cannot be intelligent, and thus cannot be the producers of interesting books. The easiest way to refute such a sentiment is to note that the very sentence with which Johnson proposes Crick begin his book, "I, Francis Crick, etc." is not producible without considerable intelligence, and would indicate to the typical readers that the book in their hands is indeed the work of an intelligent mind.

In the case of Johnson this is just an interesting, if revealing, side note concerning one little comment he made about Crick. But Dembski takes the same belief to a whole new level, claiming frequently that true choice and intelligence are somehow inextricably wedded. To counter this assertion, I posted an article, *Complex Specification*, on Dembski's own ISCID website,<sup>8</sup> in which I suggested that any piece of CSI can (and should) be logically separated into measurable quantities of pure specification and pure (unspecified) information. For example, suppose that for some reason your communications are limited to a single, five-letter, English word, and you choose to send the word "night."<sup>9</sup> Since there are 26 letters in the English alphabet, and we have five letters to work with, the number of different sequences is  $26^5$ , or about  $2^{23}$ . Hence, one five-letter sequence

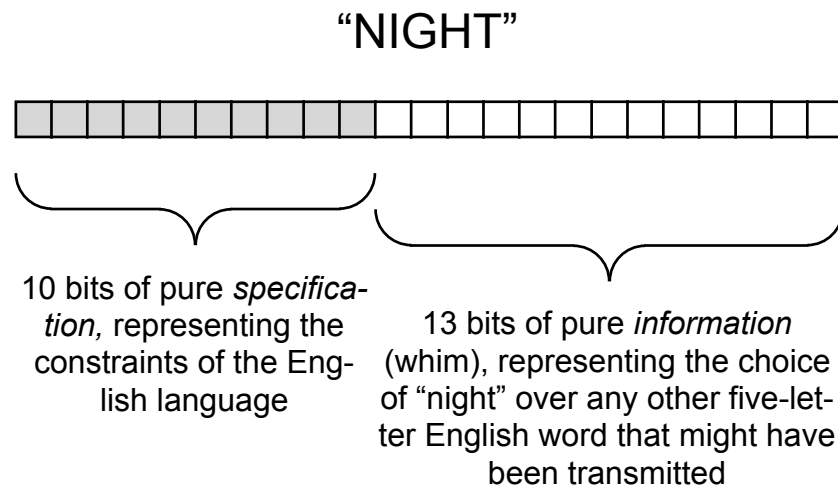
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<sup>8</sup> iscid.org, May 19, 2002

<sup>9</sup> While a single five-letter word doesn't meet the demand for 500 bits of complexity, it still can be analyzed from the standpoint of being SI; specified information.

FIGURE 2-10

Breakdown of the specification and information in a five-letter english word.



constitutes approximately 23 bits of data. But since there are only about 10,000 five-letter words in the English language, which is about  $2^{13}$ , then if we are further limited by the specificational context of English we are, in effect, choosing only 13 of those 23 bits. The other ten bits are the specification.

I then went on to assert that only the pure *specification* measure is useful for identifying acts of intelligence, and that the pure *information* measure is *not* useful for identifying intelligence, and in fact represents only the functionally random whim<sup>10</sup> of the intelligent agent. In our example where we sent the word “night” over a channel that required the use of a single, five-letter, English word, the data breaks down as depicted in Figure 2-10.<sup>11</sup>

Once the distinction between the specification content and whim content of a piece of data is drawn, it becomes immediately apparent that some of Dembski’s statements regarding intelligences do not make sense. Dembski repeatedly says

<sup>10</sup> Note that the whim content corresponds in size to Jorma Rissanen’s MDL; Minimum Description Length. The MDL is the size of the pure information portion of the data, with all the specification compressed out. Pure whim is functionally identical to true randomness, which cannot be compressed.

<sup>11</sup> Of course, if the word “night” was being used in a sentence, paragraph, or document, there would be further specification to consider, but in this example we are assuming that one five-letter word must stand alone as a conduit of expression.



that the defining quality of intelligent agents is that they contingently choose between available options:

Before Darwin, the ability to choose was largely confined to designing intelligences, that is, to conscious agents that could reflect deliberatively on the possible consequences of their choices. —*The Design Revolution*, p. 263

The root *l-e-g* has several variants. We've already seen it as *l-o-g* in *logos*. But it also occurs as *l-e-c* in *intellect* and *l-i-g* in *intelligent*. This should give one pause. The word *intelligent* actually comes from the Latin rather than from the Greek. It derives from two Latin words, the preposition *inter*, meaning "between," and the Latin (not Greek) verb *lego*, meaning "to choose or select." The Latin *lego* stayed closer to its Indo-European root meaning than its Greek cognate, which came to refer explicitly to speech. According to its etymology, intelligence therefore consists in *choosing between*. —*Intelligent Design*, p. 228

The principle characteristic of intelligent agency is *directed contingency*, or what we call *choice*. Whenever an intelligent agent acts, it chooses from a range of competing possibilities. This is true not just of humans, but of animals as well as of extraterrestrial intelligences. A rat navigating a maze must choose whether to go right or left at various points in the maze. In trying to detect an extraterrestrial intelligence, SETI researchers assume such an intelligence could choose from a range of possible radio transmissions, and then attempt to match the observed transmissions with patterns regarded as sure indicators of intelligence. Whenever a human being utters meaningful speech, a choice is made from a range of possible sound combinations that might have been uttered. Intelligent agency always entails discrimination, choosing certain things and ruling out others. —*The Design Inference*, p. 62

Separating specification from whim, however, reveals that the defining characteristic of intelligences is their ability to match a prior specification, an ability that involves no contingent choice at all. Contingent choices (when available) may be expressed only in the whim portion of the data, which is *useless* for identifying intelligent action.

This easily can be seen in the everyday world around us: IQ (intelligence quotient) tests offer no contingent choice whatsoever — the correct answers are entirely specified, and high intelligence is indicated by matching the answer key precisely. And mediums of expression that consist nearly entirely of contingent choice, such as extremely abstract art, are such poor indicators of intelligence that it can be difficult to tell whether a work was created by a four-year-old or a forty-year-old.<sup>12</sup>

In the third Dembski quote above, he says that an extraterrestrial intelligence would choose a transmission, and then we would recognize its intelligence by matching it to “patterns regarded as sure indicators of intelligence.” But the recognition that one of those patterns has been matched would have nothing to do with the ETI’s *choice* of one pattern over another; the mere fact that *any one* of the specified patterns was sent is the indicator of intelligence.

And John Leslie’s example of shooting flies on a large wall illustrates the principle nicely: Suppose, on a very large wall, there are three flies, substantially far apart from each other. If you are watching the wall (and not watching me), and I can fire but a single shot at the wall, where must I shoot to convince you that my shot was not random? At one of the three flies, of course — they are the specification. However, I can *choose* among the three flies. Now suppose I shoot one of them; you hear the shot and see a fly get hit by a bullet. You are convinced that the shot was not random because the three flies constituted a very information-rich specification against the huge background of the wall. But what can you determine about the fact that *this* particular fly was hit, as opposed to either of the other two? Nothing — my contingent choice of one fly over the other two was effectively random.

What if there is only one fly on the wall, and I shoot it? You will be equally convinced that the shot was intelligently planned, even though there was *no contingent choice* involved — I simply had to shoot that fly to convince you my action was intelligent. Or, what if the whole wall is covered with flies, and I mentally select one of them, then carefully aim and shoot it? You will be unable to conclude that the shot was not random, because there was no specification to be

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<sup>12</sup> That is why abstract artists often create giant paintings, or make huge sculpture out of metal — the sheer size of the work, or the dangers of welding/casting, prevent anyone from even starting to think “I wonder if a young child created this.”

matched.<sup>13</sup> That example seems to illustrate the vulnerability of Dembski's explanatory filter to false negatives, as described by Behe and Dembski in the following passages:

On the campus of my university there are sculptures that, if I saw them lying beside the road, I would guess were the result of chance blows to a piece of scrap metal, but they were designed.

The upshot of this conclusion — that anything could have been purposely arranged — is that we cannot know that something has *not* been designed. —Behe, *Darwin's Black Box*, p. 194

Consider first the problem of false negatives. When the complexity-specification criterion fails to detect design in a thing, can we be sure no intelligent cause underlies it? The answer is no. For determining that something is not designed, this criterion is not reliable. False negatives are a problem for it. This problem of false negatives, however, is endemic to detecting intelligent causes. —Dembski, *Intelligent Design*, p. 140

Actually, these are *not* false negatives, and in fact Dembski's explanatory filter is *not susceptible* to false negatives. How so? Steadiness holding and firing a gun is not really a function of intelligence, and can probably be performed better by a simple V-shaped gun cradle and a slow-pressure device between the trigger and trigger guard. Intelligence is in recognizing the specification; i.e. identifying the one (or three) flies as distinct from empty expanses of wall. Shooting one of the flies is just a way of showing the observers that the specification has been intelligently recognized. When the wall is covered with flies, I can either pop off a shot at the wall without even taking aim, or I can mentally select a fly *at random* and then take careful aim at that fly and shoot it. But either way, the selection is random, and does not represent intelligence. The intelligent part of my mind — the part capable of recognizing specifications — cannot be employed when there is no specification to recognize. Or to put it more generally, an intelligent agent such as a human being is not always a generator of intelligence-signifying actions, but is also often a generator of random actions.

<sup>13</sup> We'll assume, for the sake of the argument, that the edges and corners of the wall are too crumbly and indistinct to be used as a reliable specification.

Not that he intended to be, but notice that in the above quote, Behe is ambiguous about exactly what might cause “chance blows” to a piece of metal. Perhaps they would result from a human hitting the metal randomly with a hammer? Behe classified the chance-blows scenario as non-design, without specifically requiring that the blows not come from a human. Even if the blows are human generated, the object would not really be “designed” though its shape was indirectly determined by the actions of a human. Likewise, the precise temperature of your laptop computer, measured to an accuracy of ten digits, is not designed even though an agent capable of intelligence (you) has just now touched several of the laptop’s keys, significantly affecting the value of that ten-digit number. The sound of snoring is not designed (at least not by the snorer). Random data can flow through agents capable of intelligence, bypassing their intelligence partly or entirely.

Why would Dembski incorrectly identify contingent choice as the key characteristic of intelligence, and fail to notice that his explanatory filter is not susceptible to false negatives? Most likely because of a prior commitment to the Christian concepts of *free will* and an *omniscient God* as the ultimate sources of CSI. Throughout his comprehensive ID defense, *The Design Revolution*, Dembski variously refers to our designers as “unevolved,” “unembodied,” and “irreducible to material mechanisms.” Admittedly, these descriptors are used ambiguously enough so that he might simply mean unembodied *in this universe* and irreducible *to Darwinism*. But that is never made clear, and the reader is left with the strong impression that Dembski believes in a designer who is unembodied *anywhere*, and whose mind has *no stochastic mechanism*, but is simply an undefinable magic from whence flows CSI.

... But that is precisely the point at issue, namely, whether intelligent agency reduces to or transcends material mechanisms. —*The Design Revolution*, p. 193

No, it isn’t — the point at issue is simply whether material mechanisms can produce specified complexity from scratch (as implied by Darwinism), and I agree with Dembski that they cannot. But it doesn’t follow that intelligence is not composed of a mixture of CSI and stochastic mechanisms. What if our designers are

embodied, mechanistic intelligences, who made our universe as a total fabrication within their own? In that case, the Pac-Man analogy shifts into sharp focus, and the Christian God scenario, with all its ever-puzzling, tautological, “theodicy” excuses, becomes unnecessary. When we played Pac-Man, we called it “good” when we were able to evade the monsters and eat all the dots, and we called it “bad” when we got killed by the monsters. Occasionally, we inserted a coin only to have our Pac-Man get killed with ten seconds of the beginning of game play, in which case we might have commented angrily, “That was evil!” The good and evil of the things that happened during the Pac-Man game were not *unreal* qualities, but their reality was *confined to the context* of the game itself; the good and evil were not metaphysical absolutes that somehow transcended their context. Some will say, “If this life is all just a game, then it doesn’t matter what happens, does it?” But when you played Pac-Man, you knew it was “just a game” — but did it not matter whether or not you got caught by the four monsters in the maze? It *did* matter, and you tried your best to prevent it. A brick wall drawn on the page of a book is of no consequence to the owner of the book, who can turn the page effortlessly, but to the characters in the book, the wall is as real as can be, and restricts their actions according to the rules laid down by the book’s author.

We like to say that evil should be altogether stopped, but what would life be like without it? Probably a lot like a game of Pac-Man in which the monsters could never hurt you. In other words, very boring. So boring, that you would likely walk away after one or two plays and not come back. In the early 1980s I enjoyed — as an exercise in reverse-engineering — hacking into home computer games at the assembly-language level, and modifying them to make my character invincible. But having done this, I played only a few minutes as an indestructible terminator and then moved on to some other pursuit. I spent far, far more time playing the game in its normal mode (i.e. without invincibility), because it was so much more exciting that way. The character of Agent Smith captures this fact nicely in *The Matrix*:

Did you know that the first Matrix was designed to be a perfect human world? Where none suffered, where everyone would be happy. It was a disaster. No

one would accept the program. Entire crops [of humans] were lost. Some believed we lacked the programming knowledge to describe your perfect world. But I believe that, as a species, human beings define their reality through suffering and misery. —Andy and Larry Wachowski

In other words, life is a puzzle, a game, and the richness of the experience is in figuring out what you can accomplish and how long you can last. An allegedly ancient curse<sup>14</sup> says “may you live in interesting times.” Calling this wish a “curse” implies that what we all really want is to live in a nirvana of perfect happiness and contentment. But in reality, that is like wishing that all puzzles were solved and there were no more left to conquer. When we solve a puzzle, we are trying to get to the solution, but the reason we’re trying to get there is *not* so that puzzles can be eliminated from our lives. Our joy at solving one puzzle quickly gives way to the desire to find and attack another.

Dembski’s religion implies also that we were created by a designer who knows *everything* there is to know about what kind of organisms could be made within this universe, and contingently chooses to make only some of them. But in our experience with computers (our only birds-eye encounter with a law-based reality synthesized by intelligent beings), we find that all possibilities are *not* known — not even by the persons who defined the physical laws of the system. John Conway’s “Life” comes to mind. His system consists of a grid of squares, each of which may be empty or occupied; in other words, each square is a bit. Every cycle of the simulation, the bits change according to a simple pair of rules (the action is illustrated in Figure 2-11):

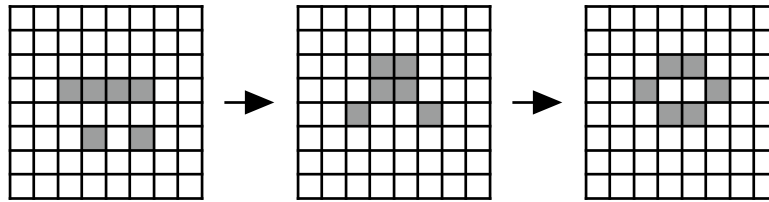
- If a bit contains 1, and the eight surrounding bits total to a number other than 2 or 3, then the bit will change to 0 at the next cycle.
- If a bit contains 0, and the eight surrounding bits total exactly 3, then the bit will change to 1 at the next cycle.

This set of rules, Conway discovered, provides a rich set of opportunities to build interesting structures. In fact, it has been shown that any computer system made by humans can be simulated within this environment. Once, many years ago, I

<sup>14</sup> Possibly originated by Richard Wilhelm or Eric Frank Russell.

FIGURE 2-11

Conway's "Life" rules in action.



tried making arbitrary changes to the rules to see if I got other, interesting environments, rich with possibilities. I found that I did not. Instead I got environments in which the data exploded outward uncontrollably, or in which it died off rapidly or tended too easily to sterile repetition. My analysis was by no means exhaustive, but my random trials suggested that useful sets of rules (like Conway's) are unusual exceptions — but not so unusual that Conway couldn't find a good one by experimenting a little. Conway did *not* possess prescient knowledge of everything that could be built in his system, and it took more tinkering by Conway and many other Life enthusiasts to discover just some of the lifelike machines that can be constructed within that system.

The same is true of the desktop computer itself. The rules of its processor provide a flexible, general-purpose algorithm that allows a wide variety of interesting programs to run, but were invented by humans who could not predict in advance every possible program. A good processor was devised by tinkering, and then the programs that run on that processor were devised by further tinkering.

Is this same tinkering scenario at work in the design of our universe (the analogue to the computer), and ourselves (the analogue to the applications)? In the following passage, Dembski seems about to embrace such a model, but then finds a way to avoid it:

Most design critics, by conflating intelligent design with [scriptural] creationism, see intelligent design as committed to a designer who always designs from scratch and has to get everything right the first time. TRIZ [a Russian study of

technological evolution that reveals strong similarities to biological progression on Earth], by contrast, bespeaks an evolutionary process that as much as possible takes advantage of existing designs but then at key moments requires a conceptual breakthrough to move the process of technological evolution along. On this view, the process of technological evolution is itself designed. What's more, within that process, designing intelligences interact with natural forces. Does this mean that the designer (or designers) is making things up as it goes along? Not necessarily. The conceptual breakthroughs needed to drive technological evolution can be programmed from the start. —*The Design Revolution*, p. 313

Programmed from the start? I very much doubt it. My deep skepticism of this concept would be abated if I had ever heard of humans “programming from the start” freak accidents of specified complexity in even very modestly complex deterministic systems (not to mention *stochastic* systems). My intuition tells me that the Law of Conservation of Information makes such a scheme effectively impossible.

Whether there is some ultimate super-being at the very top of the worlds-within-worlds hierarchy, and whether that entity has prescient, total knowledge of all that can ever be, is a question that inspires wonder and awe in the minds of many, myself included. However, if such a mind exists, it might easily reside multiple levels above our universe, and the science of ID probably can make inferences about what lies just one level up from here; not many.

And what does the evidence say about what lies one level up? Dembski correctly identifies specified complexity as a reliable indicator of design, and arrives at that conclusion via the scientific *inference to the best explanation*. That is, since every time we encounter specified complexity, and have access to its causal history, it is always designed, then when we find specified complexity for which the causal history is inaccessible, we are scientifically justified in drawing the conclusion that designers are responsible.

This conclusion of design derives not from an overactive imagination but simply from following the logic of induction where it leads: In cases where the underlying causal history is known, specified complexity does not occur without design. —*The Design Revolution*, p. 99



But the evidence goes further than that. Quite a bit further. In the case of specified complexity in life on Earth, the causal history is not utterly unknown. Many things can be observed and noted about the nature of life on Earth and its history — do those observations tell us *only* that life was designed, leaving all further questions to a religion like Christianity? I propose that they do not.

A minority of Christians adhere to scriptural literalism, and in service of that allegiance must oppose evolution as incompatible with the story of Genesis. But for the mainstream Christian who is unwilling to defend scriptural literalism, evolution is actually a very *good* second choice, because it is compatible with the scenario of the Christian God creating a universe that he knows will evolve humans automatically.<sup>15</sup> For Christians, admitting that the story of Genesis is not literally true, and embracing evolution as its logical alternative, is a nice compromise that preserves the most important tenets of their religion. And so despite the likes of Dawkins and other hardline atheists at the forefront of the Darwinist campaign, we see many evolutionists reacting indignantly at any accusation of atheism, quickly pointing out that they are in fact mainstream Christians. Dembski is trying to forge a *third* way for Christianity, a scientific, non-scripturalist route which allows Darwinism to be doubted and even defeated, while holding onto the idea of a singular, omniscient creator who judges us as individuals. Dembski's efforts are doomed — no such third way is possible. The evidence of ID, followed in the way of the scientist, leads us straight out of Christianity into something that isn't even vaguely compatible with it.

Whenever we encounter a synthesized, simulation-style world, in which multiple autonomous agents roam about, like players in a game, competing for control of their environment — in which some players get shafted rapidly and others are lucky and long-lasting — and the causal purpose of that world is known: It is always a *videogame* or a *movie* — i.e., a form of *entertainment*. So the very same method of inference-to-the-best-explanation that leads Dembski to detect design in life, also leads to the conclusion that this life in which we find ourselves is a form of entertainment.

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<sup>15</sup> Expect that *The Privileged Planet* will be popular with this crowd, since its claims are logically separable from the anti-Darwinism of Behe and Dembski. Denton's *Nature's Destiny* also fits into this scheme.

And, by the same token, we can infer that this life is simpler but more rapid-fire and intense an experience than our lives outside of it. Just as a movie compresses a long sequence of interesting events into a two-hour window, and a frenetic game of Quake keeps us alert and on our toes even during its relatively slow moments — but both the movie and the game of Quake are significantly simpler than the universe in which we live — we can infer that when we die will walk out of the metaphorical theater to a richer, more complex, but slower-paced and more cerebral life, from which we are currently taking an entertaining break. This is in sharp contrast to the Christian claim of the nature of the afterlife, which even in its most watered-down, non-fundamentalist renditions, clearly claims that the joys and pains of this life are insignificant in their intensity when compared to what awaits us in the afterlife.

To make sure that videogames and movies are not too selective a choice of known cases, we should ask ourselves: Do we have examples of human-synthesized experiences that match the Christian model of life as a *test*, our reactions to which will make a huge difference in our enjoyment of what comes next? Indeed we do. The *lie detector test* and the *college entrance exam* are prime examples of this kind of construction. A lie detector test (officially called a “polygraph”) is intended to (indirectly) decide which subject winds up strolling the shopping mall for cool, new products, and which subject winds up going crazy in a metal cage. Likewise, the entrance exam indirectly decides which subject will have a rich, rewarding career, and which will have a life characterized by financial hardship and serial frustration. But upon comparing these two examples with our universe as a whole, we find grave dissimilarities. Both the lie detector test and the entrance exam are performed in controlled atmospheres, in which the individual being tested is not interacting with other testees. The length of the test is highly regulated, and usually uniform across testees. And both tests are shrouded in cerebral stillness and formality. None of this looks like the world we live in, which instead resembles a *free-for-all*, a videogame, a movie.

## *Answering the Toughest Questions About Intelligent Design*

A major mental obstacle to seeing life as a videogame free-for-all is the fear that such a discovery would lead to global, catastrophic chaos. People would rush to the gun stores, load up on weapons and ammunition, and run amok in the streets, shooting each other like a colossal game of Quake. Billions would die, and the survivors would live lives of constant fear in the burned-out shell of civilization. But I think this sort of fear is just not realistic. Modern society has very refined mechanisms for dealing with crime, and people who want to play Quake can generally be expected to fire up their computers and play an actual game of Quake.<sup>16</sup> The game of life is much more subtle than Quake (which is, after all, a videogame fabricated within this life). The competition for wealth, the pursuit of physical gratifications or satisfaction through beneficence, the complex interplay of minds in human relationships — these are the primary activities of the game we are playing here. Intense, life-or-death combat *is* part of this game, but only for a very small subset of humanity on any given day. And as modern technological civilization sweeps around the globe, mopping up the last vestiges of the ancient world, frequent war may become a thing of the past.

A more serious block to accepting the videogame scenario comes in the form of suicidal massacres. The technology of solving crime may be advanced indeed, and improving every year, but the suicidal individual who knows that life is a big game isn't very worried about being caught by the forensic sleuths — or even escaping the scene of the crime, for that matter. He simply wants to kill several ordinary people in rapid succession and then kill himself. These events are a reasonable worry, and the subject of what can be done about this phenomenon will be discussed at length in the next chapter. For now, let me just say that it is by no means certain that the entertainment inference will encourage the murderous motive in persons who are capable of such an act. For example, Mark Chapman, influenced by the condemnation of phoniness in J. D. Salinger's *The Catcher In the Rye*, killed John Lennon because he couldn't deal with the immense phoniness and hypocrisy he saw after hearing Lennon sing alluringly of a world with "no

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<sup>16</sup> Interestingly the availability of Quake, to people who want to play such a game, necessarily coincides with the opportunity to discover Entertainment ID via inference-to-the-best-explanation.

possessions,” and then hearing about the lavish mansions Lennon owned. Chapman felt that by killing Lennon, he would be sending a powerful message about how society needs to stop being phony, hypocritical, and massively unfair. Chapman said in an interview, “a large part of me is kind, but a small part of me can’t understand why the world is the way it is.” If Chapman had been made aware that this life is a competitive, adventurous entertainment, then he might have realized that Lennon’s imaginary nirvana-world was irrelevant, and interpreted Lennon’s hypocrisy as just a successful strategy to make money and enjoy life. He might have realized that “phoniness” is just the natural tendency to present one’s best face to others. Seeing this world as an enjoyable puzzle, Chapman might have lived a life rich with exhilarating personal experiences, instead of rotting in prison, having sent a popular musician to an early grave.

As exemplified by Chapman’s inability to deal with the inequalities of this world, probably the most pronounced difficulty with acceptance of the video-game model of life is the craving of cosmic justice for the pronounced sufferings that befall significant chunks of the population. For example, most people draw a great deal of comfort from the belief that Adolf Hitler is screaming his head off in unbelievable agony while being slowly clawed apart by hideous demons, and that he will be subjected to such tortures over and over, for a literally endless period of time. The idea is that if the suffering inflicted by Hitler on his Earthly victims is insignificant compared to what he is being made to endure in hell, then we can put one foot in front of the other and get on with our post-Holocaust, post-World-War-II lives. Another example: Many religious believe that patiently enduring poverty in this life, even while others are enjoying great wealth, will be fantastically rewarded in heaven, while those wealthy people will probably go to hell. Again, a great injustice — poverty — can be mentally grasped if it pales in significance to the reward for having humbly accepted it and lived out a life of destitution with dignity.

I don’t think there’s much I can say to those people who can deal with the great inequities of human history and society only by believing that such conditions will be massively retaliated in the next life. Such people are functionally analogous to sore losers. Part of playing this game is understanding that you may not score at the top of the heap, but you’ll still have a lot of fun. If you

really can't tolerate losing, you can end it at any time. The fact that you haven't done so suggests that for you, playing the game of life is rewarding even in its most difficult struggles and miseries, and the fight against failure is intriguing enough to continue.

Sharon Rocha, mother of murder victim Laci Peterson, gave an interview shortly after Scott Peterson's conviction, in which she hoped that Scott would "burn in hell for all eternity." The desire to cast the Scott Petersons of this world into hell is a useful emotion for ensuring that our elected politicians do not waver in their determination to see persons such as Scott permanently exiled or destroyed, which of course is good for the safety and productivity of society — both from the standpoint of protecting people from killers such as Peterson and also by deterring many other would-be Scott Petersons from killing in the first place. But such emotion is *not* useful for scientifically exploring the purpose of this life and what comes next. The price of satisfying scientific curiosity is that we have to put aside strong emotions of what *ought* to be done to heinous criminals or the pampered rich, and ask instead where the empirical evidence leads.

If life is a videogame, then presumably we get to play many times. (It's a lot like reincarnation, but without the involuntariness and judgment aspects taught by Hinduism, nor the Shirley MacLaine-style memories of past lives.) Christianity teaches us that we live in this world but once, and evolutionists passively go along with this dogma when they argue dysteleology via injustice. Only the entertainment scenario suggests that you *chose* to experience a human's life, and have probably done so before, simply for the richness of the experience.

To avoid the decidedly non-Christian inference that this life is a form of entertainment, Dembski softly endorses the same false dichotomy that grips most evolutionists and antievolutionists alike:

Theism (whether Christian, Jewish or Muslim) holds that God by wisdom created the world. The origin of the world and its subsequent ordering thus result from a designing activity of an intelligent agent — God. Naturalism, on the other hand, allows no place for intelligent agency except at the end of a blind, purposeless material process. Within naturalism, any intelligence is an evolved intelligence. Moreover, the evolutionary process by which such intelligence de-

veloped is itself blind and purposeless. As a consequence, naturalism makes intelligence not a basic creative force within nature, but an evolutionary byproduct. In particular, humans (the natural objects best known to exhibit intelligence) are not the crown of creation, not the carefully designed outcome of a purposeful creator and certainly not creatures made in the image of a benevolent God. Rather, humans are an accident of natural history. —*The Design Revolution*, p. 22

If a “benevolent God” is the presumptive alternative to “an accident of natural history,” then the ID movement is in deep trouble — and Hunter wrote *Darwin’s God* entirely in vain. The Darwinists could scarcely have asked for a more ringing endorsement of their precious dichotomy, or a riper invitation to skewer anti-Darwinism with dysteleology.

Worse yet, Dembski implicitly *endorses* full-blown naturalism by describing quantum randomness as an opportunity for a designer to intervene in the world without violating the laws of physics. Even presuming that quantum randomness is really random (an ascientific proposition if ever there was one<sup>17</sup>), what is wrong with simple, external interference with the laws of physics? We manipulate the contents of our computers’ memories regularly in ways that totally violate the normal rules of memory change as defined by the processor. To think that the makers of this universe would be incapable or unwilling to act similarly is downright silly, but Dembski thinks it likely:

According to design critic Edward Oakes, intelligent design makes the task of theodicy impossible. Why is that? Because, he claims, intelligent design is wedded to a crude interventionist conception of divine action and to a mechanistic metaphysics of nature. —*The Design Revolution*, p. 25

Rather than rebuke Oakes for pointlessly calling intervention “crude,” Dembski passively goes along with the charge, and cooks up a quantum conduit for CSI injection. What’s crude about intervention? Dembski doesn’t elaborate, but it is certainly worth noting that quantum CSI injection is very friendly to two major Sunday School-type concepts:

<sup>17</sup> Dembski ought to know; he became involved with ID after attending an Ohio State University randomness conference where it was essentially concluded that “random” is just a euphemism for “pattern not-yet-deciphered,” as he describes in an interview with Dick Staub.

1. God is so perfect that his actions must be characterized by the most extreme subtlety imaginable, and
2. God is not just a species creator, but acts frequently throughout human history, and is probably acting today to guide and steer our lives (but in a way that is undetectable by our clumsy science).

In another passage, Dembski attempts to explicitly deny miracles (i.e. interventionism) by example, and gets it completely wrong:

[L]et us first of all be clear that intelligent design does not require miracles in the sense of violations of natural law. Just as humans do not perform miracles every time they act as intelligent agents, so too there is no reason to assume that for a designer to act as an intelligent agent requires a violation of natural laws. —*The Design Revolution*, p. 189

Actually, humans' experience with their own created realities says that it *is* miracles: For example, as I type this book into my computer, I am miraculously creating content that the laws in the computer's processor cannot. If left to its own devices, without outside intervention, the processor's rules acting on the memory of the computer would never have created this document, precisely because of the Law of Conservation of Information which Dembski champions. Perhaps in the above quotation Dembski is referring to the musical instrument analogy (his current favorite) — but probably everyone would agree that your computer, not your guitar, is the true analogy to a fabricated world with content governed by pre-coded laws.

Design has no prior commitment against naturalism or for supernaturalism. Consequently, science can offer no principled grounds for excluding design or relegating it to the sphere of religion. —*The Design Revolution*, p. 189-90

ID, by inference-to-the-best-explanation with computers and videogames, *does* suggest supernaturalism (i.e. interventionism), and it's unclear why Dembski

thinks that such would be grounds for excluding design from science in the first place.

The idea that our designers are the equivalent of game programmers, and that the purpose of our lives is to have a fun adventure, is simply not in line with Dembski's religious beliefs, and while his evasions of the non-Christian inference are far more subtle than Johnson's heavy-handed evangelisms, they nonetheless amount to the use of blinders to steer his readers to the conclusions at which he would like them to arrive. Dembski finds the Christian motif *attractive*, and he is not too shy to frankly expound on the importance of such attractiveness:

[T]his book aspires to provide a powerful new vision of science and the world, one that people will want to pursue because they find it so attractive. ... For ideas to prosper, they must satisfy. —*The Design Revolution*, pp. 27-28

Process theology's faulty doctrine of creation has some deeply unsatisfying theological implications. For instance, process theology leaves us with an existentially disturbing explanation for the apparent ontological difference between good and evil. (Within process theology, evil is simply the cost of nature's freedom.) Also, by presenting us with a God who means well but may not have the power to pull off his good intentions, process theology leaves us with no assurances for the future (except perhaps that God is trying his best and feels our pain). —*The Design Revolution*, pp. 175-6

But the history of science shows that scientific discovery can be counted on to satisfy one and only one human emotion: *scientific curiosity*. Scientific curiosity is closely analogous to desiring to know how a magician's illusion was accomplished. The illusion is attractive when you *don't* know how it was done, and becomes far less attractive — even disappointing — when you find out. Satisfying scientific curiosity entails sacrificing the attractiveness of the thing under study, for the sake of understanding it better.

Despite his Christian perspective, Dembski comes tantalizingly close to recognizing the inference-to-entertainment in the following passage, where he explains why a designed world would not exhibit unlimited improvement of organisms:



Our view of design is shaped too much by sports competitions. We always want to go faster, higher, longer and stronger. But do we really want to go faster, higher, longer and stronger without limit? Of course not. It is precisely the limits on functionalities that make the game of life interesting. (That's why many games employ handicaps.) A five-hundred-pound, seven-foot-six football player with the strength of a gorilla and the speed of a cheetah would instantly be banned from the sport, because just by playing the game to the best of one's ability, such a player would maim or kill all normal players who got in the way.

Fans might show up to such a game for the novelty of it or out of bloodlust, but a player like this would destroy the competitive drama of the game. Indeed, before long this super-player would destroy or run off anyone willing to play the game. Likewise, such a predator in an ecosystem would wipe out all the prey, after which it would go extinct. Or if the super-creature were omnivorous, it would reproduce optimally (like rabbits? like bacteria?) until it wiped out all life, after which it would again go extinct (unless it became an autotroph and could manufacture its food from scratch as do some single-celled organisms).

Biology is, among other things, a drama. Interesting dramas require characters who are less than optimal in some respects. In fact, authors of human dramas often consciously design their characters with flaws and weaknesses. Would *Hamlet* be nearly as interesting if Shakespeare had not designed the play's lead character to exhibit certain flaws and weaknesses, notably indecisiveness?

I'm not saying that weaknesses or flaws in the design characteristics of organisms or ecosystems can be the basis for a design inference. ... —*The Design Revolution*, pp. 61-62

Weaknesses and flaws may not be the basis of a *design* inference (which results instead from specified complexity), but they are certainly compatible with, and perhaps even point to, designers who are trying to create an exciting drama. That is a perfect answer to all the Darwinists' arguments from dysteleology, but Dembski must instead resort to an incredibly weak answer, full of the usual theodicy gobbledygook:

Critics of intelligent design repeatedly claim that no expert designer would have created all the evolutionary dead-ends we see in the fossil record. One of my critics asks, "What might be the intelligent purpose for creating species doomed

for extinction? Or why would an intelligent designer create humans with spines poorly adapted for bipedal locomotion?" If we think of evolution as progressive in the sense that the capabilities of organisms get honed and false starts get weeded out by natural selection over time, then it seems implausible that a wise and benevolent designer might want to guide such a process. But if we think of evolution as regressive, as reflecting a distorted moral structure that takes human rebellion against the designer as a starting point, then it's possible a flawless designer might use a very imperfect evolutionary process as a means of bringing a prodigal universe back to its senses. But this is an idea to be explored in another book. —*The Design Revolution*, p. 62

We cannot know in advance what Dembski's upcoming theodicy book will contain, but his article, *Intelligent Design: Yesterday's Orthodoxy, Today's Heresy* (April 3, 2005) gives us a good sample of his firmly Christian interpretation of this life. Unfortunately, the article plays directly into the false dichotomy by silently assuming Christianity to be the lone alternative to pure naturalism/materialism. Dembski analyzes those two options with a set of four questions which a "worldview" must answer:

1. How did we get here?
2. Why are we in the mess we are in? Why do we have problems?
3. What is the solution?
4. Where is all this going?

Naturally, Christianity gives much more satisfying answers than does materialism. But how does the *entertainment* model answer these questions? Fairly bluntly:

1. You chose to play this game. Your memories of having done so are temporarily cut off; you will regain access to them again when your time here ends.
2. We have problems because the challenge of trying to solve them makes this life exciting and worth playing.

3. The solutions to our problems are various and must be discovered on a case-by-case basis. There is no “solution” to the general fact that we have problems at all, but if you really find the challenges of this life too discouraging to bear, you can always suicide — many people do.
4. Presumably this universe will continue until it runs out of places where intelligent agents (humans) can survive. That is of no concern to you, as your life and that of the next several generations of humans will surely be long over by that time.

To some, these answers will seem a little bleak and cynical, but that is more a function of the questions being asked than of the answers. Dembski’s set of four “worldview” questions is based on the fundamental premise that it is some sort of bizarre tragedy that we have problems and challenges in this life, and that those problems are comprehensible only as reflecting some deep flaw in the nature of our universe; a universe that we should eagerly anticipate departing. Such a gloomy outlook disappears if you ask a different set of questions such as, “What sophisticated challenges will I face in this life?” and “Will my life be an intriguing drama, rich with intense and fascinating experiences?”

Dembski may not realize it, but he and most other religious are expressing a feeling that coincides very closely with that of most Darwinists: the idea that this world is some kind of big *accident* or *mistake*, instead of a purposely rugged adventure. The Pac-Man analogy says no, this world is not a mistake, it’s *supposed* to have problems; that’s what makes it an exciting place to be. From that standpoint, the idea that this world is “imperfect” is largely meaningless. Ask yourself: Is the game of Pac-Man perfect? The machine freaks out and becomes unplayable after wave 255 (the maximum value of an unsigned byte) because the author didn’t think anyone would last that long; so maybe *that’s* an imperfection. But are the *monsters* that chase you around the maze an imperfection? No, of course not. They’re there intentionally. They make the game a game. To argue that the game would be more “perfect” if it had no monsters, or if they couldn’t hurt you, would be to fundamentally misconstrue the purpose of Pac-Man.

Dembski’s promised theodicy work is going to have to be a lot more substantive than anything he has presented thus far, if it is to have even a chance of out-

weighing the direct, evidentiary inference that this universe — contrary to the Christian model of deservedness-testing — is instead a form of vacation: An entertaining, breathtaking, intriguing adventure to be enjoyed in all its highs and lows, in its moments of frenetic action and contemplative stillness, in its risks, victories, and defeats, until your five senses shut down and the phrase “Game Over” or “Created By...” signals that the fun has ended — at least for now.

*There's a killer on the road  
His brain is squirming like a toad*

*"Riders On the Storm" — The Doors*

MURDER IS A SUBJECT OF ENDLESS FASCINATION in human society. From Shakespeare's plays to today's immense plethora of true-crime TV shows and the celebrity status of serial killers like Ted Bundy and Jeff Dahmer, it seems that the subject of murder is never far from the public's mind. The phenomenon of murder is strongly related to every major human conception of origins and purpose. In pre-Darwinian times, large religions (primarily Christianity in the west) controlled most popular perceptions of human origins and purpose, and taught that murder is a serious offense against our creator-God. Committing murder, we were told, imparts a substantial risk of being cast into hell in the afterlife, and missing out on the fantastic rewards of heaven. When one considers that Christianity might be false, then it becomes apparent that the story of heaven and hell is simply meant to discourage people from committing murder. Even during the Christian-dominated periods of western history, this deterrence was never considered to be enough by itself, and murderers were imprisoned or executed whenever possible. But many murders went unsolved, or were incorrectly solved, and the technology with which they could be solved was very limited; hence, it was necessary to discourage murder by teaching of a much greater (and unevadable) set of consequences. And not only did the tenet of hell discourage many would-be murderers, but the problem of murder discouraged the doubting

of the tenet of hell: Few wanted to challenge it, out of fear that murder might escalate out of control, ruining western society and/or leaving it vulnerable to attack by other societies. And if anyone did challenge the existence of hell, the authorities sensed danger and put down that person by force, which in turn further deterred anyone else from speaking out against it.

By the time Darwinism hit the scene, the improved technology of policing society and investigating crimes had substantially lessened the pressure to rigorously teach and enforce the idea of heaven and hell as a society-wide certainty, and open doubt was tolerated. Darwinism's success, for the most part, rendered the story of heaven and hell seriously questionable if not outright fictional. In the Darwinian scheme, murder is just a form of aggressive competition by which animals compete in the "survival of the fittest." But Darwinism did not imply that the never-ending combat of wild animals necessarily extends to humans. Since humans are intelligent, and have constructed systems to confine and destroy murderers, the fittest strategy for individual survival might not be to murder at all, but instead jockey for social standing and economic success. (This can be observed among many species of higher, non-human animal as well.) So Darwinism did not render murder a positive attribute — but certainly eliminated any idea that it is an absolutely immoral act.

Now it appears that we are on the cusp of Darwinism's demise, and its replacement with ID and that to which ID ultimately leads. Christian-leaning ID proponents like Johnson want to believe that ID can restore the pre-Darwinian dominion of Christian theology, but too much has changed since then. First, as noted earlier in this book, ID doesn't just wipe away Darwinism and put us back where we were; instead it kills Darwinism by moving in and replacing it with something else, which doesn't turn out to be very Christianity-friendly at all. And secondly, the technology of reliably determining guilt in cases of murder has advanced tremendously, to the point where it is difficult to persuade people that teaching the story of hell is necessary to ensure a reasonably safe and secure community.

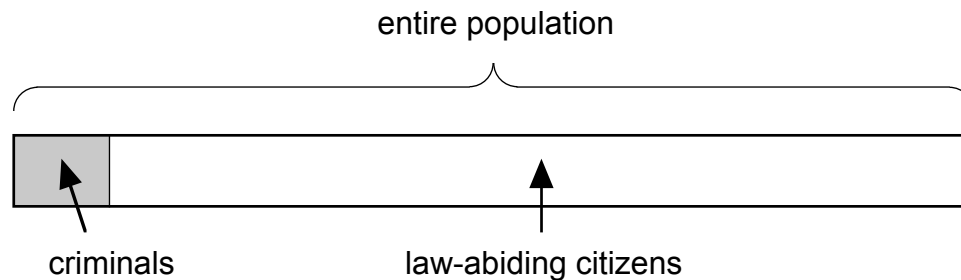
Aside from concepts of the afterlife, how does society naturally react to the phenomenon of murder? How do people really feel about murder? No one wants to die — at least not before they are ready — and so a law against murder forms naturally in human society, and is the most rigorously investigated and enforced law on the books. It is one of the few crimes that has no statute of limitations on prosecution. But despite the strong efforts to stop murder, it would be wrong to think that everyone is really against it. Obviously, murder would never occur if there did not exist diverse opinions about whether it is acceptable to do. However, there is a near-unanimity of opinion that the government needs to suppress the occurrence of murder *generally*. For example: Assuming that, despite his courtroom acquittal, O.J. Simpson did in fact kill his ex-wife Nicole and her friend Ron (as strongly suggested by genetic and circumstantial evidence), that would certainly indicate that O.J. finds murder acceptable. But he would surely still want a general government policy that quells most murders, so that he can live in a reasonably safe and prosperous society.

Such feelings about murder closely parallel feelings about pornography. There is tremendous diversity concerning whether it is acceptable to partake of or participate in the creation of pornographic materials, but near-unanimity of opinion regarding whether one's children should do so. Virtually no one wants their children to engage in pornographic activities (often not even after those children have grown to legal adulthood). That is why pornography, despite being at least a \$10 billion-a-year business, is largely invisible as one strolls through everyday America. Even the people who want to view it — or even *make* it — would rather not see it most of the time, and want to control its availability to their dependent family members. Almost no one wants to turn society into a ghastly freak show where pornography is openly on display, and one must cloister oneself to avoid it. Likewise, even those who sometimes want to murder, or even *have* murdered someone, would prefer to live in a society in which murder is largely suppressed; where one is reasonably safe from murder on any given day, in any typical venue.

Since the mere, unexplained disappearance of an active (known) member of society is pretty much impossible to hide, statistics on murder can be compiled even in the absence of everyone's willingness to truthfully answer the survey

FIGURE 3-1

A population divided into good guys and bad guys.



question “Have you ever murdered anyone?” And the data indicate that the percentage of living persons who will ever murder during their lifetime is quite small: at most one half of 1%.<sup>18</sup> But how many have seriously *considered* murder? And *how* seriously — did they just think about it for a few minutes and then discard the idea, or did they actually make some physical preparations for the act before changing their minds? And how much time and effort did they expend on those preparations? That statistic is not gatherable at all, but we can infer an answer from other observations.

A friend of a friend of mine went to the police academy, graduated, and became a police officer. Then (I was told) he discovered to his dismay that most people don’t like the police. To me, this story is symptomatic of the sharp discrepancy between the way many people perceive the population’s attitude on crime, and the truth of the situation. In Figure 3-1 we see the naïve view that society is simply divided into two camps: a small group of incorrigible criminals and an overwhelming majority of good, productive, sensible, law-abiding citizens.

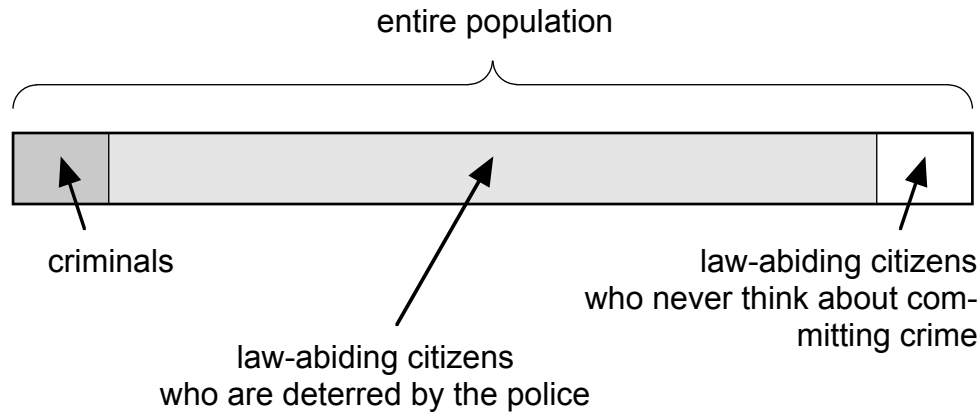
Figure 3-2 shows a more accurate depiction of the population’s position on crime. Only a very small fraction of the population is naturally law-abiding; the great majority *want* to commit crime. Only a small percentage of those actually do engage in criminal activity, and the rest are effectively deterred by the knowl-

<sup>18</sup>  $7/100,000/\text{year} * 72 \text{ male years} = .00504$ . Murderers who kill more than one victim reduce this figure. 7/100,000/year figure is from Bureau of Justice Statistics (<http://www.ojp.usdoj.gov/bjs/glance/hmrt.htm>)



**FIGURE 3-2**

A population divided into three groups, with the great majority deterred from committing crime by the presence of the police.



edge of what will probably happen to them if they do not obey. In the naïve view, the primary purpose of the gun on a police officer's hip is to apprehend criminals. Actually, that is the weapon's *secondary* purpose. Its primary purpose is to remind law-abiding citizens, "You darn well better keep on obeying the law, or this gun will be turned against you." That is certainly an effective way to maintain civilization — perhaps our *only* way at the level of technology we currently enjoy — but it is not without some negative side effects. One of those side effects is that the middle (deterred) group, who comprise most of the population, are not going to like the police.

### *Evil and Complexity*

The observation that most people don't like the police, and are thus members of the "deterred" category of Figure 3-2, suggests that a very large percentage of the population has earnestly considered, but not committed, a serious crime such as murder. This goes against the popular perception that murder — or even the desire to do it — is an aberration. Robert Ressler, the famed murderer-hunter who

actually invented the term “serial killer,” has said that mass murderers’ behavior is literally “evil” and “comes from hell.” He also said that the D.C. Beltway Sniper “thinks he’s the center of the universe.”<sup>19</sup> But what if he doesn’t? What if the Beltway Sniper knows he’s not the center of the universe (as much as any of us know that), but simply wants to snipe anyway? Ressler’s sentiments reflect the common public perception that peaceful, productive interaction with other persons is the norm, and murderous destruction is the bizarre exception. People are thought to peacefully interact “naturally,” and it seems that a diabolical, premeditated plan is required to make them behave destructively. Evil is popularly portrayed as a person or a palpable object, such as Satan in the Christian religion, or Armus in the Star Trek episode “Skin of Evil.”

But this is not so — destruction is the *norm*, and it takes very special kinds of premeditated controls and systems to *avoid* it. For example, what would happen if the people behind the wheels of cars on the highway were suddenly to become unable to distinguish the difference between a car and a section of open road, or were to lose the ability to accurately steer their cars? Mass destruction would surely result, and in very short order. It is avoided by a very complex system of destruction avoidance, programmed into the brain of each driver. When that complex system becomes corrupted or damaged in any individual, the result can be catastrophic.

In the early days of the war against cancer, it was thought that cancer, like other diseases, would be found to be the result of some aberrant cause that, once eliminated, would cure the disease, allowing the cells to behave “normally.” Decades of intensive study, however, have shown that the tendency of cells to behave cancerously is a very natural phenomenon, and multiple, complex systems exist to *prevent* it. One system scans the cell’s DNA looking for irreparable damage and makes the cell suicide if such damage is found. Another system causes the cell to suicide if it hasn’t been able to find productive work for a certain amount of time. Immune cells examine other cells at random and destroy them if serious abnormalities are found. And chemical signaling systems regulate tissue growth and the formation of new blood vessels.

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<sup>19</sup> “Larry King Live,” October 16, 2002

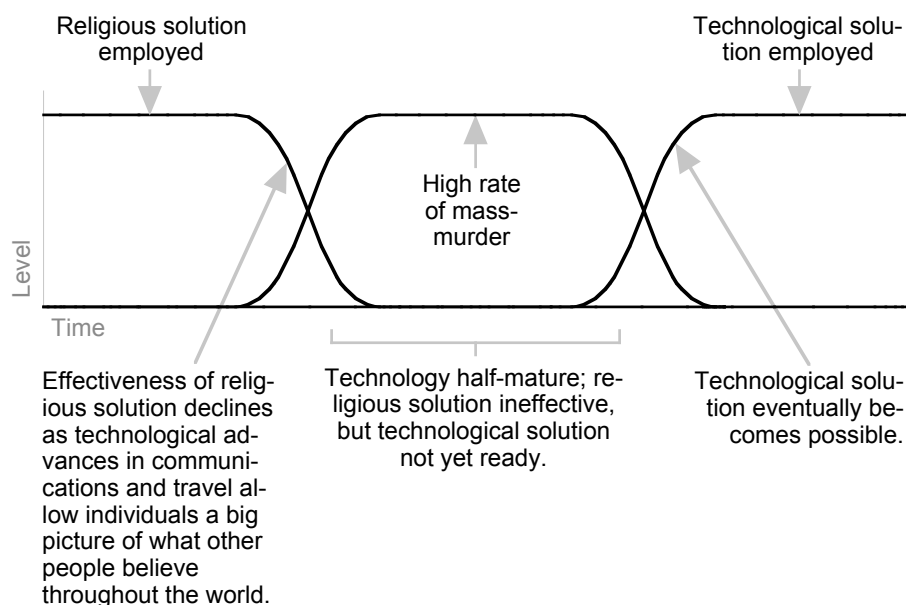
There is a close analogy between cancer cells and murderous (or habitually criminal) human individuals. Many people who find themselves chronically miserable and unable to achieve success of a form that they can recognize and appreciate, simply kill themselves. But not all do. Some of them go on suicidal rampages, taking down about five to twenty other, randomly selected individuals. Some of them become secret predators, appearing 99% of the time to be normal individuals, happy with their achieved level (or future prospects) of success — but privately profoundly unhappy and dissatisfied, and engaging in murder when the occasional window of opportunity presents itself.

Notice that the specific, physical actions involved in committing murder are actions people take for granted every day, such as cutting open a melon with a big knife, squeezing the water out of a wet towel, or pounding a nail with a hammer. These physical capabilities are usually used for productive purposes, but if they were randomly applied by most individuals to any other individuals or objects around them, they would cause horrendous destruction. Likewise with cellular biology: There is scarcely a cellular subsystem or activity that could not cause grievous harm if misapplied. Peaceful cooperation, rather than being the “normal” background pattern against which demons roam, is instead the result of a very tediously created program for nonviolent productivity and harmony. Probably most human-on-human harm results from random, mutational glitches in that program.

How does the human body deal with cancerous cells? It is believed that the average person technically gets cancer many times in her life, but most of those times she never knows it because her immune system destroys it before it becomes large enough to cause significant harm. An immune cell grabs onto a randomly selected cell and performs a sophisticated chemical analysis, which may even involve opening up the suspect cell and examining the contents of its DNA. If the immune cell likes what it sees, it puts everything back in place, and moves away, effectively saying, “carry on.” In our society there is a strong aversion to the idea of police randomly stopping cars to see if the driver happens to be carrying a crowbar, stocking mask, and handcuffs in his back seat. But slowly, as this loathing is counterbalanced by one ghastly mass-murder episode after another (September Eleventh adding a particularly persuasive punch), social resistance to

**FIGURE 3-3**

**Surge of mass-murder that creates the incentive to pursue a technological solution.**



population monitoring is breaking down.<sup>20</sup> Witness “MATRIX,” (Multistate Anti-Terrorism Information eXchange) an experimental program that attempted to track and measure the threat level of individuals in the general population, who haven’t even been notified that they are being monitored. The purpose of the MATRIX program, as it was conceived, was simply to assist law enforcement in knowing where to focus their surveillance efforts. It could be the progenitor of a national (global?) filtering system whereby limited resources can be used to identify the most dangerous individuals out of very large populations. Routine, census-like data on a million individuals can be used to decide which thousand to examine more closely, which in turn can be used to decide which hundred should be covertly observed for a few days each, finally culminating in a short list of a dozen individuals who need to be continuously monitored for signs that they are moving from the “potential killer” category into the “killer” category. And MATRIX, or something a whole lot like it, will become all the more effective

<sup>20</sup> Precedent for this sort of thing is not lacking: Notice that persons found to have large amounts of kiddie porn on their computer — but not known to have actually attacked anyone yet — can easily get much longer sentences than persons convicted of raping an adult victim.

when genetic screening can become one of its steps. The fast-paced work on the human genome promises to provide such data in the not-too-distant future.

Put simply, we are in a period between the decline of the religious solution and the upcoming technological solution, and in this middle phase we can expect a surge of mass-murder, in the absence of either solution. (See Figure 3-3.) The purpose of this surge is to give society the steely nerve that is needed to finally give up on religious concepts of free will and divine judgment, and to move on to a more direct, technological approach, which is now coming to within our grasp.

### *The Dilemma of Free Will*

Does the premise of a genetically assisted MATRIX program contradict the idea of free will? It certainly seems to. But actually, the proponents of free will have long contradicted *themselves* on the subject of murder. On one hand, they told us that the killer “freely chose” to kill; and could “just as easily have chosen not to.” But they also told us that the killer has to be confined (or destroyed) to prevent him from “killing again,” and that he was never really good before he killed, but was probably “evil all the time.” Now, you can’t have it both ways. If a person has a built-in predisposition to kill, then it’s not freely chosen, and if it is freely chosen, then we’re all potential murderers, and should all be behind bars for general safety. Free will is functionally identical to *randomness*, since the alternative is predictability, which is *not* free. The solution to the murderer’s-free-will conundrum, of course, is simple: There probably isn’t really such a thing as metaphysically “free” will — the concept of free will is a useful description of how one part of the brain adjudicates signals from other parts of the brain — but that’s not a reason to set convicted killers loose or “let them off the hook” at their original trials. Until we know how to treat their condition, they *do* have to be confined, if only to keep the productive, creative, technological advancement of society from being massively sabotaged.

Most people believe in free will because of an experience like this:

Joe: You're preprogrammed to prefer chocolate over strawberry. You don't have free will in the matter.

Kevin: Sure I do. Watch. (proceeds to purchase a strawberry ice cream cone and eat it) See — I was going to buy my usual chocolate, but I used my free will to choose strawberry instead.

Kevin thinks this event demonstrates that he has free will, but it really shows the opposite. Kevin was going to buy chocolate, and will probably buy chocolate next time, but this time he bought strawberry — not because he “freely chose” it, but because he was externally influenced by Joe's challenge. If Joe now challenges Kevin to eat strawberry *from now on, for the rest of his life*, Kevin will probably decline to do so (even while insisting that his refusal proves nothing about free will).

The same lesson applies even if the influencer also believes in free will. For example:

Cindy: C'mon, Dawn. You don't have to eat chocolate every time. Exercise your free will; have strawberry this time.

Dawn: OK, Carol, I will. (purchases a strawberry ice cream cone)

Cindy thinks she has gotten Dawn to use her “free will,” but in fact, Dawn bought strawberry not because she freely chose it, but because Cindy influenced her to make that choice. Telling people that they should exercise free will (in a certain direction, of course) is an exercise in *determinism*.

Appearances of truly, metaphysically free will are simply results of the fact that our usual modes of behavior can be modified by exceptional circumstances (as with Kevin running into Joe's strawberry challenge). Although doubtlessly there are some rare individuals born with an intense, innate yearning to kill, most murderers, I think, carry only relatively common genetic predispositions towards killing, and wind up actually doing it because they get pushed too far by their circumstances. How often, we may wonder, does an individual come

very close to carrying out an act of mass murder and then, as his circumstances happened to ease, changes his mind and decides not to? — and then goes on to live a reasonably normal, productive life? The average person might recoil in disgust at the thought that such an occurrence is frequent, but the experts on violence prediction take the idea very seriously. Consider this conversation from A&E's *Columbine: Understanding Why*,<sup>21</sup> in which Park Dietz's TAG (Threat Assessment Group) studies the case of Eric Harris and Dylan Klebold, the two teenage boys who on April 20, 1999 fatally shot a teacher and thirteen fellow students before killing themselves (and would have easily killed hundreds more if their powerful propane bombs had successfully detonated):

BILL CURTIS (NARRATOR): After their week in Littleton, the Threat Assessment Group needs to digest the overwhelming amount of information collected during their psychiatric autopsy of Eric Harris and Dylan Klebold, including the confirmation by another friend that Eric *knew* about not being accepted by the Marines well before April 20th.

PARK DIETZ: That loss is big — that's the loss of all his hopes and dreams.

STEVEN PITT: But do you really think that if he didn't get that rejection, and got accepted, that this would've never happened?

PARK DIETZ: Sure. It's the difference between Plan A and Plan B.

STEVEN PITT: So you think that all the bombs, all the explosives, all the planning — they would have just discarded it, detonated it somewhere else, and moved on?

PARK DIETZ: Happens every day. *Every day* people are ready to do a crime, and then something good happens, and they don't.

Even those who have actually murdered can decide to pack up their murder kit and retire to a normal life, or one of less extreme crime, as described by criminal profiler Pat Brown:

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<sup>21</sup> February 23, 2005

Can a serial killer just stop killing? You bet. Contrary to the notion that a serial killer will keep killing until he is physically unable to because of health, age or imprisonment, serial killers can just stop. And some do.

Like the pornography he started out with, sometimes even killing gets boring, or seems to risky to do anymore since the police (or his wife) look like they might be catching on. —*Killing For Sport*, p. 175

Dennis Rader, the BTK killer of Wichita, Kansas, certainly fits into this category. If he hadn't gotten cocky and started sending new letters to the police after decades of silence, it is unlikely he ever would have been caught.

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### *The Murder-Suicide Relationship*

Let's make a simple list of the four types of unnatural death, starting with the most *incensing* — the type that most outrages the public; that it wants the government to *do* something about — and proceeding to the least incensing. (I assume that most reasonable persons would agree with this ordering, as a from-the-hip assessment of the general, popular mood.)

**murder**  
**disease**  
**accident**  
**suicide**

Now, let's break each category down into subtypes, again listing the more incensing subtypes first:



**murder**

mass murder  
ordinary murder

**disease**

cancer  
heart disease  
other diseases

**accident**

drunk driving  
other accidents

**suicide**

teen suicide  
adult suicide

Notice that there are anomalies regarding the position of types in the list versus their statistical frequency throughout the U.S.:

- Disease and accident each kills far more than murder, but murder is higher on the list.
- Victims of ordinary murder outnumber victims of mass murder by a very large factor — perhaps around a thousand to one — yet mass murder is higher on the list.
- Suicide occurs more frequently than murder — about 1.5 to 1 — yet suicide occupies the bottom position on the list, and murder the top.
- Adult suicide is more common than teen suicide, yet teen suicide is more incensing.

These anomalies all can be explained in terms of the *degree of control* which typical adult citizens feel they have over any particular type of unnatural death:

- Murder is perceived as very uncontrollable, and as the type of death which offers the least chance of avoidance.
- When the typical citizen hears about an ordinary murder, he feels that he has at least some ability to avoid a similar fate, by being aware of who might want

to kill him, by avoiding bad parts of town, etc. But when he hears about someone gunning down a dozen lunchers at a McDonald's restaurant or in a Luby's cafeteria, he feels totally vulnerable.

- Disease can strike anyone, but at least there is usually time to go to the hospital and have legions of doctors use advanced medical techniques to fight for your life.
- Accident is perceived as less random than disease, because the citizen typically feels he can be careful and probably avoid fatal accidents.
- Suicide comes in last, because the citizen feels he has full control over whether or not he suicides.
- Teen suicide is more incensing than adult suicide because the typical adult feels he has much less control over whether his own teenage children suicide, than over whether he himself suicides. Also, it is generally felt that teen suicide is a rash, impulsive decision by an immature person who needed to wait for her post-teen years before drawing any conclusions about how her life was really going to be. But adult suicide is quietly understood to be a more sensible phenomenon. In some countries, like Japan, adult suicide by persons unwilling or unable to fit productively into society is openly considered honorable, whereas in the U.S. such feelings are largely unspoken but still present. When we hear about an adult suicide, we quietly think to ourselves, "If that guy hadn't figured out how to live productively by now, then maybe it's just as well that he ended it. Maybe we're all a bit safer without him in the picture." Society tends to view adult suicide as a *non-problem*, or as a *self-solving problem*.

Many murders, especially mass murders, are actually *expanded suicides*. The murderer has reached a state where he finds that his life is no longer worth living. Some people would suicide at that point, but this particular person does not. Instead, he realizes that being in a position of having nothing to lose is a position of power, and so he can now murder with impunity. (Of course, he may still take precautions against capture, but this is simply so that he can continue to murder, or perhaps because his life will become livable again after certain persons have been murdered.)

In the case of a serial killer, like Ted Bundy or Jeff Dahmer, the killing provides him with a new reason to live, so the suicide never occurs, or occurs only after capture — Bundy deliberately sabotaged his defense team's easy opportunities to get him out of a death sentence, and Dahmer intentionally and unnecessarily exposed himself to the general prison population, perhaps in order to be killed (which he was).

In the case of a mass murder/suicide, like George Hennard (the Texas Luby's gunman), or Columbine's Eric Harris, the killer intends to die on that particular occasion; so why does he want to take out so many people with him? In years past, many who suicided did so with the belief that their deaths would be so shocking that they would force society to reassess its policies and systems, on the grounds that this cannot be allowed to happen again. But in today's atmosphere of modern communications, that view is easily seen to be completely naïve. Hennard and Harris knew this, and so they sought to project their deaths all the way up the list, from least-incensing (suicide) to most-incensing (mass murder). In effect, their actions say to society, "This is what happens when someone is so miserable that he doesn't care to continue living. You may not care about suicide, but you do care about this. When you get tired of mass murder, then you can start taking seriously the problem of suicidal misery."

We do a lot of research talking to serial killers . . . all of them, always have told us, that "I should have been caught before — someone should have said something." —FBI agent Bill Hagmeier<sup>22</sup>

It is worth noting that the typical mass-murderer does not expect society to hand him success on a silver platter — rather, he expects his condition to be recognized as a serious problem, just as murder and disease are, and to be investigated at a genetic and/or socialization level. Some suicidal mass killers who survived, such as Luke Woodham, told later of their strong feelings that "somebody needed to stop me." As thoughts of mass-murder grow in his head, the individual begins to wonder why no one is noticing the obvious signs that his life isn't working out; why no one is trying to thwart his plan. When he realizes that no

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<sup>22</sup> "America's Most Wanted", September 23, 2000

one cares, or even takes the danger seriously, then he feels virtually invited, or *dared* by society to go through with it. Ted Kaczynski, the long-hunted math genius known only as the “Unabomber” until his capture, gave himself away with a lengthy manifesto in which he explained the reasons for his bombing spree that killed or maimed several persons. Taken at face value the manifesto is a tirade against technology, and a call for people to sabotage technological advance (with bombing sprees and the like). But look at Kaczynski’s dysfunctional, personal history, read between the lines a little bit, and it isn’t hard to see another message: A society that refuses to recognize individual misery, and its potential to lash out violently, is a society that will experience periodic lashing out.

Newport Beach, Calif., forensic psychiatrist Park Elliott Dietz has shown that most mass murders (defined by the FBI as “a homicide involving four or more victims in one location and within one event”) are committed by the depressed and the paranoid, who see themselves as agents, even heroes, of retribution, angrily lashing out at a world they fear and hate. —Stephen Michaud, “To Have and To Kill”

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*Most folks couldn't figger just-a why he did it  
And them that could would not admit it  
There's still a lot of Eagle Scouts around*

*“The Ballad of Charles Whitman” — Kinky Friedman*

What makes a person suicidal? Surely there is a strong genetic component. But even given that, it seems that social circumstances play another large part in the production. Doubtlessly, the most common set of circumstances that bring on a suicidal state are those that lead to **dashed expectations**. The typical scenario is that the mass murderer became suicidal because he developed high expectations

of what he was going to achieve in life, then had those expectations abruptly dashed. (This may explain why American mass killers were, for a time, almost exclusively white: Being a member of a socially dominating race could be a contributing factor in building an individual's anticipation of success.) A few prominent examples illustrate how the process works:

- Ted Bundy had high expectations of becoming a successful lawyer and politician. These aspirations were strongly reinforced by his senior friends in politics and journalism, who assured him that he would be the next "JFK." Then, after having a very rough time getting accepted to law school, he did very poorly in his first semester (fall 1973), and realized that he was never going to be a successful lawyer. His killing spree began in January of '74. Bundy had an affinity for violent pornography long before his law school disaster, but it is very possible that this affinity would never have turned into a murder spree had Bundy's professional aspirations not crashed. (Such pornography would not be available if a large number of non-killers did not consume it.)
- Tim McVeigh had high expectations of becoming a Green Beret military commando. He performed extraordinarily well in the Army, and in the Persian Gulf War received a medal for "flawless devotion to duty." He was considered responsible for getting his unit selected to personally protect General Swarzkopf, the top commander of the American forces in the war. All of this convinced McVeigh that he was a shoo-in for the Special Forces program. But then he failed the physical to get into the program — McVeigh had a naturally thin, lanky build, and despite his years in the army, he just wasn't really Special Forces material. McVeigh degenerated, jobless, over the next few years, writing about the possibility of suicide in letters to his sister, and becoming increasingly obsessed with antigovernment philosophies. He then blew up 168 people in the Murrah federal building in Oklahoma City. The bombing was inspired by *The Turner Diaries*, and also was a reaction to the Waco, Texas fiasco in which over eighty Branch Davidians died, but despite those factors it is still fairly obvious that McVeigh would not have performed the bombing if he had not been let down so heavily by his Special Forces rejection.

- George Hennard, the son of a wealthy doctor, felt that his unspectacular but satisfying career as a Merchant Marine was secure, since he had been in it for years. Then, he was found in possession of a single marijuana cigarette, and was permanently ejected from the Merchant Marine as part of the latest “get tough on drugs” federal policy. Hennard spent two years futilely appealing the authorities for a second chance to sail, and becoming increasingly bitter and hostile towards his fellow man. Then he gunned down 22 lunchers at a Luby’s cafeteria in Killeen, Texas, shouting “Is it worth it?” before using his last bullet on himself.
- At age eleven, Charles Whitman was the youngest in the history of the Boy Scouts to attain the level of Eagle Scout. His family always had high expectations of him, and he had virtually never gotten anything less than an “A” in school. While attending the University of Texas at Austin in the mid-1960s, he lost focus and saw his grades slip into the “B” and “C” range. Unable to face living an average life, Whitman killed his wife and mother, then commandeered the observation deck at the top of the Texas Tower that overlooks the entire campus and the city of Austin. There, he used his skills with a rifle to knock off 14 people, including students, police, and bystanders, before engineering a “suicide by cop” when his makeshift barricade was broken down.

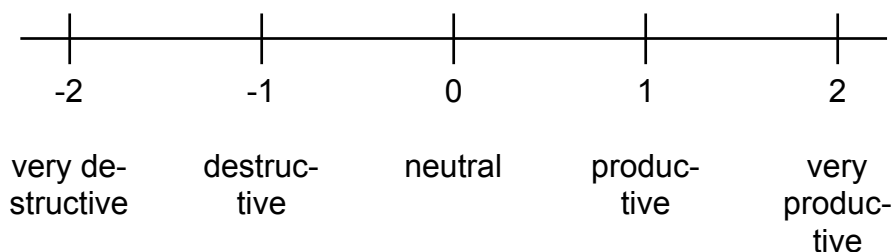
Again, it should be emphasized: There is no suggestion here that individuals such as these be handed success by the government; surely that is not feasible. Nor am I suggesting that individuals be protected from dashed expectations by a government program to ensure they are taught realistic expectations, even though such a program might be feasible. All I’m suggesting is that individuals such as these be detected before they strike, which is not only feasible, but imperative.

### *Absolute Value*

Slower, but similar in nature to dashed expectations, is the phenomenon of **chronic inadequacy**. In this scenario, the mass murderer has experienced a life

FIGURE 3-4

Real-number-line model of productivity, which suggests that an individual should prefer neutrality (0) over destructiveness (-1).



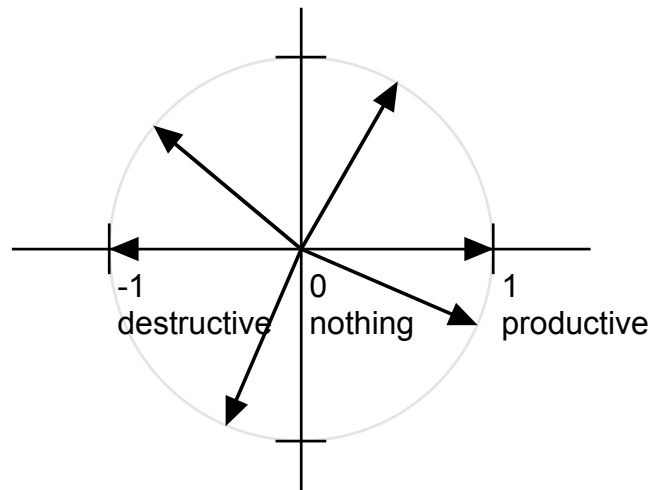
of chronic, lifetime failure and ineffectualness. This person has never really considered himself a vested member of society, and so views the people around him as members of a foreign nation, or perhaps an alien species. Two examples:

- James Huberty, a 41-year-old Vietnam vet, had experienced ongoing employment problems for years, and now was facing late middle age as an inadequate failure. In mid-July of 1984 he opened fire at a McDonald's restaurant in San Ysidro, California, killing 21 people before police snipers took him out.
- Jeff Dahmer was a reclusive, alcoholic burnout from his teens onward, and wound up performing manual labor in a chocolate factory in Milwaukee. His fantasy of owning a male sex zombie took over his life, and blossomed into a gruesome killing spree in which over a dozen men lost their lives.

The chronically inadequate person feels that his life is amounting to a big nothing, and simply wants to do *something* that matters. If we think of the scale of productivity as being analogous to the real-number line, it seems that people should prefer zero productivity over destructiveness. (See Figure 3-4.) But the correct analogy is to the complex number plane (Figure 3-5), in which a negative number is just another direction on a continuum of different directions a person could act. The inadequate person seeks to get off of zero (the origin) — like a person who has been stuck for a long time in a sailboat with no wind, who just wants to get moving in any direction as opposed to sitting indefinitely in the

**FIGURE 3-5**

Complex-number-plane model of productivity, which suggests that an individual might prefer absolute value in any direction over ineffectuality (0).



middle of the lake. For this person, to stay on zero is to be a big nothing; like never having been born at all.

Long-term inadequacy is substantially different than dashed expectations in terms of how it can be used as a population filter, and how it might be possible to detect an impending strike. But the mechanics of that can be worked out — if the public is willing. Is it?

Suppose, hypothetically, that an individual — let's call him Jack Jones — makes elaborate physical preparations to carry out a Tim-McVeigh-style attack. But then, as Park Dietz described above, Jones changes his mind, dismantles his preparations, and goes on to live a normal, successful life. Today, ten years have passed since Jones decided not to be a bomber, and he has a productive career, a wife and one or more children. Now suppose that topnotch FBI agent David Daniels finds out about Jones's planned attack of ten years ago, and can probably prove it in court. What will Agent Daniels do? Of course, he will inform his superiors and get Jones arrested and prosecuted.

Now let's change the scenario a bit. Suppose Agent Daniels finds out about Jones's planned assault of ten years ago, but can't prove anything in court. All



Daniels can do is talk briefly with Jones and offer some advice about what to do. What will Agent Daniels say? Will he encourage Jones to turn himself in and spend years in prison, followed by a lifetime stigmatized as a terrorist? Or will he encourage Jones to continue his productive career and family life? Now the answer isn't so clear, and the latter seems much more likely. What this discrepancy illustrates is that there are two very different ways of analyzing the same individual, depending on what approach you plan to take with him. When you are giving him advice, his own "freedom to choose" is paramount, and of course the best thing he can do for his family and for his society is to continue his job and his productive relationships, and keep his would-be terrorist phase permanently in the past. But when you are deciding whether to prosecute, Jones's "free will" gets short shrift, and population statistics take over, determining that it is simply not a good risk to let Jones roam free in society, even if he has been a good boy lately.

So, our government's policy toward individually perpetrated mass violence can give some recognition to free will while still largely operating on deterministic premises. In other words, we can filter the population for impending problem cases, while still encouraging everyone to choose non-destruction. That has always been society's policy anyway: We lock up anyone we are convinced is dangerous, while simultaneously telling everyone that they can and should choose not to murder — i.e. issuing them the strawberry challenge described earlier in this chapter.

And how can we encourage people not to murder? The religious strategy has been very effective in the past, but in today's modern climate it is ineffective. Advanced communications have made it easy for most people to see just how many wildly differing religions there are in the world (and have been), and modern behavioral research into the efficacy of negative reinforcement has cast serious doubts on the rationality of throwing people into hell only at the end of their lives, with no chance to learn from the punishment, nor warn others of it. Today's crime fighters realize that the religious approach is no longer viable, and find themselves forced to resorting to petty word games in a desperate attempt to discourage murder. Thus we see laudable and highly intelligent crime fighters such as John Walsh and John Douglas using the words "coward" and

“cowardly” to describe nearly every criminal they discuss. What if most unsolved murders are performed by persons of at least average intelligence, with the mental faculties to know that “cowardly” means “unwilling to take risks to achieve one’s goals?” With the brains to know that it is foolish, not brave, to take on an army of police instead of a more realistic target? Since it is fairly obvious that watching TV all night, munching on a bag of Cheetos, is much less risky than going out murdering, I can only doubt that any significant percentage of murderers will be discouraged this way. Even a Christian, Reagan-administration conservative like D’Souza, in a post-September-Eleventh book extolling the qualities of the USA, can agree:

The reasoning [behind calling the 9-11 terrorists “cowards”] is that [they] cravenly targeted women and children. But of course the terrorists did no such thing. They didn’t really care who was on the hijacked planes or in the World Trade Center. As it happened, most of their victims were men. ... Usually we consider people who pick on women and children cowardly because they are trying to avoid harm to themselves. But in this case the terrorists went to their deaths with certainty and apparent equanimity. Like the Japanese kamikazes, the terrorists were certainly fanatical, but cowards they were not. —*What’s So Great About America*, pp. 5-6

It is not unlike society’s refusal to use the word “suicide” as a verb (as I use it throughout this book), instead insisting that we attach the word “commit” to every usage, thinking that we will somehow improve the lives of the suicidal by dogmatically stating over and over that the act is *criminal*.

Today, talking the general population out of murder is either impossible or will require some acknowledgment of the lightness of the situation; i.e. “Why take all the risks associated with murder, when there are so many other enjoyable and even thrilling pursuits that are far less risky?” That approach doesn’t sit well with people who are convinced that murder is an issue of extreme moral gravity, so I don’t expect to see it in use anytime soon.

Big transitions in how society works are often tumultuous, and as human society makes the transition depicted in Figure 3-3, enduring a period of mass-mur-

der may simply be an inevitable, and even necessary, trial. We can see the same phenomenon at work in other transitions: Modern capitalism is a great improvement over kingdoms and feudalism, but the advent of capitalism generated the backlash of communism, which was an immense social disaster, and taught us that capitalism needs to be moderated somewhat to attenuate revolutionary backlash. Modern, processed foods have made starvation almost a thing of the past (at least in the modern parts of the world), but brought in a wave of tooth decay that spurred the advancement of modern dentistry. Disturbing though it may be to many, mass-murderers actually serve a role in the advancement of society. They give us the level of desire needed to overcome cherished myths and to aggressively pursue a serious system of violence regulation. And such a system may prove useful for stopping violence in general; far more than that which the mass-murderers were going to carry out.



*They think that your early ending was all wrong  
For the most part they're right  
But look how they all got strong*

*"Hey Man Nice Shot" — Filter*

### *The Lesson of September Eleventh*

The U.S. has obviously figured out the right way to run a nation internally (for the most part). But it is still learning when it comes to foreign policy. For a long time, the U.S. has considered itself too noble to force modernity on backward, messed-up nations. Our policy has been to let them wallow in their own misery until they realize that they need to adopt the ways of America. But what if that doesn't happen? What if backward, messed-up nations simply grow more and

more enraged at their plight, and eventually explode in violence? The lesson of September Eleventh is that as the world's lone megapower, the U.S. cannot sit by and ignore miserable, dysfunctional nations as if they are not a problem (any more than our society can afford to ignore suicidally miserable individuals). Perhaps the U.S. does not have the power to convert every one of those nations into modern success stories, but at the least we should be monitoring them closely, and taking appropriate military action whenever we see signs that a nation is fomenting terrorism.

On the third anniversary of September Eleventh, U.S. Defense Secretary Donald Rumsfeld gave a speech that included the following analysis of the terrorists' motives:

It's common to hear that the taking of life was senseless. But those who inflicted this suffering had a sinister logic. They believed that by killing thousands of our citizens that they could frighten and intimidate our country, our people — that they could shake the trust we have in each other, and that they could weaken the glue that holds our society together. They wanted America to retreat from the world so that they could impose their ideology of oppression and hatred. They thought they could strike us with impunity, and that we would acquiesce. That the American soldier and the American people themselves were, in the words of one of their leaders, "a paper tiger."

Rumsfeld's analysis is almost on the money. The terrorists think of the U.S. as a "paper tiger" not in error, but because, in our pursuit of the spread of democracy and the end of theocracy, we *have* been a paper tiger. For many decades now, the U.S. has had the way, but not the will, to make solid if not spectacular advances of democracy over theocracy and dictatorship. A flesh-and-blood tiger with real teeth and claws, but with a brain unwilling to use them, is about as effectual as a tiger made of paper. If the terrorists really thought that the U.S. would retreat from the world after September Eleventh, then they were sorely mistaken, as Rumsfeld correctly points out. But with only a minor tweak, their "sinister logic" makes eminent sense: "If you're going to beat our theocracy, *do it* — but don't leave us indefinitely in this pathetic mode of theocratic failure. Perhaps you need a little encouragement?"

Greene's Law #15 (*The 48 Laws of Power*), "Crush Your Enemy Totally" warns us that an imperfectly conquered foe is far more dangerous than a never-challenged one because, like a wounded animal, such a foe has every reason to attack you by any means available, and no reason not to. The Irish Republican Army (IRA) and the Palestine Liberation Organization (PLO), (each with related offshoots) are both well-known terrorist organizations, that have carried out bombings and shootings against civilian and nonmilitary government targets for more than thirty years. Though from different parts of the world, these two causes can teach us a lot about how to predict an outbreak of similar violence.

The IRA and the PLO both were born out of a dispute over land ownership by peoples with very different religious background. The IRA is Catholic, and wars against Britain, which is Protestant. Similarly, the PLO is Muslim, and battles against Israel, which is Jewish. In both conflicts, the religions are sufficiently different to cast a shadow over the possibility of living happily under one system of law and one shared national culture. The IRA and the PLO each represent the losing side of their respective conflicts. Britain rules Northern Ireland handily, and likewise Israel rules the land that the PLO seeks to one day control. Neither the IRA nor the PLO seems to have even a slim chance to ever win their respective wars. But both the IRA and the PLO are determined to continue the violence — as a matter of moral obligation.

Another strong parallel can be found in the fact that in both cases, the victorious force is not willing to completely destroy or exile the conquered, but neither does it give them full citizenship under the law. The British could have drawn the border of Northern Ireland to include almost exclusively Protestants, but instead engineered a *slim* Protestant majority — a move that ensnared as many Catholics as possible, but not enough to ever win a local election (not to mention a national one). Many Catholics view the Northern Ireland elections a sham and don't even go to the polls. Likewise, Israel allows Palestinians to live or work within its borders in large numbers, but grants easy citizenship — and the rights that go along with it — only to Jews and children of current citizens. In particular, it is difficult for Palestinians to obtain the rights of citizenship, even if they work in Israel on a daily basis.

Both the British and Israeli governments have expended enormous resources trying to track down and kill or capture the bombers, but in both struggles, new terrorists seem to materialize as fast as the existing ones can be caught.

From the examples of the IRA and the PLO, we can surmise that anywhere in the world a conquered group of people, with a shared culture, is kept in a limbo-like captivity — not obliterated, not expelled, and not absorbed into full citizenship — there will be a perpetual, festering violence against the citizens of the victorious people, that the government cannot effectively quell. All nations of the world are well-advised to avoid this situation, or risk suffering for decades alongside the peoples of Northern Ireland and Israel.

You cannot defeat an enemy and at the same time believe that you're too noble to complete that defeat. Completion comes in one of three forms:

- a. **destroying** the conquered people completely, down to the last individual,
- b. **exiling** the conquered people so that they must find their own way in another part of the world, or
- c. **absorbing** the conquered people into your own population as full citizens with the same rights and responsibilities as any other citizen

If you are unwilling or unable to do any of the three options listed above, expect severe social problems that just don't know when to quit, as enjoyed by the Brits and the Israelis.

The Treaty of Versailles is another splendid example of this phenomenon. After World War I, the allies decided that the people of Germany should be punished by being made to paying an enormous "war debt" to compensate for the damage caused by the war. Even while Germany fell badly behind on the payments, the huge amount they *were* managing to pay was driving the entire German population into desperate poverty. Soon, many Germans were ready to vote for anyone who would lash out violently against the world. Hitler was simply in the right place at the right time. (Note that he had many top-level henchman who could have easily taken his place.) If you find this analysis distasteful — preferring to believe, perhaps, that Hitler hypnotized the masses into a violent state — just remember that after experiencing Hitler's Nazism, the allies agreed

*completely* with what I am saying here. After World War II, there was no attempt to reestablish the WWI war-debt payments. There was no attempt to extract an even larger debt for WWII — even though the German people were much more directly culpable for it. And no attempt was made to extract similar debts from Italy or Japan. Instead, the allies *gave* immense sums of money to help rebuild those nations and set them back on course as autonomous, member nations in the global economy. So whether they verbally admitted it or not, it's obvious that the allies realized Versailles to have been a colossal mistake, not to be repeated. Holding a population in a limbo of endless hopelessness is, in effect, to create a population of James Hubertys.

The Versailles treaty was a disaster simply because it badly interfered with the everyday, normal desires of large percentages of the population. The modern “war on drugs” is a similar fiasco. In *Drug Crazy*, Mike Gray describes in delicious detail the mind-boggling mayhem generated by trying to keep Joe Drug-user from getting his hit of coke, and shows it to be almost identical in nature to the chaos caused by alcohol prohibition in the early twentieth century. It raises an interesting question: What will people do to get their beer? Do they care more about their beer than about preventing the destruction of democratic institutions? *Yes, they do.* The logic is simple: I'm not hurting anyone by enjoying a beer or two, so if you want to take the beer profits away from a reasonable corporation like Miller and hand them over to a psychotic tough like Al Capone, why should I feel guilty that you are now struggling mightily against Scarface Al and his band of extremely well-funded thugs? Perhaps it's time to rethink your policy.

The reasoning is quite similar with individually perpetrated mass murder. Persons who are chronically miserable tend to be unconcerned with lofty, noble ideas of justice and peace, and are generally willing to lash out any way they can to make a point.

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How is Sharon Rocha's rage against Scott Peterson different from, say, George Hennard's rage at being forced to live a failed life? The comparison is bound to

provoke severe indignation. (Watch for me to be compared to professor Ward Churchill who was widely interpreted as having likened September Eleventh victims to Nazis.) Obviously, the public senses a tangible difference between Sharon's rage and George's, but how is that difference precisely defined? The only actual difference is this: To kill or exile the Scott Petersons of this world is *immediately beneficial* to the safety and productivity of most members of human society, whereas to kill random persons lunching at Luby's is not. The *emotion* of rage is fundamentally the same — "my life is horribly damaged and I derive satisfaction from delivering payback for that" — but the effect on society is fundamentally different. That is why we, as a society, enthusiastically support Rocha's rage against Scott, but not Hennard's rage against Bell County, Texas.

It is obvious what form our support of Rocha's rage takes: We happily send Scott Peterson off to a prison to be warehoused until he dies, or until the California appellate courts permit him to be put to sleep. But it's not so obvious what form our nonsupport of Hennard's rage should take. We can't punish him for his massacre, since he used his last bullet on himself (and his willingness to do so means that he didn't care about throwing away the rest of his life anyway). So what do we do? Do we ignore him? We could deny him reentry to the Merchant Marine, but again, he's dead, and we were already denying him reentry before he shot up the Luby's. Do we stick our heads in the sand like ostriches and hope the problem just goes away on its own?

The appropriate action to take against Hennard, as discussed earlier, is to start a serious program of *detecting and preventing* him and others like him: A more advanced version of the MATRIX program, designed to identify any individual threat of mass violence. And now we get to the big sticking point: Creating such a program may be what Hennard *wanted* us to do. If of even average intelligence, Hennard knew that society can't make special exceptions to drug laws just for the potentially suicidally violent — but it can take such dangerous persons *seriously*, and act to preempt them. Hennard's spree serves the function of providing society with a strong incentive to do something about this problem, and Hennard may have, at some level, known it. He could have killed family members, coworkers, or even next-door neighbors, but instead he drove fifteen miles to Kil-



leen, to kill utterly random victims at a Luby's, presumably to ensure that no one in the entire nation could feel safe, and thus fail to get the message.

Remember, the point is not to do the opposite of whatever Hennard wanted us to do, in order to spite him. He's dead, after all. The point is to do whatever will protect society from such attacks, and if that's what Hennard was trying to provoke us into doing, so what? If that doesn't sit well with you, if you find it too hard to swallow that Hennard's act may be beneficial to society in the long run, and on the basis of that revulsion you oppose a program to detect potential mass-murderers, then you are simply assigning your pride and your anger a greater priority than the lives of countless, future, killing-spree victims. Whether we like it or not, the Hennards of this world *can* force us to choose either to let them continue their mayhem unabated, or to implicitly acknowledge that their acts serve a purpose in the grand scheme. If Hitler taught us not to repeat Versailles, if Stalin taught us not to think we can disregard a fundamental human motive such as comparative satisfaction (more about that in chapter six), and if the PLO and the IRA taught us not to keep a people in a futureless limbo — then surely Hennard with his mere twenty-two victims can teach us that suicide should no longer be considered a non-problem or a self-solving problem.

Treating the very real problem of walking time-bombs seriously doesn't have to mean supernatural mind-reading, or even mildly complex analysis. Take the case of Kim Dae-han, a middle-aged citizen of South Korea. Kim had a history of mental problems, and had openly threatened to burn down a hospital. Then, on February 19, 2003, he set fire to a train at a subway platform, causing over 120 persons to burn to death, and over fifty more to be seriously injured. Firefighters described the scene as a vision of hell, with many of the bodies reduced to barely recognizable piles of ash and bone. Now ask yourself this simple question, out loud: "How many otherwise normal, productive citizens do I personally know who have threatened to burn down a large, public, constantly occupied building, such as a hospital?" Like mine, your answer is probably "*Zero*." Persons who make such a threat, even once, need to be *permanently* confined for public safety. It's not exactly MATRIX, but it's a start. Before you knock MATRIX as infeasible or dangerous, you first need to take a hard look in the mirror and ask yourself if you are willing to permanently institutionalize a person for making an arson

threat against a hospital. If you aren't, then *that's* your real opposition to MATRIX right there — an unreasonable reluctance to protect the public from obvious threats.

Did you pass that test? Now try this one on for size: John Doe walks into an office of the FBI and announces that he would like to volunteer for execution. His life, Doe explains, has been an unending series of disappointments and failures, and he has grown both tired of trying, and uninspired by the statistical odds of future success. He figures that since he paid taxes all those years that he was vainly trying to achieve the American dream — the same taxes that other people paid who *did* find a modicum of success and fulfillment — then the federal government owes him a lethal injection. He is owed the implied respect for his decision that comes along with having it carried out by that government. What would you do in the government's place? For what policy on this question would you vote? Keep in mind that as long as people are being executed in the federal injection chamber, Doe *can* sign up. It's just a question of what we require him to do to get on the list. If merely *asking* to get on the list doesn't qualify him, then Doe simply has to do whatever the law says he has to do in order to qualify. (And to avoid the possibility of winding up in a padded, mental institution, Doe probably will need to make sure that his qualifying act is particularly heinous, so that every decision-making official involved in his case will loath the possibility of an insanity finding.)

It's not just a hypothetical scenario. Consider the case of William Griffin, a middle-aged native of Rochester, New York who suffered from serious psychoses. One summer day in 1981, Griffin entered a nearby bank with a shotgun and, after shooting at several persons, took nine bank employees hostage. The FBI surrounded the building and eventually got Griffin on the phone to ask his demands. He had only one: that the feds *enter the bank and kill him*. They refused, so he gave them until 3:00 P.M. to comply with his sole demand. When the deadline arrived with no federal action, Griffin brought a young, female teller (and single mother) up to the window, cut her in half with two shotgun blasts, then walked into the open where the snipers could take him out. An innocent bank teller died that day so that our society could continue to believe that suicidal misery is a non-problem — or a self-solving problem. Griffin gave the

authorities every chance to change their minds about that, but in the end it took a butchered bank teller to persuade us to give him the simple, state-sponsored execution he wanted.

We have a time-honored policy of “never giving-in to terrorists.” And this policy certainly makes sense when dealing with such threats as “give me \$1,000,000 or else.” That contingency is utterly arbitrary, and relenting to such a demand would go a long way to encouraging similar demands — many of them from bluffers who have no intention of carrying out the “or else” if they aren’t paid off. But what about “legally execute me or else” — is that an arbitrary contingency? Not exactly. Anyone who demands to be killed does not have a vested interest in his own life, and so is free to carry out terrorist attacks without concern for society’s penalties. The contingency is even less arbitrary if the demand is “fix my sociopathic DNA or else,” or “take heed of my sociopathic tendencies and the severe disappointments that have plagued my life, or else.” Then, it makes no sense to “never give in” — the connection between the demand and the threat is non-arbitrary to the point of being almost deterministic. It’s like saying “never give in to fire’s threat to burn you if you touch it.”

For decades the British refused any concession to the demands of the IRA, failing to recognize that meeting some of those demands might actually undermine the IRA’s power base. Compare to the case of Apple Computer — when Steve Jobs began major concessions to compatibility with the Windows world, such as iTunes For Windows and a multi-button mouse, some felt he was throwing in the towel, conceding defeat, and admitting that everyone should just go with Microsoft. But in fact, Jobs’s strategy was not to arbitrarily make the Mac more like Windows in a few random ways, in the hopes of attracting more Windows users. Rather, he carefully selected which concessions should be made and which should not, with the aim of removing major barriers to Mac acceptance while simultaneously preserving the most important features of the Mac that make it a more desirable alternative to a Windows PC. And the British government could have ended “The Troubles” long before the turn of the millennium if they had merely adjusted the border to make Northern Ireland an exclusively British Protestant realm. It wouldn’t be everything the IRA wanted, by far, but it would have utterly decimated the IRA’s popular support among Irish Catholics.

The point of MATRIX is to make just such a pragmatic concession to individually perpetrated terrorism. We're not going to give the murder-spree guys anything they want, but neither are we going to nobly stick our ostrich heads in the sand and insist that nothing need be done until after each massacre happens. What would an advanced version of MATRIX look for in individuals (besides critical DNA markers, once they are identified)? I suggest the following:

1. *lack of abhorrence of murder* — The individual is not repulsed by the idea of murder, and thinks of it as an exciting sport.
2. *denial of failure* — The individual refuses to admit when he has failed at a task.<sup>23</sup>
  - 2a. *forced task* — If required by rules to attempt a task, upon failing the task the individual's attitude will be, "It's no big deal; I didn't want to do that anyway. I wasn't really trying." The individual learns nothing from the failure, because he shuts the whole thing from his mind as an irrelevant inconvenience of involuntary activity.
  - 2b. *chosen task* — If this individual truly wants, of his own volition, to attempt and succeed at a particular goal, failure will be treated as a terrible disaster. Then he will try again, with no analysis of why failure occurred or what change in approach might be indicated. These reattempts without analysis will continue until they are socially blocked, or until accumulated misery drains his will to continue. Either way, he then becomes very bitter and starts believing that he lives in a seriously flawed society.
3. *interest in suicide or murder* — The individual begins showing positive views towards suicide and mass-murder.

And of course, any open request to be executed (or threat to conduct mayhem), should be taken with the utmost seriousness — more so than we currently treat a joke about a bomb on a passenger jet. A person who requests exe-

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<sup>23</sup> Will explaining this attitude disorder to the individual make it go away? I would have to say no. I suspect that the roots are genetic, and in any case the general notion that discovering you have a particular psychological problem makes it go away is not something that I have noticed to be true in any of my own personal experiences, and I suspect that it's even less true for the type of individual being described here.

cution perhaps should be required to discuss the matter with a sympathetic professional before making his final decision, but after that the execution should be conducted. Swallowing our pride in this matter — i.e. “We don’t execute people upon their request. We just don’t do that!” — is a small price to pay for the safe removal of unstable individuals from our society.



## *Group Misery*

The cause of the PLO, of course, is just a smaller case of the more general cause of Islamist terrorists. Most Islamic states hate the U.S. to the point of calling it the “Great Satan.” And why — because we support Israel? That’s certainly part of it. But the larger part is simply that they see their way of life being slowly destroyed by the inexorable advance of western, democratic capitalism. The U.S. support of Israel is just an example of that process: For the past few decades, Israel has been the only democracy in the region.

Should the U.S. abandon its support for Israel in an attempt to appease the terrorists? Of course not. The problem isn’t that we helped to create Israel and now give it ongoing support; it’s that we haven’t been aggressive *enough* in continuing that spread of democracy. The democratic west established the democratic state of Israel in 1948 and then just stopped. The recent takeovers of Afghanistan and Iraq, and the still-ongoing establishment of democracies there, is the first big step towards democratizing that region since the creation of Israel almost half a century ago. It should be small wonder that the region has fomented terrorism all this time — it’s just another case of refusing to complete your victory in a timely manner. And what did it take to give the U.S. government the nerve to democratize Afghanistan and Iraq? *September Eleventh*. The demolition of the World Trade Center was, in effect, a Hennard-style demand that the plight of the Islamic middle-east be taken seriously. The message is simple: “Either defeat me or let me thrive — but don’t leave me in this bizarre, half-beaten state indefinitely. Because if you do, then I simply can do *this*.” Democratic, scientific

capitalism, as detailed by D'Souza in *What's So Great About America*, is taking over the world, with America spearheading the campaign. Victory is certain; monarchy and theocracy are practically defeated. But if we think we're too noble to decisively finish that defeat, then we're just playing with fire — like parents who let their child neglect chores and throw tantrums all day, thinking he'll learn the hard way that it "doesn't get him anywhere." For decades we thought we were playing it *safe* by letting nations like Iraq stew in their own failures. We didn't want to lose hundreds or thousands of troops in a military effort to convert those nations to democracy today. September Eleventh showed us that we can lose thousands of *ordinary civilians* with a strategy like that, and so it gave us the necessary resolve to act.

Living peacefully with Islamic dictatorships (or those of any other religion, for that matter), is simply not possible. It is the same lesson that the Europeans learned when they began populating the North American continent. The popular conception of what happened to the North American Indians (a.k.a. Native Americans) goes like this: For centuries, the American Indians lived a noble existence, at one with nature, and in relative peace — minor squabbles but no major wars. Meanwhile, on the European continent, a cancer-like way of life had developed in which the population burgeoned out of control, stripped the land and used it up, and fought vicious, massive wars. Soon, this virulent society exploded forth onto the North American continent. There, they found the American Indians easy prey, and slaughtered them either for sport, or to take their land. The American Indians thus became a marginalized, dispossessed, ghost people, living a meager existence on isolated government reservations. And those who disagree with this story probably believe in its most extreme opposite — that the American Indians were barbaric savages who had to be tamed by good Christian soldiers spreading the truth of Jesus.

The real story, I suspect, involves no extremes of good and evil as depicted in the story above (or in its Christian-soldier opposite). What if, instead, there was just a sequence of inevitable and sometimes tragic events that could not likely have been avoided? Fly over Europe today, and you can easily see that most of the land is virtually uninhabited. It is farmed, perhaps, or at least owned, but largely devoid of humans. But today's European population is dramatically

larger than it was when Europeans were just discovering America. Therefore, overpopulation was clearly not an issue in Europe, and it could be considered heavily populated only by American Indian standards. Europeans did not explode cancer-like off of their continent — rather, they developed the technology to travel the seas, and sailed to North America simply because they could.

While Europeans were developing the technology to cross the Atlantic, what were the North American Indians doing? Long before the Pilgrims landed at Plymouth Rock, the American Indians had, as a rule, been living with a cultural mindset of *extreme tribalism*. This mindset tells you, the individual, that everyone in your own, small, tribal village is to be trusted and mutually supported, whereas everyone outside the village is essentially a mortal enemy, to be distrusted and, when possible, preemptively destroyed.

This tribalism had four effects on the American Indian population:

1. *Sparsely populated land.* Tribal villages could not get very close to each other — maybe a few days' hike — or else they would see the smoke from each other's fires (or otherwise become aware of each other's presence). Then, it was just a matter of time before one tribe would attack the other. These attacks would continue until one tribe was destroyed or driven away.
2. *Small village size.* Tribal villages were limited to a certain size; the size that allowed an individual to be familiar with all members of his or her tribe. If a village grew much beyond this size, the tribalism would cause a rift to develop, and the village would split into multiple tribes, which would then fight to the death, or put a good distance between each other.
3. *Very slow technological advance.* Steady technological progress requires a large population with a high degree of information sharing. When a new discovery is made, the knowledge spreads quickly throughout the population, and can then be the basis of further discovery by some other person in another part of the population. The North American Indians had neither a large population nor communication through that population. If a

member of a tribe discovered a better way to do something, the knowledge would be limited to that one, small, tribal village. If the tribe was destroyed by another tribe, the information might be lost altogether, or at best absorbed by the destroying tribe.

4. *Self-perpetuated tribalism.* Extreme tribalism is self-reinforcing. Once it takes hold as it did the North American Indians, it doesn't easily let go, and may last for many centuries until it is broken by a fluke event or by outside interference.

The American Indians were not peaceful, but in fact were quite warlike. There were no major wars simply because there were no major nations to fight; war was fought between tribal villages.

When Europeans first set foot on the continent, the American Indians were initially awed by their white skin and their horses, and considered them to be some sort of quasi-gods. The Europeans saw a virgin land with plenty of room and resources for everyone, and started setting up encampments and towns without hostility toward the nearby natives.

But soon the American Indians' awe faded, they acquired and mastered horses, and then the Europeans were just another people to be treated as they would treat each other. To the American Indians, that meant attacking the Europeans. The American Indians attacked European encampments not to repel foreign invaders, but simply because they could. They attacked the Europeans the same way that they would attack anyone outside of their own tribal village, as they had been doing for centuries before the Europeans arrived. It didn't take the Europeans long to realize that it wasn't going to be possible to live peacefully within a few days hike of most American Indian tribes. The European settlers went to war with the American Indians because they had to; because it was easier than packing up and heading back to Europe.

In many ways, the Indians may have had the upper hand: They knew the land much better than the Europeans, and their bows and arrows were superior to the single-shot muskets used by the Europeans (the revolver came into heavy use later in the war). But the Indians were still doomed from the outset, because



while the Europeans were at war with the American Indians, the American Indians were at war with *everyone* outside their own small village, including all other Indian tribes. Very late in the war, Geronimo and other Indian warriors realized that the tribes had to unite to stand a chance, and made some efforts in this direction. But by then it was too late.

The Indians who were left after the war were isolated on expansive reservations because that was the only way that they could live their tribalistic lifestyle without continued war. And the reservation land is worthless because no development takes place there; the tribe lives in simple huts as they did before the Europeans ever set foot on the continent.

Once the war against the American Indians was underway, did the Western Europeans use horrific strategies against them? Certainly. But nothing significantly more ghastly than what they did to each other just a short time later in the Civil War. The Europeans, like the American Indians, were not above torture, indiscriminate slaughter, and demonization of the enemy. The Europeans were superior simply because they lacked extreme tribalism.

Many American Indians chose to assimilate into the European population, and it is to America's credit that they were allowed to do so. This is why America does not suffer American Indian terrorism the way Britain suffered IRA terrorism and Israel suffers Palestinian terrorism — the most disgruntled, anti-U.S. members of the tribe are the only ones still practicing the faith. An ongoing terrorist movement can survive only with a base of popular support, and when individuals of a conquered population are allowed to assimilate with full rights, the base is lost and no terrorist movement can be sustained.

## *Legitimacy*

Another reason that the U.S. has been reluctant to forcibly establish democracies in places like Iraq is because of the widely fielded charge that a U.S.-established democracy is not legitimate, because democracy is supposed to be *chosen*, not forced — choice is the essence of democracy; force is its antithesis.

The U.S. should ignore this accusation and proceed directly with Afghanistan/Iraq-style operations. The charge makes no sense. When was a democracy ever established except by undemocratic force? Never. Democracy in the U.S. wasn't decided by popular vote; instead a small group of individuals seized control and decided for themselves what kind of government the U.S. would have. Yes, democracy is supposed to be about popular choice, but democracy is also a *prerequisite* for popular choice to take place. If a democracy can be legitimate only when established by the vote of the people, then all democracies are illegitimate, and indeed there will never be a legitimate one.

There is no democratic way to start a democracy. It just has to happen, by force of some kind, and then, once it's launched, the process of popular will can begin to take effect. When the U.S. takes over a country, it usually establishes a democracy there and then leaves. After that, the outcome of elections in the new democracy may please the current leaders of the U.S., or may not please them so much. That's democracy. The only thing that makes it "legitimate" is its strong tendency to provide its people a better life in the present, and more fruitful technological progress for the future.

Those who believe a democracy to be illegitimate if established forcefully from outside are, in a way, subscribing to the "fruit of the poison tree" philosophy of morality. According to this concept, no good can come from an impure act. One moral misstep in a causal sequence of events, and everything that follows is "tainted," and must be rejected as illegitimate no matter how good it becomes. If you think that this idea is a bizarre, fringe view held only by extremists and perfectionists, ask yourself how most people probably react to the suggestion, earlier in this chapter, that Hennard's Luby's massacre might yield a long-term net good. Fruit-of-the-poison-tree is a very popular concept, subscribed to by many unquestioningly in some form or another. But it is truly an insane policy. Trace the history of any good, productive, desirable thing back in time far enough, and you are virtually certain to find some detestable, impure act in the causal chain. To embrace any good phenomenon as worthy of being enjoyed and accepted, we pretty much have to confine our condemnation of criminal acts to the immediate, localized event that needs to be condemned. In Hennard's case, that means confining and/or destroying him (if he had failed to suicide at the

end of his spree). In the case of a U.S. invasion of Iraq, it means criticizing President George W. Bush for attacking Saddam Hussein at the wrong time (sooner? later?) than perhaps he should have. But if the democracy now being established in Iraq successfully gels — embrace it. For how often do democracies get established at all? Take them when you can get them.

The desire to distinguish between “legitimate” and “illegitimate” forms of government, in some higher plane than the tendency towards national strength and prosperity, appeals even to such a practical, sensible mind as D’Souza’s:

Abraham Lincoln not only perceived the founders’ dilemma, he inherited it. The principle of popular rule is based on Jefferson’s doctrine that “all men are created equal,” yet the greatest crisis in American history arose when people denied that “all men are created equal” and in so doing denied the basis of their own legitimacy. —*What’s So Great About America*, p. 116

What is legitimacy? How do you measure it? By contrast, prosperity and national success are very measurable. Involuntary slavery is bad because it damages the productivity of a nation, and is thus eliminated by scientific progress, the same way use of primitive tools is eliminated by the advent of better ones. It is arguable that slavery was a necessity of primitive society, just as martial law is necessary during times of extreme social crisis. No nation abolished slavery until technology had reached the point where it was detrimental to continue it.

Also, when judging the legitimacy of a democracy, one should keep in mind that voting is, at a fundamental level, not that different from an act of force. When you cast your vote for a proposition to build a bridge in your city, what about the people who don’t want that bridge built? What about their rights? You are effectively forcing them to bend to your will (or trying to — otherwise why go vote?). Using the vote to force others to bend to your will is better than using a gun for the same purpose, but only because there’s a lot less bloodshed in the former. Voting, in effect, is an agreed-upon form of bloodless combat, in which the victors get their way, and the losers grumble but reluctantly play along with the victors’ plans. The bloodlessness is what makes it legitimate.

The idea that U.S. actions are illegitimate, and that the U.S. can cause only harm by meddling in the affairs of other nations is best expressed by a rule in Gene Roddenberry's *Star Trek* called "the Prime Directive." This all-important law of Starfleet said that cultures developing on other planets were to be left alone, and allowed to progress naturally. According to the Directive, nothing but harm could come from interfering with another culture's development, no matter how well-intentioned the intervention might be. It seems likely that Roddenberry meant his Prime Directive to be a reference to the Vietnam War, or perhaps to the entire worldwide phenomenon of western-European colonialism. *Star Trek* always depicted the keeping of the Prime Directive as being the wise decision in hindsight — and the lesson, as applied to current events, is that the U.S. invasions of Afghanistan and Iraq are bad mistakes.

The Prime Directive, however, is full of logical holes that were conveniently omitted from most of the plots of *Star Trek*. Should the Enterprise (and all other Starfleet ships) have just stayed home, and refrained from exploring the galaxy at all? That would be the surest way to keep the Prime Directive, but instead they did the exact opposite — they nosed around as much as possible. What if Klingons were making plans to aggressively take over a populated planet? Should Starfleet fight off the Klingons to keep the planet's culture undisturbed, or should Starfleet stand back and let the Klingons attack the planet, since it's all part of the natural development of this local part of the galaxy? What if there are two primitive cultures on a planet, and one of them is violently wiping out the other? Should Starfleet act to protect one culture from the other, or treat the entire planet as one big culture that should not be disturbed? What if one planet has just developed space flight, and is violently invading a nearby planet? Does Starfleet have the divine right to decide what is a distinct culture that needs to be protected from outside interference, and what isn't?

These questions all lead to the biggest question the Prime Directive fails to address: Is *Starfleet itself* a part of the culture of the galaxy, a legitimate player on the cultural field? If not, why not? And if so, then to whom does the Prime Directive really apply? Hidden in the core of the Prime Directive is the idea that there is something fundamentally poisonous about Starfleet, and something correspondingly innocent and pure about all other cultures (particularly less power-

ful ones), even when they're brutalizing their own people. Leaving the fantasy world of Star Trek, we can see that the Prime Directive was nothing but Roddenberry's own distaste at America's success, and his desire to encourage America to retreat from the world. Roddenberry's motives for feeling this way probably died with him, so we can only guess at what sort of personal grudge he may have had. Nothing in his Prime Directive philosophy illuminates the issue.

When a society discovers a truly better way to function, it is inevitable that it must spread to all other nations. It can do so as an impressive, conquering wave (as it did with the Romans or British colonists) or it can creep insidiously into their cultures, fomenting the fear and hatred that leads to violence. The multiculturalists, who insist that the American way must not be foisted upon other nations, may think that September Eleventh showed how right they are. But it actually was a consequence of the *multiculturalist* mindset. America could not stop the spread of the "American way" (i.e. democracy, science, and capitalism) if it wanted to. But we can speed it up dramatically. By failing to do so, we have opted for a slow, festering transition that naturally breeds terrorist activity.

In orchestrating the September Eleventh attack, Osama Bin Laden probably thought he was teaching us a lesson in the consequences of outdoing Islam, but the actual lesson (useful, even if unintended) is that the U.S. cannot sit idly by while other nations suffer with severe internal problems, and assume that those peoples will "learn the hard way" to adopt a system that works — for some of those nations will instead develop by their suffering into terrorists who will attack the U.S. Instead, the U.S. must turn those nations into productive, modern, free-market democracies (if possible), or destroy them, or monitor them closely and take preventative measures when prudent. It is much the same formula as for handling domestic terrorism. Chronically miserable individuals — who can clearly see how well other people are doing, and cannot feasibly be shielded from that knowledge — should be cured if possible; otherwise confined, destroyed, or closely monitored. Ignoring them, assuming they will wither quietly away, is a mistake. The function of terrorist attacks is to force advanced societies to grow the spine necessary to forcibly spread their advanced ways to backward parts of the world.

## Art, Beauty, Fitness

*“Beauty is only skin deep, but ugly goes clear to the bone.”*

*—Anonymous*

MORE THAN ANY OTHER ARTIST, Pablo Picasso has come to symbolize the advent of modern art. Originally Picasso, like most painters, created lifelike portraits of people, such as “Old Guitarist” or “Portrait of Sebastià Junyent.” But when photography was invented, Picasso reacted by changing his style to “cubism” — bizarre, abstract, angular areas of solid color arranged to form a cartoonish representation of a scene, such as “Three Musicians,” and strangely deformed cartoon people most typified by “Guernica,” his depiction of the Spanish Civil War. For creating these crude, cartoonish works, Picasso was rewarded with elevation to the status of most revered artist of his time, seemingly incapable of producing anything that wasn’t widely considered great. The art world has followed Picasso’s lead ever since, and most modern art consists of the bizarre, the abstract, the crude, the cartoonish, and the ugly. Nor does this look to be a passing fad; among the upper echelons of the art crowd, at least, it appears here to stay.

What happened? The most obvious analysis is that the camera gave everyone the ability to effortlessly create perfect portraits and landscapes of anyone or anything, and rendered that style of painting superfluous — thus, the fine artist had to turn to the creation of abstractions that the camera cannot capture. This explanation, however, is inaccurate, or at least incomplete. Notice that there are

many artists who create pictures of things that the camera cannot capture, such as dragons, monsters, and fictional dramatic landscapes, but whose works would never even come under consideration as fine art by the art crowd. Why not? Is it simply because those artists make money off of their paintings? No — artists who create ugly, abstract art also sell their works for money.

To answer this question, we must return to the camera and ask what it really did, and not just to the art, but to the *art crowd*. True, the camera enables the ordinary individual to trivially create realistic portraits of persons and places. But the camera did something else, something less obvious: It brought fine art *to the masses*. Prior to the camera, great works of art like the Mona Lisa could be viewed only by a limited few; a privileged art crowd. For centuries, the members of this crowd (mostly non-artists) convinced themselves that they were an intellectual elite; possessing the rare mental capacity required to appreciate the beauty of fine art; an ability that placed them above the commoner. The typical member of humanity, they thought, wouldn't know the difference between fine art and worthless junk.

When the camera was invented, along with photographic printing, it became possible to take photographs *of fine art* — like the Mona Lisa — and distribute them in book form to the masses. The commoner, it turned out, could discern and appreciate fine art, and there was nothing special about the members of the art crowd after all, except for their money or their social position as patrons of the arts. Needless to say, that didn't sit well with the art crowd and — inspired by the Emperor's new art: the new works of Picasso — they saw their way out. By embracing the ugly, the crude, the simplistic, and the bizarre, and claiming to perceive deep meaning in it, the art crowd has rescued their elite position. It doesn't matter that the camera can distribute pictures of this new art to the masses, because the masses don't want this new art; they see nothing of value in it. The elite members of the art crowd can simply claim to see special value in bizarre shapes, and *presto* — their elite status as appreciators and interpreters of fine art is preserved.

Since photography and printing (and now the internet) are not going away, neither is ugly modern art. But those who like beautiful, traditional art need not despair — the artists who like to produce it never went away, and today their

numbers and their peak talents are greater than ever. Today, their skills are employed not by a high-society art crowd, but instead by the commercial world. From Boris Vallejo and Julie Bell, to H.R. Geiger and Hans-Werner Sahl, to George Lucas and Quentin Tarantino, beauty in art is alive and well — but don't look for it in a somber museum populated by snobs and suited guards. Look in the art-book section of B. Dalton's or Waldenbooks at your local shopping mall. Look in the movie theaters. Snubbed by the art crowd, the creators of beautiful art have turned to the general population, and in today's modern market economy, the latter has turned out to be the far more generous patron.

Two amusing footnotes in the ongoing charade of modern art: Today most modern artists make sculpture rather than paintings, due to the more limited ability of the camera and printing press to reproduce three-dimensional works. And, the latest trend in modern art is a rarely elaborated quality called "genuineness." It is a thinly veiled desire to avoid the artist who bites the hand that feeds him — a phenomenon ironically pioneered by none other than Picasso. The Art Crowd resents such sentiments and, after being stung several times by artists who admitted that their work was meaningless crap or was created by a young child, the Crowd now focuses its most intense praise on the artist whose carefully researched personal origin and history indicate that he is unable to discern the low quality of his own work, and hence is "genuine."



## *The Oscars*

Probably the most prominent example of the art-crowd mentality today is the Oscars; the Academy Awards given out in lavish ceremony each year by the Academy of Motion Picture Arts and Sciences (AMPAS) to steadily declining TV ratings.<sup>24</sup> Watch the movies that win these awards, and the successful films that don't (or aren't even nominated), and a pretty obvious pattern starts to emerge. AMPAS, it seems, has three basic priorities:

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<sup>24</sup> CNN/Money, February 28, 2005.



1. Motion pictures should depict American culture in a negative light, never a positive one.
2. A motion picture should be a deep, aching story about the frustration of human relationships and the tragedy of profound human suffering. Movies should not be fun (e.g. action-adventures, horror movies, comedies).
3. Movies should be set in the historical past, or at least the present, but definitely not in the future or in a fantasy world.

See Table 4-1 for a comparison of recent AMPAS “best pictures” with the biggest box-office draws from the same year. (Note that for some years the AMPAS choice is, in my opinion, the better film — though not necessarily the best — the point of the table is simply to illustrate the above three criteria in action.)

Like the Art Crowd in general, the AMPAS wants to enjoy an elite art-interpretation position over the masses, and this explains each of their three priorities in judging movies. Most AMPAS members are American, and American culture is generated by the masses. Therefore, the elite position, by definition, must be to disdain your culture; to “know better” than the bulk of the population about how people should live and breathe. Therefore, recommending that Americans go see movies that portray American culture negatively is *teaching* them, not entertaining them.

Most people go to the movies for fun. Recommending a fun movie is a way of helping your fellow citizens to entertain themselves. Recommending a tragic movie about frustration and misery is to position yourself as a molder, a mentor, a teacher. This is an elite position.

And finally, movies set in the past are educational by their context alone, and can also be lessons in the actual mistakes of the past. Again, this is a *teaching* role. Movies set in the future are largely speculative, and teach little or nothing — likewise with movies set in a fantasy environment.

The AMPAS is a nearly perfect manifestation of the desire to position oneself as an elite tutor to the rest of the population. Like any con-game, there is no real goal to such posturing. The masses are never going to learn what this elite has to teach them (thus dissolving the elite). The purpose of positioning oneself as elite teacher to the rest of the population is simply to enjoy that position in perpetuity.

TABLE 4-1

"Best picture" Oscar winners and biggest monetary draws, from the past thirty years; rated by the author's subjective judgment.

- 1 = portrays American culture in a negative light, not a positive one  
 2 = relationship angst or tragedy; not fun (action-adventure/horror/comedy)  
 3 = historical setting; not futuristic/fantasy/sci-fi

Y = yes

N = no

- = neither yes nor no

**bold** = Oscar given to biggest hit

|             | 1 | 2 | 3 |                                 | 1 | 2 | 3 |                                 |
|-------------|---|---|---|---------------------------------|---|---|---|---------------------------------|
| 1975        | Y | Y | - | One Flew Over the Cuckoo's Nest | N | N | - | Jaws                            |
| <b>1976</b> | - | - | - | <b>Rocky</b>                    | - | - | - | <b>Rocky</b>                    |
| 1977        | - | Y | - | Annie Hall                      | - | N | N | Star Wars                       |
| 1978        | Y | Y | Y | The Deer Hunter                 | N | N | Y | Grease                          |
| 1979        | - | Y | - | Kramer vs. Kramer               | N | N | N | Moonraker                       |
| 1980        | - | Y | - | Ordinary People                 | - | N | N | The Empire Strikes Back         |
| 1981        | - | Y | Y | Chariots of Fire                | N | N | Y | Raiders of the Lost Ark         |
| 1982        | Y | Y | Y | Gandhi                          | N | N | N | E.T.                            |
| 1983        | - | Y | - | Terms of Endearment             | - | N | N | Return of the Jedi              |
| 1984        | - | Y | Y | Amadeus                         | - | N | - | Beverly Hills Cop               |
| 1985        | - | Y | Y | Out of Africa                   | N | N | N | Back to the Future              |
| 1986        | Y | - | Y | Platoon                         | N | N | - | Top Gun                         |
| 1987        | - | Y | Y | The Last Emperor                | - | N | - | Three Men and a Baby            |
| <b>1988</b> | - | Y | - | <b>Rain Man</b>                 | - | Y | - | <b>Rain Man</b>                 |
| 1989        | - | Y | Y | Driving Miss Daisy              | - | N | N | Batman                          |
| 1990        | Y | Y | Y | Dances With Wolves              | N | N | - | Home Alone                      |
| 1991        | - | - | - | The Silence of the Lambs        | - | N | N | Terminator 2: Judgment Day      |
| 1992        | - | - | Y | Unforgiven                      | - | N | N | Aladdin                         |
| 1993        | - | Y | Y | Schindler's List                | N | N | N | Jurassic Park                   |
| <b>1994</b> | - | Y | Y | <b>Forrest Gump</b>             | - | Y | Y | <b>Forrest Gump</b>             |
| 1995        | - | Y | Y | Braveheart                      | N | N | N | Toy Story                       |
| 1996        | - | Y | Y | The English Patient             | N | N | N | Independence Day                |
| <b>1997</b> | Y | Y | Y | <b>Titanic</b>                  | Y | Y | Y | <b>Titanic</b>                  |
| 1998        | - | Y | Y | Shakespeare In Love             | N | - | Y | Saving Private Ryan             |
| 1999        | Y | Y | - | American Beauty                 | - | N | N | The Phantom Menace              |
| 2000        | - | Y | Y | Gladiator                       | - | N | N | How the Grinch Stole Christmas  |
| 2001        | - | Y | Y | A Beautiful Mind                | - | N | N | Harry Potter                    |
| 2002        | - | - | Y | Chicago                         | N | N | N | Spider-Man                      |
| <b>2003</b> | - | N | N | <b>LOTR: Return of the King</b> | - | N | N | <b>LOTR: Return of the King</b> |
| 2004        | Y | Y | - | Million Dollar Baby             | - | N | N | Shrek 2                         |

(Source for bestsellers 1982+: <http://movies.go.com/moviesdynamic/boxoffice?cat=index>  
 pre-1982 data: <http://www.filmsite.org/boxoffice2.html#seventies>)

*Life is like a poker game. If you don't win, you lose.*

*"Garfield" — Jim Davis*

Though members of the elite art crowd would never agree with this or any definition of art that denies them their elite status as privileged interpreters of art, I think the most objective definition of art is simply that which significant numbers of people will go out of their way to experience even though it isn't necessary. So a painting hanging on your wall is art, but the electrical wiring inside your wall is not. Sure, a professional electrician might look at the wiring diagram of your house, and say, "Wow, they did a good job on your house — that's a work of art." And an art critic might look at the landscape hanging on your wall and say, "That's rubbish; there's no artistic value at all." But the fact remains that the wiring is concealed *inside* the wall, while the painting is prominently displayed *in front* of the wall.

My definition of art does, of course, contain a key ambiguity: What constitutes a "significant" number of people? I can live with that ambiguity. The definition still has substance, because it asserts, at the very least, that if a work that attracts an audience of a hundred people is art, then another item that attracts a thousand must also be art — or conversely, that if an item that attracts an audience of a thousand people is not art, then another item that attracts only a hundred is also not art. It is not too difficult to find cases where the art crowd would violate this rule.

Superficially, my art definition seems to agree with the maxim "beauty is in the eye of the beholder," since it places the measure of art in the hands of the largest body of beholders; the general public. But the "beholder" canon is actually meant to imply that beauty is undefinable, varying so much from one person's tastes to those of another as to render any attempt to quantify beauty impossible and meaningless. That conclusion would be warranted only if tastes

varied widely over the population, and in a manner that was distributed evenly. What we actually have in the real world is a massive consensus of what is beautiful and what is not. Take a test audience of a thousand randomly selected subjects, and show them a set of twenty photos of randomly selected people. Ask each test subject to order the twenty photos according to attractiveness, from least attractive to most. You will probably find that although the order would vary from one subject to the next — perhaps even being unique to each test subject — certain aspects of the order would not vary much at all. There would be many cases of two of the photos being consistently in the same order relative to each other. What these results would show is that while there is some wiggle room for variation in taste, perception of beauty is massively constrained by an overwhelming consensus of who is better-looking than whom.

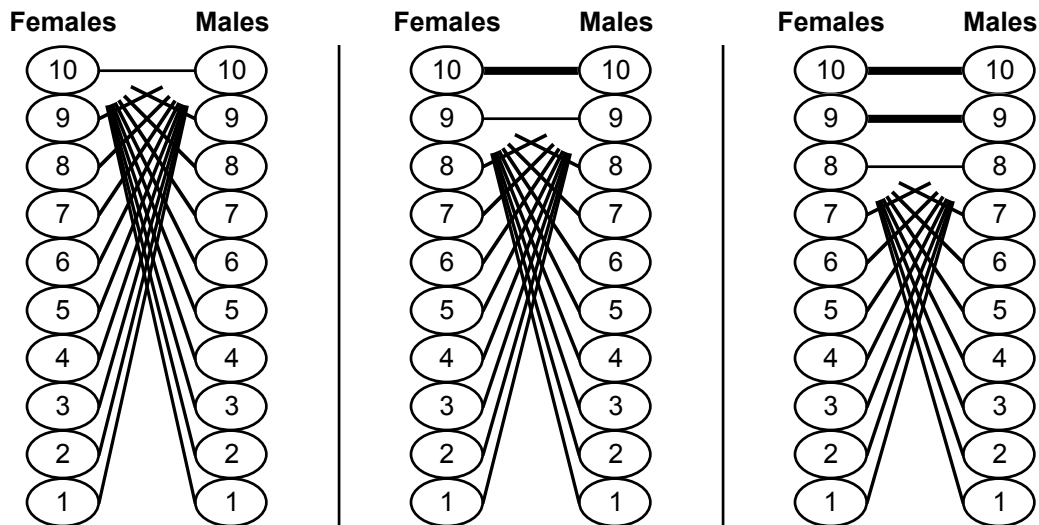
This huge consensus has a way of dictating the life experience of individuals, particularly when it comes to dating. A simplified but nevertheless revealing model of dating is depicted in Figure 4-1. We start with twenty heterosexual individuals (ten of each gender) who have just reached dating age. These individuals are ordered from 1 to 10 according to their attractiveness, 10 being the most desirable. All ten males are attracted to the one female whose attractiveness ranks 10, and likewise all ten females are attracted to the one male who is also a 10. Only the two 10s find themselves mutually attracted, so they marry. This naturally disappoints the remaining eighteen individuals, but they soon get over it and start pursuing the two 9s. Again, only the two 9s are mutually attracted, so they marry next. This process continues on down the scale (possibly over a course of years) until the two 1s marry each other, or until the degree of attraction is too low to sustain further marriage, in which case the bottom several individuals do not marry.

If this model is correct (even approximately), what does it imply or predict? A few things:

1. In most marriages, the two individuals will be about as desirable as each other, on the society-wide scale.
2. The really good-looking people will marry early in life, and the less-attractive people will marry later after a long and hard search for the “right per-

FIGURE 4-1

“Musical chairs” model of dating (progresses from left to right).



son” — actually a long and hard process of discovering that they can’t get someone much more desirable than themselves.

3. Persons of relatively low desirability will have more marital problems than those who are highly attractive, since their marriage is largely a sham: a game of “I can do that too.”

Looks matter, and they matter a lot. The old adage, “you can’t judge a book by its cover,” is meant to imply that the real value of a person is not their exterior appearance, but instead their personality, their generosity: what’s on the inside. The truth is that *both* matter, and looks probably matter more, in that a very good-looking person with an averagely reasonable personality will have far better luck in the dating game than an average-looking person with a wonderfully compassionate, caring, understanding personality. This is true because the package, the cover, the exterior beauty is what people experience most. And not just other people — you yourself experience your mate’s exterior looks far more frequently than his personality traits.

**FIGURE 4-2**

Apple's iPod: a screen, a dial, and not much else.



*(photo by Barbara Schott)*

Let us return to the case of Apple Computer: The importance of exterior looks is not lost on Steve Jobs, CEO of the company. Apple's products, particularly after Jobs's return to the company in 1996, have exuded a design philosophy of hiding rude functional necessities behind a deceptively simple and elegant exterior. Take his iPod music player, for example. (See Figure 4-2.) From the outside it looks like a sleek, roundish rectangle of white acrylic and metal, with a square screen and a disc-shaped controller flush with the surface. A very small set of ports break the continuity of the top and bottom of the unit only. It seems almost too simple to serve its purpose, yet it does so with remarkable user-friendliness. Many competing players look almost as complex and utilitarian on the outside as they do on the inside when dissected.

Steve made some very interesting observations very early on about how [the iPod] was about navigating content. It was about being very focused and not trying to do too much with the device — which would have been its complica-

tion and, therefore, its demise. The enabling features aren't obvious and evident, because the key was getting rid of stuff. —Jonathan Ive, iPod designer<sup>25</sup>

Throughout his reborn, post-millennium career at Apple, Jobs has placed at least as sharp an emphasis on perfection in the exterior appearance and user-interface experience of his products as he did during his earlier years, but has been newly willing to compromise on the contents of the *user-invisible interior*. Throughout the 1980s, Apple had a very hard time competing with less esthetically refined products from Microsoft and the the major Windows PC makers (Gateway, Compaq, Dell, etc.). In hindsight, this failure appears to be the result of a desire that the *guts* of the computer be as perfectionist as the exterior and the end-user appearances: The first Mac was loaded with custom components that were both expensive and largely incompatible with what most other people were already using. In recent years, however, Apple seems to have learned that while perfectionism is as critical as ever to the end-user presentation, the guts of the device should focus on efficient functionality alone. Today's Apple products are built mostly from inexpensive, commoditized components, and the iPod's lack of successful competitors is testimony to the value of this principle. iPod is the first Apple product ever to dominate its field with market-leading share.

Prior to the release of the iPod Shuffle and iPod nano, each model of iPod worked with both Apple's own FireWire connector and the competing USB2 connector. The mere inclusion of USB2 support was a seriously utilitarian concession, by Apple's earlier standards. When the diminutive Shuffle and nano came out, their size constraints permitted support of only one of the two connector types, and Jobs chose USB2 simply to ensure the widest range of compatibility with the current consumer base of computers — even though that move might be the last straw on the camel's back for any possibility that FireWire would win out against USB2 in the long run. (Apple's latest, video-capable iPod also sports only a USB/USB2 port, not a FireWire port.) When IBM dropped the ball on keeping up with Intel's manufacturing process refinements, Jobs jumped ship in 2005, switching his whole platform from IBM's PowerPC chip to Intel's x86 line — a move he admitted Apple had been well-prepared to make for five years before it

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<sup>25</sup> Rob Walker, "The Guts of a New Machine," *New York Times Magazine*, November 30, 2003

became necessary. The x86 ISA (instruction set architecture) is ancient, designed for processor technologies and programming methods that have long been pathetically out-of-date. All x86 chips are immense in-hardware *emulators* that fetch x86 instructions out of memory and translate them on-the-fly into a semi-modern, pipelineable form before they can even be processed and executed. It is indeed testimony to Intel's manufacturing prowess that they have been able to beat IBM even while strapped to such a horrifying kludge. It is also testimony to the newfound pragmatism at Apple that Jobs would be willing to switch to such a kludge. As long as the computer's physical appearances and the OS's elegance and beauty are not compromised, he apparently realizes, the internal organs should be designed around pure, market-driven efficiency and competitiveness.



Since most people are not at the top of the beauty spectrum, the idea that exterior looks are critically important, and the implied musical-chairs-like model of dating described above, must seem rather bleak. But while genetically determined looks may be essentially unmodifiable (or only in limited ways via surgery), can your natural looks can be powerfully enhanced, in either a positive or negative direction, by your fitness level? Can a natural 8 sink to the level of most 4s through fitness neglect, and conversely can a natural 4 rise to the level of the typical 8 by fitness diligence? The answer is "yes," although curiously most people harbor a deep suspicion that it is "no."



*I ain't gonna be just a face in the crowd  
You're gonna hear my voice  
When I shout it out loud*

*"It's My Life" — Bon Jovi*

As I write parts of this book, I am sitting in a Starbucks coffee shop, consuming my indulgence of choice: a Java Chip Frappuccino and a decadent, seven-layer pastry. On any given day, I'm reasonably fit-looking, so if anybody is watching me, they may be wondering, "How does he eat that junk and not blow up like a balloon?" If anyone asks, they will get a rather mundane, even disappointing answer: I eat this stuff only one day a week.

### *The Story of Al*

When I was in my early twenties, I got a job at a government contractor. Many of the workers in my building were former government employees; older men who were horribly out of shape. Their bodies resembled pears or large dumpings, with skinny, atrophied legs from sitting all day and never exercising. Many of them smoked, and others had a ruddiness that made me suspect them of drinking excessively in the evening. I was dismayed to have to work with such people, and this gave me a stronger desire than ever to try to get in shape, though my attempts at that time were still largely unsuccessful.

Al Smith (not his real name) was a middle-aged man who worked in our building. He was of about average height, on the skinny side of normal, and had a somewhat gruff temperament. I never conversed with him at length, but spoke briefly with him to answer business-related questions. I paid no special attention to him; he was just one of many persons in our building with whom I was familiar but didn't really know personally.

Once, when I had just provided Al with some requested information, and he had then walked away, one of my coworkers said, “Hey, see that guy Al you were just talking to?”

“Yeah — what about him?” I replied.

“He used to weigh three hundred pounds.”

“No way! That guy?” I was incredulous.

“Yes, he did! His doctor told him he was going to die if he didn’t lose weight. Haven’t you seen him walking along the main boulevard that goes by our building here?” my coworker asked.

“Now that you mention it, I have seen him walking the sidewalk there, usually around lunchtime.”

“Yeah, he’s doing that for exercise. His doctor told him he had to start exercising and lose weight or he was going to die. He lost a whole bunch of weight.”

My coworker didn’t seem to be joking, and I had no reason to think he was making the story up. So logically, I believed that what he was telling me must be true. But somehow, looking at skinny Al, it just seemed hard to believe. Not having ever seen him fat, I just couldn’t really picture him that way. Part of my mind refused to believe that what I was being told was really true.

Months went by and Al disappeared from our building. I didn’t even notice his departure; in retrospect I’m convinced he must have been moved to another building down the road where I never had the opportunity to run into him. Three or four years passed, by which time I was in a new group with new coworker friends. We had a good time there — or as good a time as could be had working in Dilbert world. (Scott Adams’s “Dilbert” comic strip didn’t actually exist then, but we were living in it nonetheless.)

One week, there was a big shift of employees, and a new group of workers moved into the set of cubicles near my group’s area. We didn’t work with these people, but they were close by and so we saw them a lot. One of them was Al. He had gained the weight back and must have been in the neighborhood of 300 pounds. I didn’t recognize him at first; I just thought, that’s a very obese older guy who dresses sloppily, looks serious all the time, and has a lot of busy-looking papers all over his desk. Then after a few days I happened to be walking by his station and noticed his nameplate: “Al Smith.” Oh my God, it’s him, I

thought. Knowing who it was, I could now recognize his face and demeanor through the fat. My coworker's story from years ago was all too true, I realized.

This was a much bigger wake-up call to reality than just seeing out-of-shape guys in the building. Here was living, breathing proof that a person could be a totally normal weight at one time, and then just a few years later (if not less), the same person could be severely overweight. All my life prior to that, everyone I knew seemed to be about the same weight the entire time I knew them. They were each perpetually fat, perpetually thin, or perpetually in-between. Seeing so dramatic a change was something of a shock to my mental picture of weight and fitness, and how it all really works.

My new coworkers had never seen Al when he was thin, so he was no big deal to them — just another very overweight person — but I couldn't help harboring a morbid curiosity about the guy. Without being overt, I kept an eye on him and thought about him periodically. Gradually, as days turned to weeks and then months, I began to feel deeply sorry for Al. And these feelings puzzled me because I'd never felt that way about fat people before. I didn't necessarily *condemn* them in my mind, but neither did I feel sorry for them. So why was I feeling that way about Al? Because I had seen him thin? No, that would make me feel *less* sorry, not more; it proves he is capable of fitness.

The question nagged me until I began consciously exploring it, and then it suddenly hit me what it was about Al that was making me feel bad for him. Al never ate anything. Not a thing! I never saw him eating or drinking. Not even a diet soda, or a cup of coffee, or even water. I never saw him drink from a water fountain. Other workers were snacking on and off the whole day. I myself fought a losing battle with the vending machines, and frequently could be seen munching on donut sticks or chocolate bars at my desk. Some kind of drink was never far from my grasp. But Al never put anything to his lips; neither did he have any kind of food or drink on his perpetually busy desk.

Once I realized this, I also realized that if I ever *had* seen Al putting food in his mouth, I wouldn't have felt so sorry for him. My mental image of him would have included the image of an immensely obese person putting food in his mouth. But not having ever seen it, I couldn't easily form a mental picture of it. Logically, I knew Al had to be eating something somewhere — otherwise he

would starve to death, and on the way to death-by-starvation he would hit a normal weight. But my mind couldn't really believe that he was eating much. I just hadn't seen it with my own eyes.

Now that I knew what was making me feel sorry for him, my sympathy was tempered, but only slightly. I still couldn't shake the feeling that Al had to limit himself to very little food, in order to combat his weight problem, and so was living the worst of both worlds — food deprivation plus extreme obesity.

But soon that would all change. One day, Jim, a friend and coworker, said "Hey, I hear there's a really good, cheap, pizza buffet down the road. Let's check it out!" So we did; about six of us. And when we walked into the pizza parlor, guess who was there? Al. He was by himself, and he had brought work with him. His plate was piled four slices deep with thick pizza, and he was eating it like there was no tomorrow. My gang had to wait in line to pay and get our plates. Al was eating the whole time. He stayed there and ate nearly as long as we did, departing just a few minutes before we got up and left.

Now my mental image of Al was drastically different, but it would become even more different about a week and a half later. My group decided to visit the pizza buffet again, and the exact same thing happened. Al was there by himself; he had brought work with him; he was eating pizza nonstop; and he got up and left a couple minutes before we did. We went back there a few more times over the next several months, but never saw Al there again.

Now, it's hypothetically possible that it was a complete coincidence. Maybe Al went there and started eating his pizza just before we walked in the door. And maybe he was ready to leave just a few minutes before we were. And maybe he happened to go to that buffet the same two days we did, in a span of two weeks or more. But there's a much more likely explanation. Al had been stuffing his gut every day at that buffet for quite some time before we saw him there. And when we came in the door, he had already been there for a while. He recognized us, and when it was apparent that we were winding down and would soon be leaving, he got up and left, so as to save some face — to leave some doubt in our minds that he was really there much longer than we were. He continued going to that buffet, figuring we wouldn't come back; but then we did, so he decided to find a new place.

The images of Al and of the other painfully out-of-shape workers at that company have stuck in my mind ever since, and I gained a few lessons from this experience:

*Fitness neglect leads to a profoundly unattractive body in middle and older age.*

*People can change dramatically from thin to fat and vice-versa, in just a few years.*

*You can't tell what people are doing fitness-wise by what you see them doing — you only see a fraction of their time, and they know when you're watching.*

### *Getting On the Richard Simmons Show*

In 2002, the Discovery Health channel aired an interesting program about obesity, titled *Big As Life; Obesity In America*. One of the main features of the show was the story of a very overweight woman, Doris Skiba, who in the early 1980s decided that she would try get on the then-popular Richard Simmons exercise show by losing weight. She went on a very low-calorie diet — about 600 calories a day, far less than the number of calories needed to support a normal weight for her height — and rapidly lost 150 pounds over the course of about seven months. She sent letters to the Richard Simmons Show, documenting her progress. Then, when she reached her normal weight, to her great delight she received an invitation to be on the show.

She was flown out to California and was a big feature of one day's show. Her weight loss was truly striking — she looked like an utterly normal, fit woman, whom you would never guess had been very obese just a little over half a year ago. It truly looked like a testament to the value of rapid weight loss via very low-calorie dieting. Then her stay with the Simmons entourage was over. She

went home, and the weight started coming back. To document her discouragement and despair, she shot a sequence of artsy, black-and-white, *film noir* photographs of herself gaining weight. A typical photo showed her sitting glumly in front of a huge pile of doughnuts, apparently powerless to stop them from putting her back to her original weight. Today (or as currently as reported in *Big As Life*) she is as heavy as ever, and has decided that this is just who she is, and probably always will be — she now serves as an advisor to the International Size Acceptance Association.

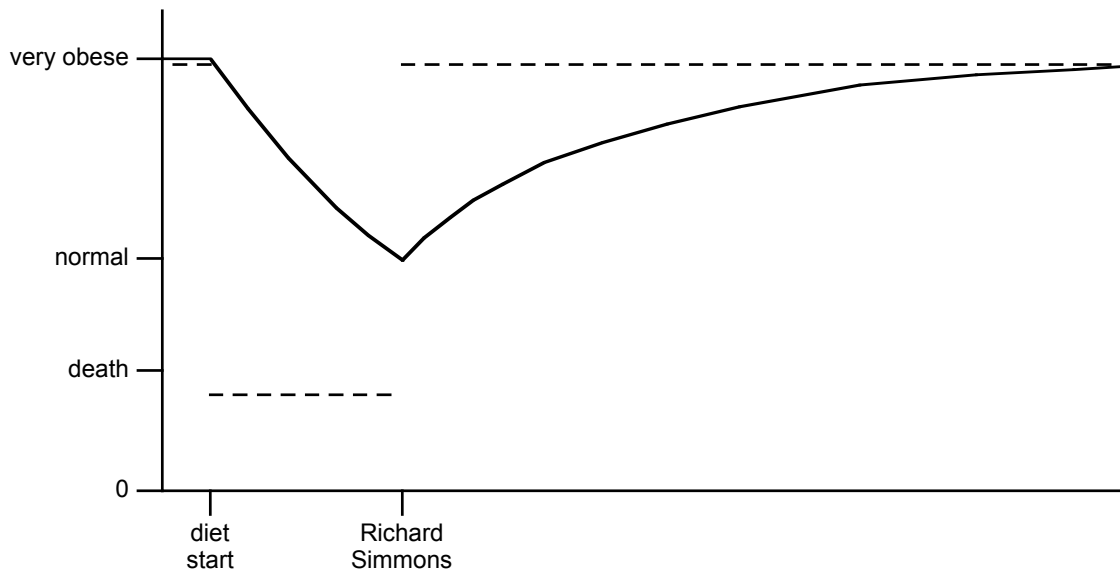
What did *Big As Life* have to say about Skiba's story? It seemed that they wanted to portray her in as positive a light as possible: Very little was said about her eating habits before and after her I-wanna-be-on-Simmons diet. Practically the only analysis offered by Discovery Health's program was that she was a victim of the so-called starvation alarm clock. According to its promoters, the starvation alarm clock is a survival mechanism built into your brain. It detects starvation, and forces you to eat and gain weight, as a precaution against starving to death. The starvation alarm clock theory is widespread and uncritically accepted by many (even by Bill Phillips, my own personal fitness inspiration).

I can't say with certainty that something like a starvation alarm clock doesn't exist in the human brain, but I have to wonder: Why didn't the alarm clock start ringing when Skiba was one quarter of the way into her weight-loss goal? Or halfway there? Or two-thirds? Why did the starvation alarm clock just happen to wait until she had lost enough weight to get on the Richard Simmons show? That's a funny coincidence — to say the least.

Since *Big As Life* offered so little in the way of analysis, I feel compelled to evaluate the situation myself, with a special eye towards direct, obvious explanation. Figure 4-3 represents a hypothetical situation similar to that discussed in *Big As Life*. The solid curve represents a person's weight changing over time, and the dotted line represents that same person's eating level. Since your weight is approximately proportionate to the number of calories you eat, these two quantities — weight and caloric consumption — can be graphed together, and with the knowledge that your weight moves *asymptotically* towards your eating level. The asymptotic approach is because the closer your weight comes to corresponding

**FIGURE 4-3**

Hypothetical graph of weight loss and gain for someone trying to get on the Richard Simmons show via starvation diet. The dashed line represents eating level, and the solid line represents weight.



to your eating level, the smaller the excess (or deficit) of calories becomes, and so the weight change steadily slows.<sup>26</sup>

In the first phase of the Figure 4-3 graph (before “diet start”), the subject’s eating level is at “very obese,” and so is her weight. In the second phase (between “diet start” and “Richard Simmons”), her diet is slightly below “death,” and her weight plummets asymptotically towards death. However, when her weight hits “normal,” she appears on *Simmons*, and then returns to her “very obese” diet. Again, her weight asymptotically moves to match that level.

The tale of Figure 4-3 is by no means exceptional. Probably many thousands of people go through a virtually identical experience in any given year. I myself once did a less dramatic, one-month version of the same scenario. My motivation to get down to a healthy weight was so I would look good in a Halloween

<sup>26</sup> Note that the three asymptotic curves depicted in Figures 4-3 and 4-4 are *all copies of the same curve*, which has not been stretched, shrunk, or magnified. It merely has been translated vertically to approach an eating level, horizontally to connect with a starting weight, then cropped on the left and right to fit the time range it spans. Also, the curve is flipped vertically to represent weight loss or gain, as appropriate.

costume. Halloween lasted one night — then my excess weight came back in full.

What did this woman do wrong? Well, for starters, she chose a very ephemeral motivation for losing weight, and got very ephemeral results. How long can you be on *The Richard Simmons Show*, or for that matter, how long can you be a celebrity of any kind simply for having achieved dramatic weight loss? In most cases, not very long. (About as long as a typical Halloween party.) Since junk food tastes great, and exercise is uncomfortable and requires effort, you can't expect to stay in shape without sufficient motivation, and if you want to stay in shape for years to come, you will need a motivator that's going to last that long. Everybody has their own motivators — no fitness book will tell you yours — but your motivator needs to be one that will keep coming back at you again and again for *years* to come.

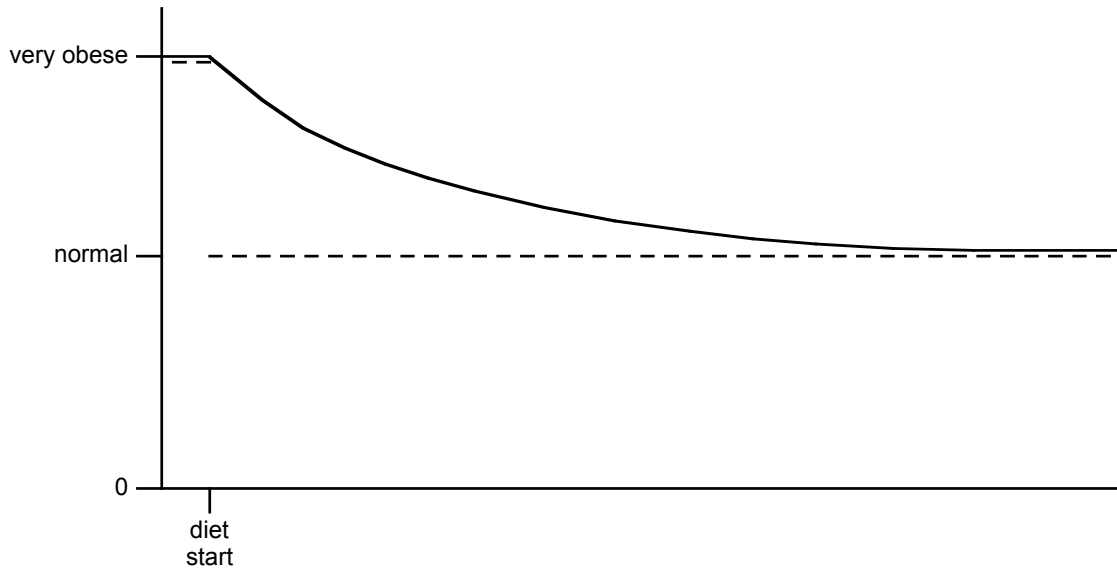
The other big mistake depicted in Figure 4-3 is that the subject never spent any sustained period of time eating the right quantity of food. Where on the graph does the dotted line, which represents her eating level, hold steady at “normal?” Nowhere. In other words, the subject is not learning to eat a normal, healthy amount of food and then stop until her next meal. She's *always* eating a highly abnormal quantity: Either way too much or way too little. Probably the most important part of a nutrition program isn't just getting to your target weight — it's learning to eat normal quantities of food on a day-in, day-out basis. Figure 4-4 shows what would have happened if the same subject had switched to a normal diet: Her weight would have dropped to normal, but it would have taken longer to get there, and because of the asymptotic nature of the decline, there would be no sudden arrival at the desired weight — one day, she would just look in the mirror and realize that she was already there, and had been there for some time.

Learning to control your eating in a nation overflowing with tempting deserts and snacks is not easy or fun, and it requires finding a healthy diet that you can live with for the long term; not a temporary fix. Going on a very low-calorie diet, devoid of rich sweets, is actually a way to *avoid* learning to eat normally. Why learn to stop at one, modestly sized piece of birthday cake when you can



**FIGURE 4-4**

Hypothetical graph of weight loss for the same person (see Figure 4-3) adopting a healthy diet.



just avoid the cake altogether and dream of how many entire cakes you will devour when you reach your target weight?

Once I attended a weight-control group discussion session, in support of a family member. Each member of the group told stories of his or her past week, and two of those stories stuck in my mind. The first story came from a woman whose husband had brought home a box of twelve snack cakes. He ate one of them, and put the rest of them in the pantry. The next day, he couldn't find them because she had eaten them all. He got mad at her, she got mad back, and the whole scene was ugly. The advisor in charge of the session told this woman that her husband needs to keep snacks like that in the cab of his truck and not let her know that they are there.

Another woman spoke of her annoying ex-roommate who was perpetually skinny, but seemed to eat whatever she wanted to. The most annoying thing about this roommate was how she would eat half of a candy bar and then leave the other half sitting in its wrapper on the kitchen counter, or eat half a bag of chips and then throw the rest away after they got stale.

It wasn't my place to take over the meeting or contradict the advisor, so I kept my mouth shut, but I would have liked to tell the group that learning to not eat food *even though it's available* is vital to learning to control your weight and develop healthy eating habits. Why was the latter storyteller bothered that her roommate would leave a candy bar half-eaten? Was she tempted to eat the other half? Probably not. More likely, she was irritated at the physical demonstration that it's *possible* to stop eating halfway through a candy bar. It's difficult to enjoy a candy bar when you're above your preferred weight, and so one of the great tricks to assuage feelings of guilt is to convince yourself that once you *start* eating the candy bar, you simply *have* to finish it. That way, the crime was merely ripping open the wrapper — after that, the offense becomes water under the bridge, and you can enjoy eating the bar, knowing that it's just not proper to stop halfway through. When her roommate *did* stop halfway through, it was extremely irritating to this woman because it reminded her that she could do the same, and thus spoiled her enjoyment of candy bars and other sweet snacks.

Thinking about it later, I formulated a few simple exercises in self-control, which I would recommend to anyone who has similar feelings that the availability of food is an irresistible destroyer of good eating habits:

#### *Exercise 1*

- Buy a box of individually wrapped snack cakes.
- Take it home without opening it on the way.
- Open it in the kitchen and eat one of the individually wrapped snacks.
- Put the remainder in a kitchen cabinet where you will see it periodically, and leave it there for one week.
- Take it out and throw it away (into a trash receptacle from which it cannot be retrieved).

When you have successfully completed Exercise 1, move on to Exercise 2:

### *Exercise 2*

- Go to a fast-food burger restaurant and buy a typical meal — one burger, one medium-sized order of fries, and a medium-sized soda.
- Consume half of everything: Half of the burger, half of the fries, and half of the soda. (Do not pre-divide the meal into halves before eating — just start eating and then stop at half.)
- Throw the rest away on your way out of the restaurant. Don't eat anything else for at least two hours.

When Exercise 2 is performed correctly, move on to Exercise 3:

### *Exercise 3*

- Go to a party where snacks are in plentiful supply.
- Wait until at you have seen at least three other people graze the snack layout. (Persons who already have a plate of snacks in their hand when you arrive don't count.)
- Make yourself a plate of snacks.
- Eat most of it, but leave a little uneaten.
- Don't touch the snacks again for the rest of the party — find a conversation or activity to keep yourself busy instead.

In case you're wondering: Yes, I have actually done these exercises myself, exactly as described. They seem so trivial, yet they can really begin a change in your mind about who you are and what you can do. In 2002, CNN ran a show about sustained weight loss and fitness titled *Fat Chance*, featuring two persons as prime examples of successful lifestyle change (sustained weight loss): a woman named Karen Brown and a man named Robert Romaniello. Each, the show revealed, keeps a big stash of junk food in one part of their kitchen: Karen has a "goodie drawer" filled with "fudge-covered ice cream cones, tacos, popcorn with lots of butter," and Robert has a "secret cupboard" containing Wheat Thins, lemonade mix, angel food cakes, and fudge-dipped chocolate-chip granola bars, among other things. He also has ice cream in his freezer — as presumably

does Karen since her fudge-covered cones wouldn't be much fun to eat by themselves. Clearly, both Karen and Robert have learned not to eat such foods even though they're nearby, and they are not under the spell of thinking that they can be healthy by insulating themselves from opportunities to be unhealthy.

### *Why Fitness Is So Difficult*

Why is fitness so difficult for so many people? The answer is tied into the phenomenon of *hidden difficulty masked by apparent effortlessness*. Let's start with the basics: If you eat healthy foods, in moderate amounts, and exercise regularly, you will become fit. Not immediately; not overnight — expect it to take about three to six months. And once you've become fit, you will stay fit as long as you maintain that eating/exercise pattern.

#### *Fact A*

*healthy food + moderate amounts + regular exercise = fit*

("Healthy food" in this case means food that derives most of its calories from protein and complex carbohydrates, as opposed to sugar and fat. You probably also need to take supplementary vitamins.)

If you eat unhealthy foods, in excessive amounts, and don't exercise (or exercise way too little), you will become fat. And once you've become fat, you will stay fat as long as you maintain *that* eating/exercise pattern. (That's right, fatness has to be maintained — if you don't maintain an unhealthy eating/exercise pattern, you cannot stay fat.)

#### *Fact B*

*unhealthy food + excessive amounts + little exercise = fat*

We've all heard this before, probably many times, from various sources: friends, family, nutrition experts, fitness gurus, and scientists who interpret experimental evidence of how the body works. I myself certainly have heard mes-

sage A-B many times over the course of my life. But is A-B the only message we're getting? I think it can't be. If A-B were all there was on the table, I think fitness would be the rule, not the exception. Most people would have no trouble at all staying fit, and fat people would be a small minority of the population. Further, among those who were fat, the great majority wouldn't be chronically frustrated about it. They might not *want* to be fat, but they would know that Facts A & B are the way it works, and they would be stoically resigned to the fact that they are simply choosing path B at the moment. If and when they wanted to become fit, they would know exactly what to do, and about how long to expect it to take.

But the actual situation (in the USA at least) is that about two-thirds of the population is overweight,<sup>27</sup> and a large percentage of them are very frustrated about it. They feel depressed, discouraged, confused, misled, and have a strong fear that nothing they do is going to work. New diet plans emerge every few years, but none of them seem to help, except on a very temporary basis.

Some other message must be on the table besides A-B. But what? The answer is that people don't just listen to what fitness experts say — they also observe what other people around them are *doing*. And what do they see; i.e. how do people behave around others with regard to fitness?

Fit people do not like to stick to their fitness diet *all the time* — they like to eat unhealthy food every now and then — not too often, of course; maybe 10% of the time. When do they most like to eat with abandon? When they're *socializing* with friends or family members, or attending special functions or events. That's when they don't want to stick to their diet; that's when they want to kick back, relax, and take it easy.

Fit people also do not make a special point of talking about the exercise they've done recently. It looks bad for a fit person to be purposely mentioning recent exercise; it looks like bragging, and it alienates people. Further, since fit people exercise a lot, they're usually not sore from recent exercise, and don't have that physical reminder. And to the fit person, exercise doesn't seem like anything special — it's like showering or brushing their teeth: something they do all the time, and doesn't need to be shared.

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<sup>27</sup> CDC Report in October 13, 1999 *JAMA*.

*Fact C*

*Fit people eat unhealthy food when socializing, and don't make a point of talking about recent exercise.*

On the other hand, fat people *do* like to talk about recent exercise — they feel sore from it, and it's a special event that doesn't happen very often. Plus, it makes them feel more positive in the eyes of others to be “fat but exercising” — it suggests that they haven't thrown caution to the wind, and are actively trying to do something about their weight. An overweight person who, earlier in the day, put on jogging shorts and ran a mile, and is now socializing with friends, thinks, “These friends of mine can see that I'm fat, but they can't see that I ran a mile earlier today. They're getting only the bad part of the picture. I need to tell them I exercised so they can see the *whole* me.”

Also, fat people don't like to eat large amounts of unhealthy food in front of others, so they do it in private when friends and coworkers aren't watching. It's not that they *plan* to deliberately deceive others, or mislead them about how fitness works — they just feel embarrassed and uncomfortable chowing down while others are watching, and the only other time to do it is in private (or in public among anonymous strangers, which is equivalent to privacy).

*Fact D*

*Fat people eat healthy food and/or moderate amounts of food when socializing, and make a point of talking about recent exercise.*

Facts C and D have a profound effect on what appears to be true to the casual observer (i.e. to just about everybody). C and D create the illusion that facts A and B are *not true*. We will call this illusion X-Y:

*Illusion X*

*Fit people can eat unhealthy food whenever they want, and don't need to exercise except when they want to — for recreation or to show off. Fit people are naturally fit; they're just built that way.*

### *Illusion Y*

*Fat people are naturally fat, and they must go on special, restrictive diets and exercise programs just to keep their fatness to a manageable level.*

Facts A and B are not what people observe most of the time — they observe the facts C and D, and interpret that observation as X and Y. Again and again, X and Y are impressed upon our minds by C and D. If you asked fitness experts to name the most harmful fitness myth, they would probably say, “spot reduction” — the idea that you can rid yourself of belly fat by doing abdominal exercise. I think, however, that Illusion X-Y is more prevalent and far more harmful. What effect does it have on the average person who is fighting the battle of the bulge? A typical chronological scenario might go like this:

1. You have been on path B and are therefore overweight. Y tells you that you will always be overweight, and can make only a small dent by trying to slim down. X tells you that fit people are getting to eat whatever they want, and don’t have to bother with exercise, so why should you sacrifice just to be a little less fat? You decide not to bother, and you stay on path B, remaining overweight.
2. Every now and then, you hear some fitness pitch of A-B, and it gives you the motivation to switch to path A. You remain on path A for a week or two, but then look in the mirror and see that while you are noticeably less fat, you’re still fat. This seems to confirm Y. You become discouraged and decide that it isn’t worth it. You go back to path B.
3. Eventually, one of your sporadic efforts to get in shape sticks; this time you religiously keep with a good fitness program (path A) for a few months. The results are striking, and you have finally achieved a healthy, fit body. But you believe that you have arrived at point X — that you have become one of the “naturally

fit” and can now leave dieting and exercise behind. This is a mistake; there *is no point X*, and no one is really there. Believing you have arrived at X, you are in reality switching back to path B. The weight comes back, and now you become totally convinced that you must be “naturally fat,” as predicted by Y.

## *The Future*

What can be done about illusions X and Y? Not much, as far as I know. C and D are natural consequences of the fact that people know when they are being watched, and naturally reinforce X and Y in the minds of the watchers. Exposés of this situation — such as the one you are reading here — may help for some, but X and Y are stubborn creatures, not easily unseated from the heads of Jane and John Q. Public. Look at my story of Al, and you can see how hard it was for me to believe what I was being told, until I saw it with my own eyes.

Also, X and Y are difficult to unseat because they are *beautiful*. Like evolutionists who want to believe that complex body functions arise automatically out of simple physical rules, or Christians who want to believe in a hand-waving God whose desire creates by magic, many people cling to point X because it offends their concept of beauty to believe that lengthy, painstaking, manual effort is required to create an attractive effect. No one really wants to believe that the price of fitness is perpetual dietary sacrifice and exercise. It’s a much prettier vision to imagine that fitness can be free and automatic as described by X. And Y is also very attractive to those that are fat — for how comforting must it be to believe that you’re *naturally* overweight, and that getting to eat lots of delicious food every day is your consolation prize for being trapped in a permanently fat body. And how damaging to your self-esteem would it be to get in great shape and, in so doing, reveal to yourself and to everyone else that you could have done so long ago? It’s just another case of maintaining the illusion of infallibility by refusing to publicly change one’s position.

The most important step I ever took towards fitness was the simple realization that there is no magic point X where constant junk food, frequently skipped



workouts, and fit, trim bodies all coexist. Remember that everyone (yourself included) wants to appear magically powerful, blessed with the ability to look great without even trying, and it doesn't take much in the way of selective revelation of your habits to foster that image in others' minds.

### *Cause For Hope*

How many times have you heard someone say, "Diets don't work." If you asked this person to elaborate, you might get a story like this: "I tried Diet M, and it worked for a while, but then the weight came back. So I tried Diet N, and it worked too, but the weight came back. Same with diet O. Diet P didn't even work much at all. I'm sick of it — I'm sure that diets just don't work." It's a harrowing tale we've all probably experienced to some degree or another, but what's really going on here? I would like to say to this person, "Diet M worked until you stopped doing it. Same with N and O. Diet P, presumably, really *doesn't* work. So you have three diets that work to choose from, and instead, you conclude that diets just don't work. Why not return to diet M, if it was no harder than N or O?" What this person really wants is a diet that takes the weight off *permanently* — in other words, a diet that takes him to point X.

Diets *do* work — the trick is to find one that doesn't coddle illusions, and that you like enough to keep doing for the rest of your life. I recommend using these two simple screening devices:

**Diet Screen 1:** Is this diet promoting the A-B model of fitness, or the X-Y model? A helpful fitness plan (one that focuses on A-B) will tell you what kind of sacrifices and actions must be achieved to stay on path A, and how to combat urges to revert to path B. A harmful fitness plan will offer some magic shortcut to point X, where you can do anything you want and still be fit. Such plans usually sell a message of the form, "Just do such-and-such, and you can eat all you want and still lose weight."

Currently, the most popular diet<sup>28</sup> is Atkins, which in a nutshell says “you don’t have to worry about fat intake as long as you avoid virtually all carbohydrates.” Clearly, this diet is promoting something like the magic point X. How can you eat large quantities of fatty foods like nuts, fried eggs, and bacon, and expect to get healthy? The only reason I can see why Atkins has even a chance of working is that you might get sick of eating high-fat foods and stop eating them. Of course, if that causes you to jump back to carbs, then you’re no longer following Atkins, and cannot attribute your subsequent weight gain to the Atkins plan. Michael Fumento’s (pre-Atkins craze) *The Fat of the Land* does a splendid job of debunking other just-do-this diets, such as the fat-free frenzy championed by Susan Powter in the 1990s, Stuart Berger’s food allergy diet, and the widely exploited claim that fat people eat the same amount (or less!) than fit people.

One more bit of it’s-so-easy bunkum deserves mention: Several years ago I saw a health expert making a guest appearance on a nighttime news magazine. She held up a tiny cube of fat about the size of a sugar cube, then proceeded to inform the audience that this is the amount of food they need sacrifice every day to keep from becoming overweight. Her logic was that if you take the average weight gain over a period of many years for a survey group, and divide that gain by the number of days in the survey period, then it comes out to the number of calories in a tiny cube of fat! Is it really that easy? No, it isn’t. The math looked sound (as I recall), but it was based on the ridiculous assumption that average persons make *no attempt at weight control for the multiyear period of the survey* — they just eat like pigs and throw exercise to the wind. That’s absurd, of course. What this expert’s math really indicates is that average persons (of the type surveyed) won’t gain weight if they make all the sacrifices they’re already making, *plus* the tiny-cube-of-fat-per-day sacrifice that she said is “all they have to do.”

**Diet Screen 2:** How fit is the promoter of this diet? How many success stories can this diet show off, and how fit are those people?

Dr. Phil McGraw — as bluntly noted by “shock jock” radio commentator Howard Stern — is fat. He isn’t immensely obese, and he looks okay in a suit on

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<sup>28</sup> Medical News Today, 2004

the cover of his weight-control bestseller, *The Ultimate Weight Solution: The 7 Keys To Weight Loss Freedom*, but you can tell just by looking at his face and neck that he couldn't pose in swim trunks and expect very many people to jump at his fitness program. David Letterman got big laughs when he included Dr. Phil in his *Top Ten Signs You're On A Bad Diet*: "It's a Dr. Phil diet, and after two weeks you look exactly like Dr. Phil."<sup>29</sup> A&E's *Biography* program about the late Dr. Atkins showed no pictures in which Atkins looked significantly more fit (or less covered with clothing) than the current Dr. Phil, even though the show went all the way back to the 1972 first publication of his diet. Nor did the show reveal any particularly impressive before-and-after examples of non-celebrity successes. I have to admire Jared Fogel for turning around a 425-lb. body to just 190 lbs. on his self-styled Subway sandwich diet, although it should be noted that his diet was only a little closer to normal than the I-wanna-be-on-Richard-Simmons diet. (Perhaps becoming a long-term Subway spokesman gave him the motivation to learn a normal eating pattern after he reached his target weight.) But I've never seen a Subway commercial where Jared's body wasn't hidden behind fairly loose clothing (or once, in a beach-set spot, behind a very out-of-focus camera lens). Clearly, Dr. Phil, Dr. Atkins, and Subway's Jared cannot pass Screen 2 — unless your honest, inner goal is merely to avoid extreme obesity.

Of course, it must be noted that a truly fit spokesperson does not guarantee a valid program, because who can say if the spokesperson is truly following his or her own program? Powter is a case in point — eat all the carbs you want and see if you wind up looking like Powter in her ultra-fit, *Stop the Insanity* prime. But at least a fit spokesperson knows how to be fit, and thus *might* be giving you the advice you need. And if large numbers of ordinary people have gotten great results by following that advice, then the odds of soundness go way up.

### *My Own Fitness Experience*

For these reasons, I have to endorse Bill Phillips's *Body-for-LIFE* program as the best fitness plan available today. Mr. Phillips is in no way involved with my book, and I'd be surprised if he didn't take exception to much of what I've writ-

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<sup>29</sup> *The Late Show With David Letterman*, January 4, 2005

ten on these pages, but his program is perhaps the only well-known plan that passes the two Diet Screens described above (other than a few similar programs, such as Tony Horton's *Power 90*). It took me several tries before I did Phillips's BFL program exactly as required, but when I did, the results were astounding. I also found that it was the first diet/fitness plan I'd ever tried that I can seriously visualize myself doing for the rest of my life — and that's important, because otherwise, what's the point? But as easy as the BFL program is compared with things I've tried to do in the past, it still requires a separate motivation. Why do you really want to be in great shape? If you can't answer that question with anything more specific than, "It would be really cool," then you haven't found the motivation you will need to stay on path A.

Besides giving me strong reinforcement of the A-B message, doing BFL also taught me by direct experience that my fitness state is primarily a function of what I have been doing for the past *three months*, and secondarily the three months before that. Before doing BFL, I would see diabetes-supplies commercials starring Wilford Brimley, and I would think that his rotund, puffy body was a function of how he'd been eating and exercising for decades. But now I know it isn't: Brimley's current body is primarily a function of how he has been eating and exercising for the last six months, with a special emphasis on the most recent three months. In other words, the reason that Brimley is very overweight today is not because he spent most of each day on the couch ten years ago, or because of anything he ate five years ago, or because of any exercise he failed to do two years ago. It's because he has been on path B for most, if not all, of the *past three months*. He has been eating badly and exercising inadequately *very recently*.

Have I been fit ever since doing Phillips's challenge? No! I haven't slid all the way back to my "before" state, but I've slid maybe halfway back for extended periods. As of this writing, I'm very fit after completing my twenty-fourth consecutive week on the program. But keep in mind, neither BFL nor any other fitness plan will ever magically compel you to stay on it. I recommend BFL here because not only has it worked very well for me, and largely rescued me from a chronic weight problem that I had for many years before finding BFL, but because it puts my mind at ease about the whole fitness situation: Even when I'm not in peak condition, I'm not frustrated, confused, or in despair over it. I know

exactly why I'm out of shape, and I know just what I need to do to get back in shape. And I know that when I do it, it will work, and it's very doable.

### *Free Will and Fitness*

In any discussion of fitness, free will is bound to surface. Earlier in this book I essentially deny that truly free will really exists, and assert that the concept of free will is useful for describing how one part of the brain has final say over decision-making. Does that mean that trying to get fit is impossible, because we are powerless to choose to do so? It's a good question, and the answer may not be within human grasp. Let me just say that if you try to decide whether to get fit based on whether you have free will, you are searching for your answer in Johnson's "hall of mirrors with no exit" (see chapter two). You may as well try to decide whether to go to work today, as opposed to relaxing on the beach, based on whether or not you have truly, metaphysically free will to make that choice. No decision can be reached that way; you must find another basis for your selection.

I certainly do not know that I chose fitness "freely." If I had never heard of BFL, I might be very overweight today. Perhaps Phillips's program, like Joe's strawberry challenge discussed earlier, *caused* me to get fit. Perhaps the advent of great-tasting supplements like Myoplex made it possible for someone with my sweet tooth to be fit at all. I don't know; but I do know that trying to figure out if I have free will is not the road to fitness, or to anything but perpetual confusion. Just as the necessary starting point for science is to assume your own rationality, sans proof (see Figure 2-9), so the necessary starting point of fitness is the presumption that you can do it. This starting point is so important that motivational speakers like Tony Robbins have made whole careers out of persuading people of this one point; in effect, issuing the strawberry challenge *en masse* to people mired in a sea of self-doubt; trapped in Johnson's "hall of mirrors." Grand, metaphysical questions of free will, like the physics of Einstein and Bohr, must be put aside when dealing with day-to-day, practical matters. We build buildings and bridges with the presumption of Newtonian mechanics, and we build our bodies with the presumption that we have the power to choose to do so.

## Magic, Physics, and the Risk of Being Wrong

TO POSTURE ONESELF AS AN ELITE by arbitrarily opposing what most people believe while offering no substantial alternative, is attractive because there's *no risk of being wrong*. Latching onto a specific claim or theory carries a serious risk of making a mistake, and history is littered with the woeful or embarrassing tales of people who made such mistakes. As humanity has reached a state where large spans of its history are accurately recorded and studied, and the plethora of great human mistakes is easily perusable, a segment of humanity has decided that the answer is to pursue a path that simply cannot be wrong — that cannot make a mistake because it makes no claims, or none that can be discovered to be wrong.

The multiculturalists so effectively exposed by D'Souza are a prime example. They make only one claim: that no culture is superior to another. D'Souza has handled this issue superbly, and there is no need for me to rehash it here, but I would like to add one additional comment: I could actually agree with the multiculturalists if they would only add one little plank to their platform: that it's just as good for people to be poor as it is for them to be rich, and for their lives to be short or long. If different outcomes of prosperity are just as good as each other, then I have no problem with multiculturalism, and might even agree to it. Are the people of say, Yemen, really less happy, on average, than the people of the USA? For that matter, are the Amish? The problem, as I see it, with multiculturalism is that the multiculturalists want to declare all cultures equal while simultaneously decrying the differential prosperities generated by those cultures.

Another notable manifestation of this risk-avoidance strategy can be seen in the Unitarian Universalist Church. If, at this point in my life, I wanted to be a member of any organized church, it would be the Unitarian, if for no other rea-

son than that it doesn't require its members to profess belief in such unsupported specifics as that Jesus Christ sits at the right hand of God, and is worshipped there by nine choirs of angels. But what exactly *does* this church believe? Try to answer that question by reading some of its pamphlets or listening to a few sermons; you will quickly find that its position is very hard to pin down. The literature seems to devote more emphasis to *denying* any specific beliefs than to delivering a focused identification of what it does profess. Unitarianism tries to avoid being wrong by making no claims about what is right. In practice, however, Unitarians cannot avoid implied statement-through-action about what is right to do and what is not. Apparently, it is right to attend weekly services that superficially resemble Christian worship, and to monetarily support the clergy. Apparently it is right to congregate afterward over snacks while chatting about politics and current events. But even these things are not specifically enumerated.

About the only thing in which Unitarians do claim to believe is something called "the search for the truth." Each individual member of their church, they tell us, is supposed to be engaging in an ongoing search for the truth, a personal journey of spiritual discovery. But what can this search find? To be compatible with Unitarian principle and practice, your personal search can find pretty much nothing. If, in my search for the truth I found, for example, that Muhammad is the bearer of unique truths about our creation and purpose, then I would soon find myself awkwardly unwelcome in the Unitarian fold, and would probably be encouraged to go join Islam instead.

Perhaps, then, the Unitarian church is positioning itself as a waystation to other religions? Perhaps the Unitarian search for the truth is actually a search for the religion to which you really belong, with the Unitarian congregation as a temporary, supportive, blank-slate placeholder? Actually, the Unitarian Church does not promote such a view, and most of its members see themselves as remaining Unitarian for the rest of their lives. Since most Unitarians convert from other religions, and very few in the other direction, the waystation interpretation is clearly inaccurate.

Maybe the Unitarians view their search for the truth in terms of the Eastern philosophy that "the journey is the reward?" If so, then I would very much like to agree with them — after all, the ID videogame conclusion indicates that the

chain of scientific discoveries has been pre-laid for us; that in pursuing science we are unfolding a series of nested, already-known packages. The purpose of each piece of new technology appears to be to enable us to invent the next one. Our creators might not know in advance the exact implementations we will come up with, but they probably do know the types of machines, the power sources, and the manufacturing techniques. Science, it would seem, is a fun puzzle, and the scientific journey *is* the reward.

But the Unitarian “search for the truth” is critically flawed when compared to science. Science really *is* discovering things, and our technology demonstrates that fact. It would be impossible for me to be tapping-out these words on my laptop computer at a modern Starbucks with wireless connectivity to millions of computers around the world, if science had not made tremendous, substantive progress in finding actual truths and putting them to use. The Unitarian “search,” by contrast, is not really permitted to find anything. Unitarianism a hundred years from now will be pretty much in the same state that it’s in today, and that it was a hundred years ago; whereas science and technology have made — and will most likely continue to make — great strides. The scientist, unlike the Unitarian, aims to discover real truths, and runs the real risk of sometimes being wrong. A Unitarian’s search amounts to nothing but posturing, based on the idea that it’s noble to be engaged in a search for truth, but at the same time too risky and potentially arrogant or even dangerous to actually find any truths by that search.

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*Yesterday upon the stair  
I met a man who wasn't there  
He wasn't there again today  
I wish, I wish he'd go away*

—Ogden Nash

The word “magic” is used as a smear in scientific circles. Why? Magic is closely akin to mystery, but the two terms differ slightly. While a mystery may come about by accident, magic is created deliberately. To call another scientist’s hypothesis “magical” is to charge not merely that critical details are missing, but that they are *knowingly*, even *intentionally* omitted. Most scientists (particularly strict-naturalist ones) are dedicated to showing magic to be a fictional misconception of pre-scientific peoples. Those scientists are almost correct: Science seeks to eradicate magic, it is true, but not by showing magic to be nonexistent or fictional, but instead by revealing the *mechanism* behind the magic; by showing *how it was done*. Arthur C. Clarke, author of *2001: A Space Odyssey*, famously commented that “any sufficiently advanced technology is indistinguishable from magic.” I would take it one further and say that magic is simply yet-to-be deciphered technology, or simply *means unknown*.

Ask most science buffs to give a major, current example of the magical thinking that science seeks to eliminate, and you will probably get an answer along the lines of religious creationism (which needs to be fought by defending strict naturalism and mutation-selection Darwinism). Creation is indeed unscientific magic when we pronounce that the creators’ methods and motives are inherently indecipherable, or worse that they are not *supposed* to be deciphered. But just because the religious formulate creation that way, doesn’t mean we have to: If instead we seek to learn as much as the empirical data allow about our creators (even discovering their nonexistence if that’s where the data wind up), then we have not embraced magic; certainly not in any antiscientific sense of the term.

The most severe examples of magical thinking that need to be eradicated by science are, of late, coming from the fields of cosmology and quantum theory.

Scientists are human too, and they experience the allure of posturing in a position of perpetual safety from error. Cosmology and quantum theory, studying opposite ends of the size spectrum in our universe — i.e. both far from our everyday experience — have both become infected with this craving, and in both cases the result is decidedly antiscientific: a position that seeks to preserve magic and consign its true methods to the realm of the unknowable.

As detailed in chapter one, cosmologists have adopted the Cosmological Principle as an attempt to preempt any further commission of the error of geocentrism, without realizing that the geocentricists' error may have been limited to the simplistic form of geocentrism in which they believed. The CP is a vain attempt to rule out a whole category of errors in one fell swoop. In science, the truths and the errors are badly jumbled together, and the only real way to separate them is by careful study of each theory in isolation. Imagine where our technology would be today if, after discovering the universal speed limit and the contraction/dilation effects, we had adopted an "Immeasurability Principle" which declared that all attempts by humans to measure the size and velocity of an object are inherently misconceived and not to be attempted! Such an IP would certainly protect us (*ex post facto*) from the extrapolational mistakes of the Newtonians, but at what cost to our continued progress?

Like Einstein's relativity, and modern cosmology in general, quantum theory includes some undeniably sound discoveries. That light exists in discrete quanta — or photons — has been verified beyond reasonable doubt. But as quantum theory has developed, a "spookiness" quotient has infected the field, typified by the idea that certain things happen only when we're not looking, then instantly "collapse" to a different state when we look. A few illustrative quotes:

Anyone who is not shocked by quantum theory has not understood it. —Niels Bohr

It is impossible, absolutely impossible to explain [quantum theory] in any classical way. —Richard Feynman<sup>30</sup>

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<sup>30</sup> <http://www.thekeyboard.org.uk/Quantum%20mechanics.htm>

If [the result of the double-slit experiment] seems very mysterious, you are not alone. Understanding what is going on here is in some sense equivalent to understanding Quantum Mechanics. I do not understand Quantum Mechanics. Feynman admitted that he never understood Quantum Mechanics. It may be true that nobody can understand Quantum Mechanics in the usual meaning of the word “understand.” ...

The conclusion of all this is that there is no experiment that can tell us what the electrons are doing at the slits that does not also destroy the interference pattern. This seems to imply that there is no answer to the question of what is going on at the slits when we see the interference pattern. The path of the electron from the electron gun to the screen is not knowable when we see the interference pattern. As Heisenberg said, “The path [of the electron] comes into existence only when we observe it.” —David M. Harrison, Dept. of Physics, Univ. of Toronto<sup>31</sup>

What all of these quotations have in common is that each one amounts to an abandonment of the scientific method, and its replacement with a principle of permanent mystery. If science has any foundational principle, it is that humans can, with sufficient study and effort, discover the rules that govern their universe. Of course, this principle cannot be proven — it’s the same problem of self-reference that Johnson thinks he can escape via Christianity — and it has the same, largely unsatisfying solution: We must presume that we have the mental capacity to figure out the truth, and proceed with our attempts to do so.

All magicians’ illusions involve either violating the laws of physics (e.g. levitating; making solid objects vanish or pass through each other), or passing information about the future back in time, as in producing a sealed envelope containing a secret word that the audience chose just a moment ago. Just as the Law of Conservation of Energy implies that we cannot make objects vanish into non-existence, so the Law of Conservation of Information implies that we cannot pass information back in time. This is because if we could pass information back in time, then a piece of specified information could exist without having been created. For example, imagine a classic sci-fi plot in which a time traveler takes a high-tech ray gun back in time and gives it to his earlier self. So ... where did the gun come from? Who built it? Who designed it? (This is not the go-back-in-

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<sup>31</sup> <http://www.upscale.utoronto.ca/GeneralInterest/Harrison/DoubleSlit/DoubleSlit.html>

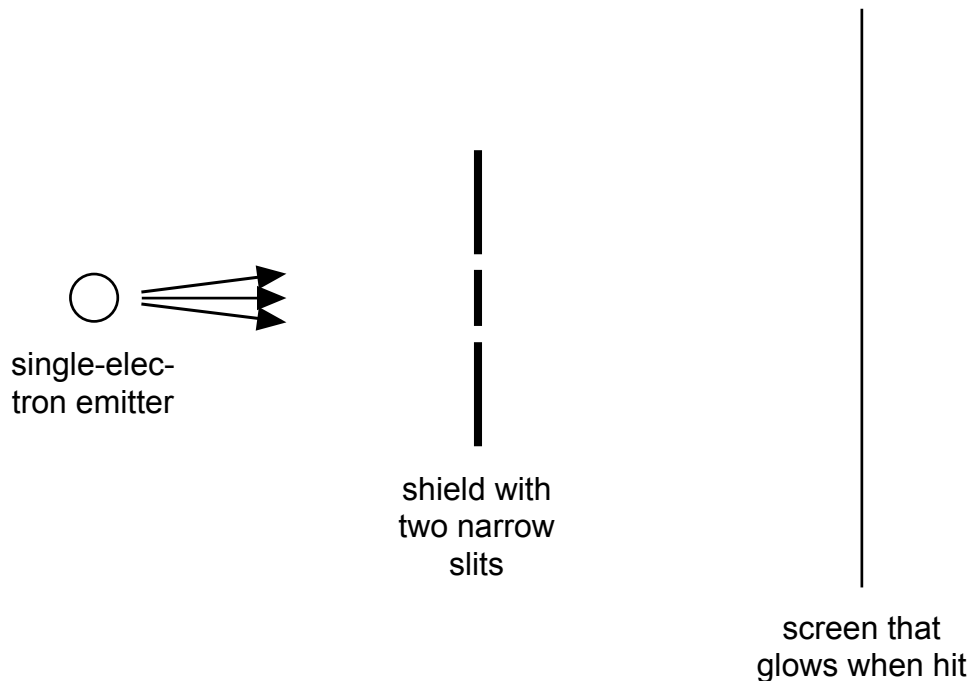
time-and-kill-your-grandparent paradox; it's deeper than that.) Attempts to explain the behavior of fundamental particles in any way that requires a particle to "know" the future of its path is, quite simply, an abandonment of the logic of cause-and-effect, which is a fundamental premise of scientific explanation. We can, of course, say "a photon acts like a particle under these conditions, and like a wave under these conditions, and the human brain isn't really capable of understanding it." But it is folly to think that such a statement is a scientific explanation or even a theory; rather, it is just a redescription of the observation, wrapped in a preemptive surrender.

So — how do we handle weird-looking results of experiments on subatomic particles? Let's look at the classic "double-slit" experiment which started the popular "humans can't really understand this" outlook. Figure 5-1 shows the setup of the experiment. A single-electron emitter shoots electrons, one at a time, towards a shield with two narrow slits. Beyond the shield lies a screen that glows wherever an electron hits it. (The experiment is also done with photons, but by using electrons we can play with the conditions a bit more.) The direction of the electrons cannot be dictated, and appears to be essentially random. When a continuous stream of electrons is fired toward the shield, a banded pattern appears on the screen, which looks exactly like an interference pattern created by two waves coming through the two slits. If electrons are fired one at a time, they hit random spots on the screen. But if we record the exact spots hit, and add those spots up over many trials, then we find that they add up to the banded wave-interference pattern. This seems very strange, because our experience with the wave-interference pattern suggests that it cannot be formed by individual particles flying through the air one at a time, but instead requires a wave propagating through a transmission medium, like compression waves propagating through a gas, liquid, or solid.

The experiment gets stranger when one attempts to use photons fired transversely across the slits to "see" which slit each electron goes through. The technique works, but the wave pattern disappears and is replaced by a dispersion pattern that looks like particle behavior. From these results, quantum physicists (led by Werner Heisenberg) have declared that fundamental particles like photons and electrons can behave like a wave or a particle, and have the property of

FIGURE 5-1

Setup of classic double-slit experiment.

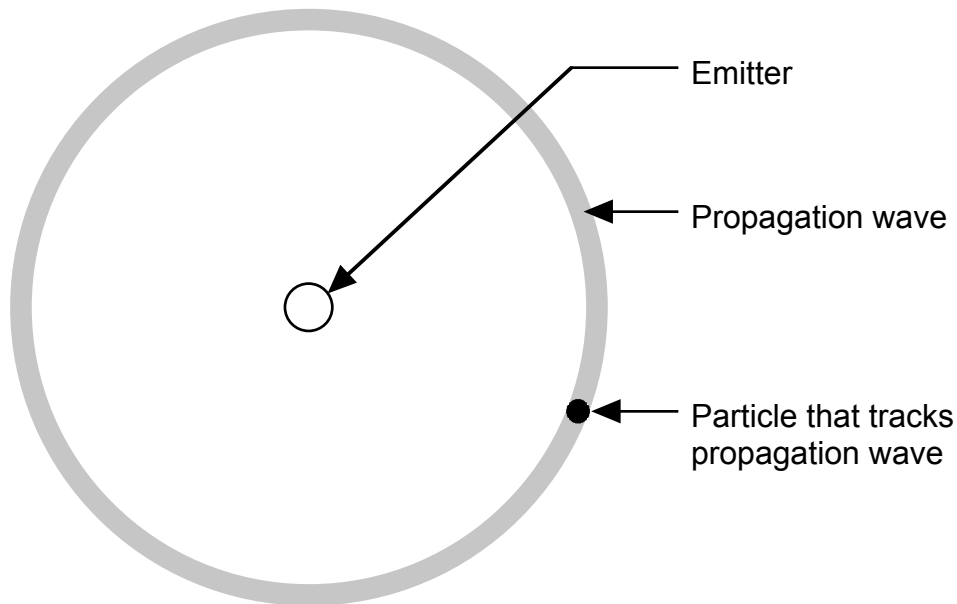


“collapsing” to particle-like behavior when observed. An electron, we are now told, has no actual location, but only a probability distribution over space. When observed, it instantly collapses to a location, randomly generated by that probability distribution. If this strikes you as imprecisely defined or even a bit ascientific, you’re not alone. But most quantum theorists embrace that characteristic, proudly asserting that their science is, at some level, beyond human comprehension.

Let’s reject the incomprehensibility idea as both useless and unverifiable by definition, and instead approach this evidence with basic scientific inferences. First, we know that fundamental particles are limited to a speed of 300,000 km/sec, and we observe them to exhibit many characteristics of waves. Also, in our experience waves travel through a propagation medium at a fixed speed. So let’s start by supposing that light waves are actually information propagating through a medium, not unlike the grid of Conway’s “Life” system. In other

**FIGURE 5-2**

Hypothetical, particle-and-wave model for release of a single fundamental particle from an emitter.



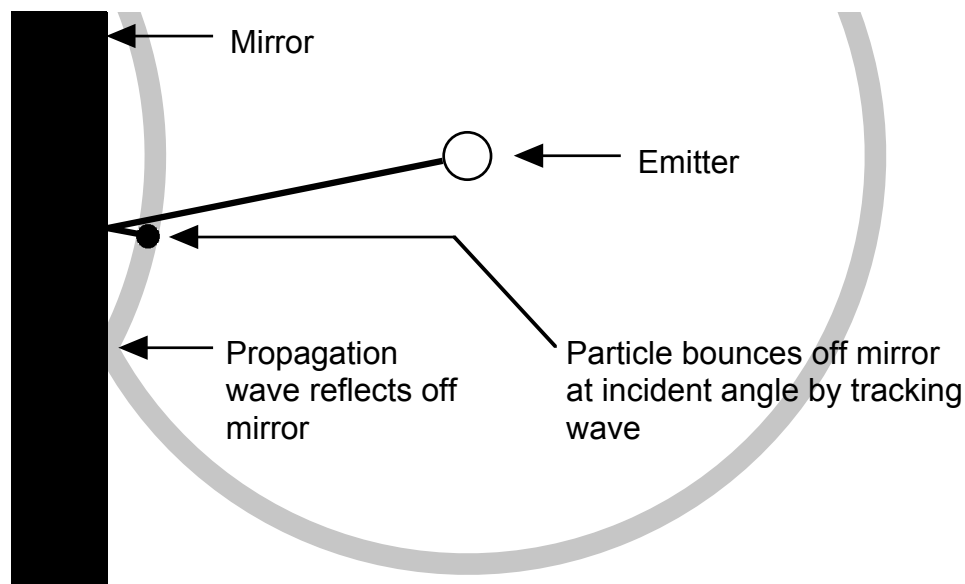
words, space is some sort of matrix of cells, each containing some set of data, and each able to influence nearby cells according to some set of rules. 300,000 km/sec is the fastest that information can propagate through this matrix.

In the double-slit experiment, single-particle emissions exhibit unmistakable properties of both a wave and a particle. So, the logical (non-mysterious) inference is that both a wave and a particle are present. That might be modeled as in Figure 5-2. In this model, when a single photon is emitted, a propagation wave is initiated, and a particle-like piece of data is also initiated.<sup>32</sup> The particle, initiated in a random direction, follows the wave. The wave itself has no effect (or only a non-cumulative, “butterfly” effect) on solid objects, and either reflects off them or is destroyed, depending on their composition. Any solid object that kills the wave, also absorbs photon particles, but with a significant effect on the absorbing object. Photons do not necessarily travel in straight lines, but instead traverse a

<sup>32</sup> In the case of a wide-open light source, multiple particles would be released with each peak of the propagation wave, each particle starting out in a random direction.

FIGURE 5-3

Particle-and-wave model applied to reflection off a mirror.



path as guided by the wave data which they follow (tracking shorter wavelengths more accurately). This would explain how successive photon hits on the detector screen could add up to an interference pattern: the photons that get through the slits are influenced in their course by the additive wave pattern.

In the experiment where an electron is hit by a photon, and subsequently yields a noninterference pattern, the particle-and-wave model says that the electron's interaction with the photon *regenerated* the electron, and generated a new wave for it to follow — one that did not pass through the two slits.

According to this model, when a photon reflects off a mirror it is simply following the wave's reflection off the mirror. (See Figure 5-3.) When a photon passes through a piece of transparent glass, it is able to do so by following the wave through the glass, as the wave flows around the glass molecules. In that course, the photon may be diverted side-to-side a little, but only by the width of a few molecules, which would not affect animal vision significantly.

If the waves described by this model exist, then why does light need to have photon particles too? Why should light be both particles *and* waves, instead of just one or the other — how does that fit into an ID scheme where the laws of physics were invented by intelligent designers? The answer would seem to be that light needs to have both waves and particles to be useful for purposes of vision to humans (and all animals with camera-like eyes). If light was only particles, optics would be impossible. Photons would scatter or be absorbed by the matter of a lens, and would not reflect in any consistent way off the surface of a mirror, which is very rough indeed at the scale of a photon. The surfaces of both mirrors and lenses are quite rough, and the averaging tendency of propagation waves (with wavelength substantially larger than the hills and valleys of the surface) is needed to allow optics to function in a useful way. (A white wall does not look like a mirror because its roughness is larger than the wavelength of visible light.) Further, photons might be badly scattered or absorbed by air molecules.

And if light was only a wave? Then it would not be able to interact with biomolecules in a consistent way. The molecular machinery in our retinal nerve cells may depend on the fixed kind of interaction which is delivered by a one-quantum photon. Perceived differences in light intensity are the result of more frequent photon arrivals at a nerve cell, not different strengths of photon. If light was only a wave, then a light source comfortably visible at a distance of twenty feet might be completely invisible at forty feet, and eye-damaging at ten feet. In a room lit by a light bulb, you would either see only the bulb (and not the rest of the room), or you would see some of the room, but would cause severe harm to your eyes by looking in the direction of the bulb even briefly. The particle scheme does not have this problem: Since biomolecules can react-and-reset quickly to the arrival of a photon, it takes a very large concentration of photons to cause damage — a quick glance even at the midday sun causes no noticeable harm to human vision.

Although this particle-and-wave model is an attempt to explain the behavior of the tiniest subatomic particles, it nevertheless has cosmological implications. One of them is that motion through space is absolute, not relative as Einstein declared, although measuring absolute motion would still be made difficult or im-



possible by Lorentz contraction and time-dilation.<sup>33</sup> Another implication, as mentioned earlier, would be that we could expect Earth to be near the center of the universe, to minimize the time-dilation of complex life.

Now, the above, hypothetical, particle-and-wave model of how our universe works may be largely wrong, and parts of it may even be refutable with currently available evidence. It may be too wrong to be worth pursuing, or it may be salvageable with a few tweaks. It is described here merely as an example of how we should be attempting to formulate theories of our universe. Saying instead that “nobody can understand what is going on here” is a way of avoiding rational formulations, or avoiding a simple admission of ignorance; e.g. “We don’t yet know what’s going on at the subatomic level. We’ve observed interesting effects in various experiments, and we can even use those effects in new technologies (in limited ways), but we haven’t yet formulated a deterministic — or even stochastic — theory of what’s actually going on.” The litmus test of such a theory would be a computer model in which the behavior of at least a few simple molecules can be simulated using rules that uniformly govern the behavior of the elementary particles that make up those molecules. (Note that particle-and-wave is not an attempt to return to Newtonian concepts at a subatomic scale — particles that track waves are hardly Newtonian — it is simply an attempt to return to cause-and-effect, and avoid “explanations” that retain magic.)

If compatible with the available evidence, the particle-and-wave model is scientifically superior to “we can’t understand it” even if we have no independent or predictive verification of the hypothesis. In that case it would be the inference to the best explanation — perhaps wrong, but scientifically preferable to self-referential claims of human incapacity. Consider the following hypothesis:

Hypothesis “Five”: Every photon is composed of five distinct sub-particles, that are permanently fused together, and act together as a single particle with all the properties we observe a photon to have.

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<sup>33</sup> I assume here that contraction/dilation are unavoidable effects of motion through a Conway-like medium. If the particles that compose solid objects communicate with each other via a process that is limited to the speed of light, then the shape and reaction time of molecules would be distorted just as is the function of a light-bouncing clock in the classic relativity experiment. That might provide an avenue of empirical verification, if the functional behavior of molecules is harmed at speeds very close to the speed of light.

How should we treat such a hypothesis? Of course, we will reject it by Occam's razor. We could just as easily speculate that every photon is made of 23 such sub-particles, or a thousand. But Occam's razor kills a hypothesis only in favor of a *simpler* hypothesis — so what is that simpler hypothesis? It is that a photon is *one-and-only-one particle*. It is *not* that the number of sub-particles in each photon is in an impossible-to-understand state of constant flux. An incomprehensible flux is not as simple as the single particle hypothesis, and worse still is not even a coherent hypothesis (and thus not a candidate for Occam's razor), but rather is a lapse of faith that we can form coherent hypotheses to explain a particular phenomenon such as a photon.

Science is about *exposing* the hidden mechanisms behind the phenomena of this world — not preserving the magical mystery. And science, like life, is about risk; the risk of being wrong. The only thing we can really learn from an error of the past, such as geocentrism, is that *that* particular belief was mistaken. Attempts to shield ourselves from even the possibility of future error inevitably wind up shielding us instead from the scientific process itself. Science is a puzzle, and risking error at each step is a natural part of the process. Our only security is that multipoint, key-in-lock evidence for a theory, limited to the range(s) of the evidence, has never failed us in the past — the logical inference is that it never will.

## Economics, Geography, Feminism

*I'd love to change the world  
But I don't know what to do*

— *Ten Years After*

ECONOMICS, EVEN MORE THAN SEX, is the flashpoint for the struggle between left and right in the USA. The left, which grew in strength and conviction throughout the late 1800s, and the first half of the 1900s, reached its zenith in the late 1960s and early '70s. Then, slowly, the public's love affair with leftism waned, and the Sixties dream of a radically transformed, equalized society faded into a stalemate. The most egregious offenses such as racial segregation, institutionalized racism and sexism, and the Vietnam War were expunged, but mostly American society didn't change. Where did the left go wrong? Just about everywhere. The left, like most big movements, was led by individuals who weren't trying to improve the existing system by removing a few flaws, but instead saw their quest as a much broader plan to radically morph human society into something unrecognizably different than it had ever been before. To see this with clarity, I will list the most fundamental mistakes of the left, and then the right will get its turn. The big mistake of the right is more subtle than the mistakes of the left, and needs to be cast against the backdrop of the misconceptions of the left.

## *Errors of the Left*

Rather than give the usual criticisms of the left (socialism has bombed where attempted; leftists have ulterior motives to dislike their society; etc.), I would like to instead cut to the chase and give a list of the really *core* problems with leftism that preclude any possibility that it could ever be the pattern for a successful society. Most of these errors come about because leftists want to believe in all beauty and no ugly mechanism; their system fails because it has no mechanisms by which to actually work. Beauty is an illusion of hidden mechanisms, and the left is on a doomed quest to make that illusion *real*. As children, we are all shielded from most of the ugly truths of the world, and when we reach young adulthood, we discover that beauty to be an illusion and that the world is driven by ugly mechanisms. Leftists are those who can't deal with this discovery, and believe that the world has to "fixed" so that it can be magically beautiful once again, as it seemed to be when they were children. (Not surprisingly, this closely parallels the religious right's belief in an omniscient, all-caring, parent-like God; see chapter one.)

- *micro-to-macro economic extrapolation* — If you take \$3 million from a billionaire, and give it to a hardworking manual laborer, you massively improve the quality of life of the laborer, while barely making a dent in the billionaire's lifestyle. This is also true, though to varying degrees, when taking from anyone and giving to someone who has less. Therefore, we can improve everyone's quality of life by redistributing wealth on a massive, society-wide scale.

Aside from the strong possibility that the manual laborer may blow his entire windfall in a few years and once again have to perform manual labor to survive, the main problem with the above logic is that a one-time, two-person, \$3 million transfer is a *microeconomic* change — that is, it shifts a small amount of wealth (as measured nationally or globally) between just two persons, while leaving the rest of the economy untouched. The laborer's lifestyle is greatly improved because he can go spend his windfall in a functioning, free-enterprise marketplace. If, for example, he spends the day at the ballgame, enjoying a stadium hot dog while

watching the players compete on the diamond, he can count on the players being there to work for their salaries, the hot dog vendor being there to earn his hourly wage, etc. But if a society-wide redistribution is attempted, then the same will not be true — the change is *macroeconomic*, and it decimates the value of the money being transferred. Redistribution imparts benefit upon the recipient only when it is a relatively rare occurrence, such as are voluntary gifts.

- *competition is one, inseparable category of behavior* — Competition, whatever its seeming merits in some instances, inevitably leads to violence and global conflict. To prevent the mass tragedy that is war, we must strive for a society based not on competition, but on cooperation. An economic system such as capitalism, that thrives on and even encourages competition, must be eradicated for the safety of all.

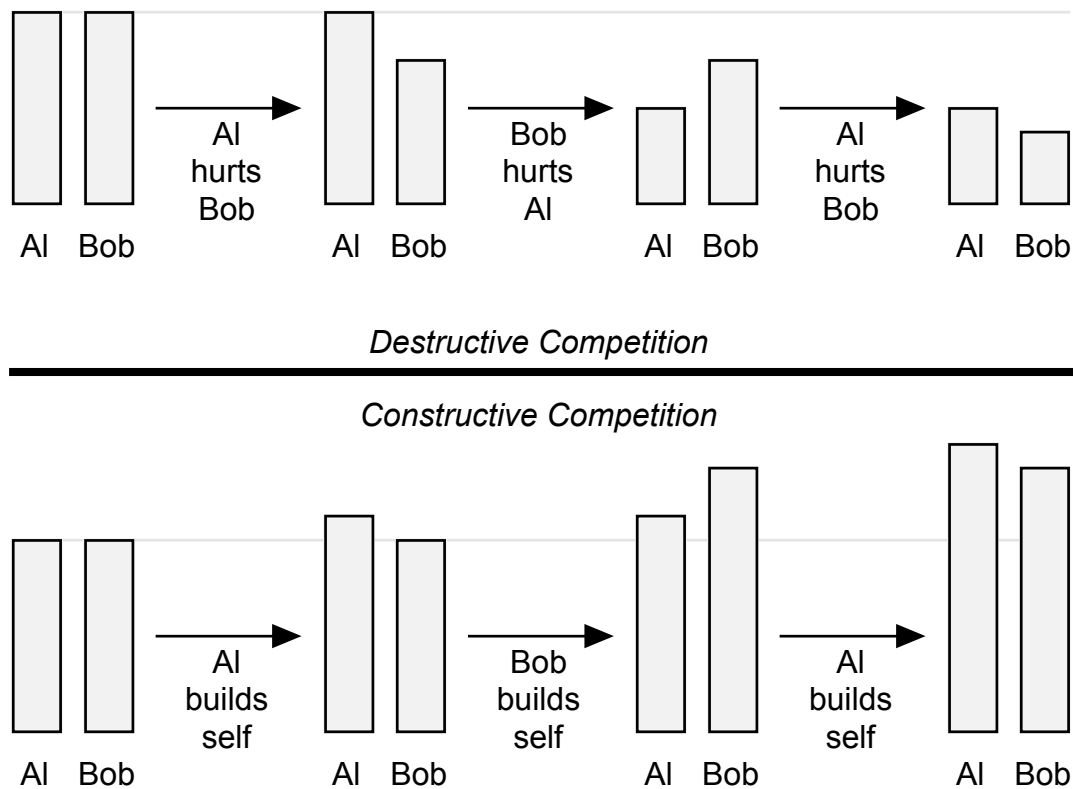
This is simply a failure to distinguish between the fundamental types of competition: constructive and destructive. The two are quite easy to demarcate, as illustrated in Figure 6-1. In the destructive scenario, the competitors destroy each other's wealth until all are badly impoverished, whereas in the constructive scenario, the competitors each work to build their own standing, and all (or most) are thus improved.

Of course, in a competitive business it is considered capitalistically legitimate to “drive your competitor out of business” — but only by building such a great product that your competitors are abandoned by their customers, who voluntarily choose to buy your product instead. That is not the same thing as destructive competition, both because the customers get something better, not worse, and because nothing is destroyed; when your competitors go under, their assets are acquired by other companies (yours, perhaps).

Once we have clearly distinguished the two types of competition, we can easily notice that the rules of capitalism are designed to allow for constructive competition, while disallowing the destructive variety. In fact, that might be the simplest *definition* of capitalism. Capitalism allows GM to improve its cars in an attempt to win customers from Volkswagen, but does not allow GM to send saboteurs to VW's factories. This definition is not without its gray zones, of course. For example, when Sun beat Microsoft to the market with Java, spoiling Microsoft's plans to trounce Netscape by releasing the only browser (IE) with a full-

FIGURE 6-1

Comparison of constructive vs. destructive competition.



fledged programming language built in, was it capitalistically legitimate for Microsoft to then resort to other tactics such as pressuring ISPs to distribute only IE, binding IE into the Windows OS so users couldn't uninstall it or even easily avoid using it, and threatening PC makers like Gateway, Dell, and Compaq with revocation of their license to sell Windows prebundled on their computers, unless they stopped bundling Netscape?<sup>34</sup> Certainly, such action would not be allowed in other industries — imagine how much federal trouble Coca-Cola would receive if it threatened to pull its products from any grocery store that continued to carry Dr. Pepper — but *should* it be allowed? It's debatable. However, the existence of gray areas doesn't diminish the value of the constructive-vs.-destruc-

<sup>34</sup> As charged in *U.S. v. Microsoft*, December 6, 1999. Microsoft also tried to corrupt Java into a Windows-proprietary language, which was part of both the antitrust case and a separate copyright infringement suit brought by Sun.

tive definition of the free market, and the importance of using that definition when deciding such cases.

What about war? Does capitalism increase or decrease the probability and severity of war? Firstly, war does not really take place under the auspices of a particular economic system. When the U.S. fought against Nazi Germany in World War II, there was no blanket economic system covering both sides. The U.S. was more-or-less capitalist, and the Nazis were a mix of fascism and socialism. But still, it can be asked whether the existence of capitalism increases or decreases the chance of war. This seems an open question, but I suggest that the answers are (a) Democratic capitalism is in the process of taking over the world; often by force, but also by its natural tendency to spread as people observe its benefits. This spread, however, breeds intense resentment from those who feel that their traditions are being corroded by rampant Americanization of their culture. Thus, a period of frequent wars (or terrorist attacks) may be an inevitable side-effect of democratic capitalism's rise to global dominion. Once the ascendancy is complete, however, we can expect those wars to cease.<sup>35</sup> Further, (b) the frequency and destructiveness of wars is perhaps more a function of the technological tools available to fight those wars. The wars of the 1800s and the first half of the 1900s were particularly destructive because technology was providing awesome new weapons. With the advent of nuclear weapons at the end of World War II, that all stopped, because the weapons are now so powerful and dangerous that they would not leave a victor with anything to rule — even in his own homeland. (More about this in chapter eight.)

• ***capitalism is about mistrust*** — *The capitalist money system is based on an antagonistic mistrust of our fellow humans, in which everyone's consumption has to be numerically regulated. Human society would be far more pleasant and harmonious if we all trusted each other implicitly.*

It would be easy to attack this concept by talking about how many truly untrustworthy individuals there are in human society (whether it's "their fault" or not), and how many more there would be if the average person started feeling

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<sup>35</sup> Thomas Friedman, author of *The World Is Flat* calls this the "McDonald's theory," which says that when two nations both have McDonald's, they will no longer go to war against each other.

like a chump for performing productive work at all. But the “mistrust” issue deserves a deeper analysis.

The capitalist money system is actually a system that critically depends on its members implicitly *trusting strangers all the time*. Before the advent of modern money markets, trade occurred in the form of bartering. Barter, of course, is much more primitive and inherently less beneficial than a money system, because you have to find persons who have exactly what you need and are willing to trade it for exactly what you can provide them. This situation is made even more awkward by the difficulty of negotiating exact amounts. Is my ability to change the brake pads on your car worth more or less than your ability to put a filling in my decayed tooth? How will we barter if one service is clearly more valuable than the other? How long will these negotiations take, and what will be the effect of the delay on my mouth and your brakes?

Barter *is* based on mistrust, but the money system is not — rather, it is based on extreme *trust* of total strangers. During my teens I grilled burgers at McDonald’s, and I knew that very few, if any, of the people who ate those burgers were going to do anything for me. In fact, some of them might have been making a living by doing things I wouldn’t have even liked, such as writing political articles with which I disagreed, or doing nothing at all (if they happened to inherit the money). I prepared those burgers knowing that I would be compensated with green slips of paper with pictures of past presidents on them. And what are these slips of paper, really? They are *promissory notes*; promises that when I go out to spend that money, there will be people willing to work for it, even though those people in all likelihood will never get anything of value from me. In other words, in the money system *we are all trusting each other all the time*. And it doesn’t matter if the money is backed up by gold (as it used to be in the U.S.), or (as it is now) simply by the strength of the economy and the government’s implicit promise not to start printing out-of-control amounts of money. Because even gold is just another form of money: Would you work for months or years to earn a pile of gold coins if you were allowed only to keep them as pretty collectibles, and never to spend them in the marketplace? I wouldn’t.

Admittedly, the money system does serve the important function of preventing runaway spending and/or non-productivity by significant percentages of the



population, and so is not *all* about trust. But it could never work without a huge amount of trust. It could be said that capitalism is the first system to make a whole nation of millions of people implicitly trust each other every day, as you would trust a close friend who you loan a valuable piece of property such as a car. In capitalism you loan your *work* to total strangers, trusting that other total strangers will do the same for you. The whole system is an immensely complex web of trust and never-ending chain-promises, and the only thing that will keep it from falling apart tomorrow is that the people maintain that trust.

It should also be noted that modern capitalism (or any modern society, even a relatively socialist one) depends on the ability of total strangers to walk by each other millions of times per day, and not see each other as dangerous enemies or easy prey, but instead as mutual equals to be treated with the same courtesy and respect as longtime associates. The American Indian culture, as discussed earlier, could not survive the modern age due to its ingrained lack of default trust.

• *the economy is a zero-sum game* — For one person to gain, another person must lose, and vice-versa. Therefore, the solution to poverty is to take from the rich, who became rich in the first place only by depriving others of wealth.

While the economy does have some inherent upper limit on how much wealth can be generated with today's technological knowledge, there is no lower limit as implied by the zero-sum model. If the zero-sum model was true, then to a person stranded on a desert island, the value of sitting around doing nothing — and starving to death as a result — would be the same as the value of working to hunt/gather food, living a longer life as a result. Almost everyone alive today would agree that the difficulties involved in finding food are far outweighed by the benefits of finding it, which include starvation avoidance, enjoyment of tasty meals, and even the satisfaction of conquering the interesting challenge of obtaining food. This is also true of almost all trade: Both parties benefit, because they each obtain something that they valued more than what they gave up. This phenomenon is closely tied to specialization of roles, which the left also dislikes (detailed immediately below).

- *America became great by eradicating roles* — Before the USA, individuals were shoehorned into sharply defined roles, and this was very bad for society. The USA became a rich and powerful, cutting-edge society of unprecedented global influence, by realizing that those roles are harmful and should be abolished. America got a good start by eliminating kings and peasant classes, and later by eliminating slavery and institutional racism and sexism. But then, somehow, America lost its nerve, and decided it didn't want to get rid of roles completely. Thus we still have rich and poor, governor and governed, educated and uneducated, information workers and manual laborers, etc. If America could be prodded into completing the elimination of roles, it would ascend to even greater heights of achievement, freedom, and human fulfillment.

This idea is closely linked to the desire for individual freedom. Leftists feel that having to serve a specialized role in society is to be “used” like a cog in a machine. They see the enlightened society as one where everybody is free to do what they want, without being coerced, even mildly, into a narrow role. The sentiment is perhaps best summarized by the following two quotes:

In communist society, where no one has one exclusive sphere of activity but each can become accomplished in any branch he wishes, society regulates the general production and thus makes it possible for me to do one thing today and another tomorrow, to hunt in the morning, fish in the afternoon, rear cattle in the evening, criticize after dinner, just as I have a mind, without ever becoming hunter, fisherman, shepherd, or critic.  
—Karl Marx, *The German Ideology*, Part 1-A “Idealism and Materialism”

A human being should be able to change a diaper, plan an invasion, butcher a hog, conn a ship, design a building, write a sonnet, balance accounts, build a wall, set a bone, comfort the dying, take orders, give orders, cooperate, act alone, solve equations, analyze a new problem, pitch manure, program a computer, cook a tasty meal, fight efficiently, die gallantly. Specialization is for insects. —Robert Heinlein, *Time Enough For Love*

The mistake here is a failure to recognize that America became great *not* by eliminating roles, but instead by eliminating the *arbitrary assignment* of those

roles. Take virtually any role of pre-USA society, and you can find its modern equivalent in the USA. Did society once have beggars and starving people? Today people hold up “Will Work For Food” signs at street corners, or freeze to death in heroin alleys. Today many young women have to be hospitalized for anorexia, and many still eventually die from the condition. Did society once have kings? Today we have presidents, senators, congressmen, and Supreme Court judges. Did society once have slaves who were beaten and humiliated? On any given day in the U.S., dozens of sexual submissives are bound, gagged, and tortured to the point of involuntarily crying for mercy, then made to perform menial chores at the whim of their torturers. Although our laws officially disavow torture, no intelligent person seriously believes that our government’s intelligence branches have abandoned the practice, or that they do not maintain a set of techniques and torture experts at the ready. Did society once have dungeons? Besides the houses of bondage just mentioned, we also have grim prisons such as California’s Pelican Bay, where prisoners are almost completely dehumanized into robot-like items to be moved by their captors from locker A to locker B at will, without the slightest tolerance for even passive noncooperation. And in the less extreme prisons, the staff casually looks the other way while prisoners are savagely violated by other prisoners. Did society once have criminals? Today criminality has reached dizzying heights with the advent of Ted Bundy and his whole new breed of charming, chameleonic predators-next-door. Did society once have state-sanctioned execution? It still does, and the resistance against repealing it is fierce; perhaps too strong to ever yield to abolitionist efforts, especially in light of such advanced means of proving guilt as DNA signature, and such humane methods of execution as lethal injection. Did society once have governors who meted out instant punishments — without benefit of trial or appeal — upon any individual who refused to respect their authority? Today we have “trial in absentia” and summary imprisonment for “contempt of court.” Today, though we pride ourselves on the “right to remain silent,” anyone who actually refuses to speak from the moment of arrest onward will be permanently interred in a mental institution or a jail, without trial. Today prisoners who believe their sentences unjust, and so attempt escape, can be sliced to pieces by razor wire, without even the pretense of trial, conviction, or appeal. Did society

once have peasants? Today we have manual day-laborers. Did society once have rich aristocrats? Today we have a superrich class whose individual fortunes, measured as a multiple of the unskilled laborer's income, make the holdings of past aristocrats seem downright paltry. Did society once have an elite and highly exclusive art crowd? Today that art crowd is alive and well, and more elitist than ever in its asserted, exclusive right to decide what is art and what is not. Did society once have knights and samurai whose armor and swordsmanship were the fear of everyone who crossed their paths? Now we have soldiers armed with weapons of mind-boggling power — a single nuclear submarine can easily vaporize any dozen major cities from anywhere on Earth. And the common police officer is armed, trained, and rapidly backed up to a degree that would make the fifty best knights who ever lived look like a bunch of bumbling, ineffective klutzes. It is very hard to find a role of the pre-englightenment past that doesn't have a close, or even more extreme modern analogue. And while it is true that a person who is a humiliated slave on Saturday night might be a telecommunications worker the following Monday — still, the number of roles any one person may occupy regularly is very limited, and hardly chosen on a flight of daily fancy.

America did not get rid of *any* of these roles — only the highly arbitrary manner in which they were being *assigned*. Today our king is *elected*; our slaves and soldiers *volunteer* to serve their owners and commanders, respectively; our peasants are *filtered* by the marketplace for the capacity to do more refined tasks, and only those unable or unwilling to do something more gratifying than peasant's work are forced to do that work; our art crowd is still an exclusive club, but it no longer *controls* most artistic creators or the availability of their creations, and — as we saw in chapter four — must embrace a painfully twisted definition of art in order to preserve its elite status.

Far from having eradicated them, America *depends* on sharply specialized roles for the strength and prosperity of its people, as have *all* civilizations throughout human history. A society that attempts to do away with such roles is doomed to total collapse. America became more powerful and wealthy than any nation in history by realizing that the propensity to fit any particular role is distributed semi-randomly throughout the population, and so the laws and systems

should be structured to allow randomly scattered talents and predispositions to gravitate to their best-fit roles.

The tendency of individuals in a capitalist society to gravitate towards their role of optimum propensity actually makes capitalism the closest possible realization of the dream society depicted in the above Marx and Heinlein quotes. And it would be nice to think that if we simply inform the leftists of this good news, they will abandon socialism and embrace capitalism, or at least sadly realize that the push for absolute equality of wealth or ultimate freedom is one that takes them farther from their dream society, not closer to it. But that would be a mistake.



### *The Error of the Right, or Belling the Cat*

With such numerous economic misconceptions and fantasies confounding the left, it is easy for the capitalist right to think it has it made in the shade, and all it has to do to win is keep pointing out these errors until the leftists snap out of it. (It's not dissimilar to Christian ID proponents pointing out numerous problems with Darwinian evolution and hoping Christianity will thus rise to the top.) Sadly for the right, it just isn't so — rightist economics may not have a plethora of errors, but it does have one. And it's a big one.

A fable of Aesop tells the story of a group of mice who held a meeting to decide what to do about the cat. One mouse came up with a splendid idea: The mice would simply hang a bell around the cat's neck. Then, anytime the cat came nearby, the sound of the bell would warn them of its approach. The mice all thought this was a great idea — until another mouse suddenly asked who was going to put the bell around the cat's neck. No one had much to say about that, and the meeting disbanded.

When I think of this story, I am reminded of the decades-old debate between capitalists and socialists, and I find myself inexorably defining the issue in terms of the mice in their meeting. Some of the mice are socialists, and they proclaim

that the cat does not exist; that all the mice should simply join hands and waltz to the kitchen where they can eat all the cheese they want, to their hearts' content. The cat, they say, is an illusion; a representation of the fear of success. The cat will cower in the shadows and not bother the mice when it sees that they are fearless. The only thing the mice really have to fear is fear itself.

The capitalist mice, on the other hand, insist that the cat is very real, and not a function of fear in the mice's minds. These capitalists have a huge arsenal of evidence in their favor. Charts, graphs, and equations show how powerful the cat is, and how easily it can overpower the most determined mice. Historical evidence shows that every time a group of mice have tried to do as the socialists suggested, they got badly massacred by the cat, and as a general rule, the more brazenly they tried it, the more savagely they got massacred.

The answer, say the capitalists, is to hang a bell — a liberty bell, if you will — around the cat's neck. This, the capitalists readily admit, will *not* create a panacea of free cheese for all. Mice will still have to work to get some cheese, and move their butts fast when they hear that bell. More capable mice will get much more cheese, and some mice who either can't or won't move fast enough may get injured by the cat despite the bell. All of this is admittedly very far from the utopia described by the socialists — but it is vastly better than what's been going on without the bell in place. The capitalist mice have a wealth of powerful historical and mathematical data showing how much better things are when the cat does have a bell.

But in their glee at so completely devastating the arguments of the socialists, the capitalist mice have forgotten one little thing. How do they propose that the bell be put around the cat's neck? The same historical data they cite show also that every time a bell was put around the cat's neck in the past, it was through a freak of luck, and usually involving a lot of bloodshed. And even when the bell did get in place, it didn't last forever, but gradually wore out, becoming more muted in its chime, and eventually falling completely off the cat's neck. No one could figure out a safe, reliable way to maintain or replace the bell, any more than they could figure out how to get it installed in the first place.

In the capitalist formulas, the implementation and maintenance of free-market rules is always a *given*. It is as if a race of aliens assumed orbit around Earth, and

though they gave us no technological assistance, they did announce that they would be using their disintegrator beams to annihilate any human leader who fails to enact and maintain capitalist policies. The benefits to human prosperity would be immense — but the benefits would be even more immense if socialist economics worked, and that's not about to happen either. The capitalists simply focus their argument entirely on how much better things are when the given of capitalist policy is a reality — but fail to notice that they it is actually *not* a given, and without a plan to implement and maintain it, it's as much a fantasy as the society of perfect equality and abundance touted by socialism. For decades, capitalists have expounded pointlessly on how much better things are under capitalism, when they should have been working on a plan to *implement it and maintain it*. Capitalists so often have accused socialists of living in an ivory tower — but the capitalists are equally guilty, for their most prominent advocates are living safely and comfortably in a western democracy, and their promotion of free markets amounts to little more than a way of patting themselves on the back for having found the truth. Their truth, however, is of little use to the struggling masses of the Third World when it can be neither implemented nor maintained. Capitalists have long derided socialism as a pipe-dream about a better society that no one knows how to achieve in the real world. If free-market capitalism is equally unachievable — except on a very temporary basis, and even then only by flukes involving violent government overthrow by just the right people — then it is just as much a pipe-dream as the socialist utopia. Earlier I said that most leftist economic sentiments are based on a desire to preserve the magic of childhood: the time when parents provided for us, and protected us from market realities. But the *right's* economic vision is also a form of this sentiment: As children we develop a sense of ownership and property — one that is not up for public vote — as enforced by our parents. In the grown-up world, however, the entities analogous to our parents are the capitalism-enforcing aliens orbiting in their flying saucers. In other words, the model does not apply.

Table 6-1 illustrates why pure capitalism does not persist in the long term. Just as socialism relies on the unrealistic plan of eradicating individual self-interest, so sustained capitalism relies on the equally unrealistic plan of eradicating comparative satisfaction. Figure 6-2 shows that as capitalism generates large

TABLE 6-1

The Left and the Right each attempt to eradicate an ineradicable human tendency.

| <b>Individual Self-Interest</b><br><i>The tendency of individuals to be primarily interested in their own happiness, and only secondarily that of others.</i>   | <b>Comparative Satisfaction</b><br><i>The tendency of individuals to measure their own success as it compares to the successes of others.</i>   |
|---|---|
| Condemned by Left as selfishness, and the cause of all human troubles. Must be expunged from the human psyche.  | Condemned by Right as envy or pride, and the cause of all human troubles. Must be expunged from the human psyche.   |
| Acknowledged by Right as an irrevocable part of the human psyche. The governing system must take this natural human feeling into account, using it as a motivator to get people to work and organize effectively. | Acknowledged by Left as an irrevocable part of the human psyche. The governing system must take this natural human feeling into account, using it to achieve happiness in the face of limited riches. |

amounts of wealth, the ramp of poorest-to-richest becomes steeper and steeper until the typical voter is sharply aware of how much better some of his neighbors are doing as compared to himself. Then those voters will start voting for left-leaning candidates, and capitalism will erode into an impure, partly socialistic version of itself.

If there is a solution to this situation, by which a dramatically better society than semi-socialism will be created, I think it must involve a major project of DNA repair. I suspect that most individuals (not near the top of the capitalist wealth graph) have significant genetic anomalies that cause wealth-reducing deficiencies (addiction, depression, unattractiveness, suboptimal IQ, etc.). The movie *Gattaca* portrayed a society in which such mutational glitches were largely



FIGURE 6-2

Possible wealth distributions by economic system. (a) utopia of perfect wealth and equality; implied by arguments of both socialists and capitalists, by what they emphasize and disemphasize: capitalists talk about wealth while disemphasizing inequality, and socialists talk about equality while disemphasizing lack of wealth. (b) reality of capitalism; a lot of wealth, but unequally distributed. Full range of dirt-poor to spectacular riches. (c) reality of socialism; a lot of equality, but at a low level. (d) reality of U.S.; somewhere between capitalism and socialism; less wealth than capitalism and less equality than socialism; differences of wealth are less noticeable in any given neighborhood than they would be under pure capitalism because the graph isn't as steep, but everyone is living at a poorer level than they would be under pure capitalism.



eradicated from the gene pool, and serious individual deficiencies were almost a thing of the past. Of course *Gattaca*, like most films about futuristic attempts to improve the human species, has to portray the plan as bleak and oppressive —

anyone who carries a genetic defect of any kind, such as the protagonist of the film, is consigned to menial labor for no apparent reason. And the idea of purifying the gene pool is also badly tainted with association to Nazism. We're simply going to have to get over these unfortunate sentiments if we want to make progress. All Hitler did was presume blond-haired, blue-eyed Germans to be superior, and set about executing everyone else. That's nothing like a realistic program of DNA improvement, which would involve identification of actual, mutational damage, and the elimination of that damage by selective conception (which even in *Gattaca* was not mandated, but voluntarily sought by would-be parents). For example, if DNA researchers discover that a specific set of code contains a complex mechanism for regulating and moderating the desire of chemically induced bliss but, say, 10% of the population has a glitch in that code segment that prevents it from working properly, then we would know we have found random, mutational *damage* to the DNA program, and eliminating that glitch would not be committing Hitleresque eugenics — rather, it would be like curing cystic fibrosis or early-onset diabetes.<sup>36</sup> To shun such a plan because of vague association with Nazi Germany would be to allow Hitler to posthumously continue his campaign of social harm into the present and future.

In a loose sense, the voter who casts a vote for socialism — perhaps even knowing that socialism can't work for one or more of the reasons described above — is saying, in effect, "fix my DNA or else." As long as there is a significant chunk of the population that cannot succeed to a modicum of personal satisfaction, there will be a socialist vote. We should get working on the problem now.

There are many other phenomena like this. As long as we have juries that can't bear to see horribly injured people walk away with no money, we will have ambulance-chasing lawyers who get rich by suing typically faultless corporations (at the consumer's expense). As long as our government's rules allows Massachusetts senators to spend tax money from Ohio but not face the wrath of Ohio voters, and allows Ohio senators to use tax dollars from Massachusetts while safe from the ire of Massachusetts voters, then we will have massive, shamelessly

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<sup>36</sup> Will homosexuality turn out to be caused by an identifiable genetic glitch? No one knows today, but even if it does, keeping the use of genetic selection voluntary will prevent any changes from being socially oppressive or disruptive.

wasteful, pork-barrel spending programs — and swift ejection of any new senator who refuses to play along. Our only consolation will be that all states will be harmed to roughly the same degree. In my younger days, I would sometimes vote in Consumer Reports magazine's movie poll. It was an ongoing poll, that showed statistics from month-to-month, and invited readers to vote for each movie on a scale of one to five. To maximize the effect of my vote, I adopted a system of voting my true feelings only when they exactly matched the current, running average — otherwise I would vote 1 or 5, whichever would push the average in the direction I thought it needed to go. I never felt the slightest guilt about this dishonesty; I figured that if Consumer Reports wants a more accurate survey, they need to shut off easy opportunities to manipulate the results in that manner.

The typical moralist will of course react to all these examples by saying that you could justify any destructive behavior that way, and if you just didn't do that, there would be no need to fix the system. This is wrong because there are different degrees of *ease* with which a system can be exploited. For example, if I leave all the doors and windows of my house unlocked all the time, then I shouldn't be too surprised if I am soon robbed on a day when I am away from home. If I carefully lock all my doors and windows, I might still be robbed, but the odds are much lower, because the robber must go to more effort, have burglary skills and tools, and take a greater chance of incarceration. (If he walks into an unlocked house and finds somebody home, he can always tell the cops that he was at the wrong house, or was just checking to see that everyone inside was OK, and thus be largely unconvictable due to reasonable doubt.) The only destructive behavior justified by my above examples is that which is easy, relatively risk-free, and correctible with a simple fix to the system: Lock your doors, make your movie poll a one-shot (not ongoing) vote, teach your children (future jurors) how much ambulance-chasing costs them per year, and adopt a system of rotation to determine which state will be the site of the next, truly necessary federal program. Until then, I see no need for even the most extreme pork-barrel senators to think they're doing anything but merely demonstrating the need for the fix. Just as the first democracy was established by force when somebody got tired of the abuses of theocracies and aristocracies, systems are overhauled with

substantial improvements only after suffering for some time with the consequences of *not* implementing the fix.

Humanity is able to survive ongoing genetic mutation by the constant elimination of damaged genes from the gene pool. In the case of mutations that cause severe harm, this happens very quickly, such as with a mutation that renders a person unable to fight off bacterial or viral infections. But many mutations are more subtle than that. What about a mutation that causes an individual to have great difficulty with math comprehension? Or that causes alcoholism? Or unusual stubbornness? Individuals who carry one or even a few such minor problems might still be able to mate and reproduce. But sooner or later, such minor-defect genes will accumulate in the gene pool to the point where some individuals are being born with a fairly large number of them — and then those individuals will be far less likely to reproduce. Thus, a whole set of bad genes are eliminated at once in the same individual. Geneticists call this “truncation selection.”

Truncation selection works, and may even be the purpose behind sexual reproduction: to keep the genes mixing and create the truncation-selection effect.<sup>37</sup> But in humans, who are intelligent enough to see the big picture, there’s a negative side effect: resentment. An individual brown bear that inherits multiple detrimental mutations, and is thus too dysfunctional to successfully reproduce, has no knowledge of what is going on, nor the means to lash out, nor a bear government or electorate that could learn something from that lashing-out. Humans, on the other hand, have all of those things, including many different ways of lashing out, which can come in a form as intense as a massacre, or as mild but still effective as purposely voting for the candidate that will cause the most havoc with other people’s lives. But the message is essentially the same: If I am a dysfunctional, and society is largely run by the functionals, then the functionals’ only serious motivation to cure dysfunction is if I share my misery with them in any way I can. Seemingly irrational, antisocial political positions — long the bane of rightists who thought they could bell the cat by arguing the economic benefits of capitalism until they were blue in the face — may simply be the indirect result of the truncation scenario in action. Perhaps the vast majority of the population

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<sup>37</sup> Even asexually reproducing bacteria will periodically hook up with each other and exchange a few genes, in what could be described as sex without gender.

would happily go along with capitalism if the need for truncation was eliminated by intelligently planned genetic repair.

Overlooking the cat-belling problem is just another false dichotomy. Capitalists have made a very similar mistake as have evolutionists, which is to think that if your opponent is clearly wrong, that makes you clearly right. It doesn't, of course — you can both be wrong. Maybe not to the same degree, but wrong nonetheless. While religious scripturalists might believe in twenty different unscientific propositions, evolutionists could still be wrong if they believe in just one: the unsupported extrapolation of microevolutionary adjustments to macroevolutionary innovation. Likewise, while the economic left labors under multiple delusions, the right will still be perpetually stymied if it overlooks even one critical factor: the political effects of truncation-born resentment.

The war on drugs is probably another symptom of truncation selection, and again illustrates the futility of trying to stamp out the problem without addressing the root cause. Getting high to attenuate the misery of a dysfunctional life is yet another way to thumb one's nose at the highly functional members of society: I may make a relatively low income at a crummy, tiresome job, but I can give a chunk of that income to prohibition drug barons, and there are many more people like me who are doing the same. Can you stop us? Can you force us to endure our frustrated lives without finding a way to escape, that also puts a thorn in your side? Go ahead and try — and good luck; you'll really need it.

The great majority of people who vote for capitalism do so because they perceive themselves as being successful and happy in the present or the near future, and they don't want a government that will reduce their opportunities for and degree of continued success. Conversely, most people who vote socialist do so because they perceive themselves as very unlikely to achieve success and happiness in life, and they simply want to vote against a system that consigns them to such an existence. It is wildly unrealistic to think that this voting pattern can be talked away by extolling on the virtues of capitalism or the inadequacies of socialism. Books advocating capitalism are poor sellers compared to books decrying the plight of the poor and the otherwise unfortunate. Thus, as measured with the capitalists own yardstick (i.e. book sales) the population doesn't really like capitalism, and for the most part goes along with it only begrudgingly.

Capitalism can never win any solid victory in such an environment. The playing field must be reseeded if the anti-productivity cat is to be belled and kept belled.

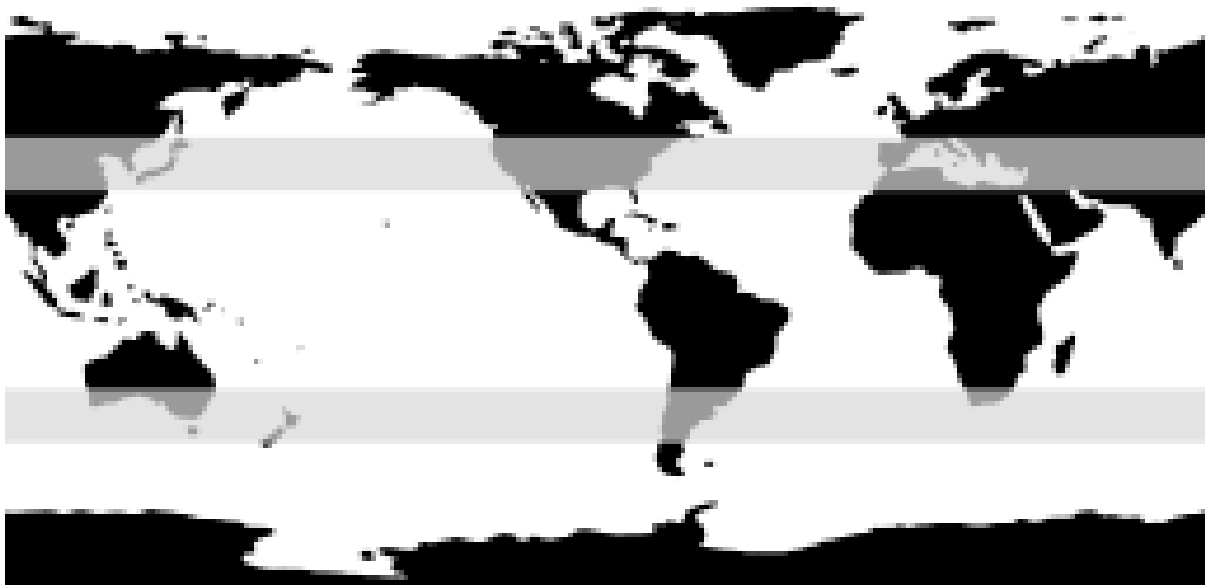
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Besides tackling the great task of finding and repairing harmful mutations, rightists need to be realistic about what will be achieved. It seems almost painfully obvious to me that geography has a lot to do with the productivity of a nation, and the degree to which its people are willing to go along with capitalism. In Figure 6-3 we see a map of Earth with two “comfort” bands highlighted. These bands represent the area of nice climate — outside of them it is either horribly hot or bitterly cold. Notice that the prosperous nations lie mostly within these temperate bands, and the exceptions either have a very high coast-to-land ratio, or are sitting on massive, easily tapped oil deposits.

Out of the U.S., the U.K., Australia, New Zealand, and Japan, only the U.K. is largely outside the comfort zone, but has a very high coast-to-area ratio, as do

### FIGURE 6-3

Miller-projection of Earth with highlighted comfort zones (between 30° and 45° from the equator in each hemisphere).



Florida and Hawaii, the only densely populated parts of the U.S. to lie outside the zone. Not only is Japan entirely in the comfort zone, but its coast-to-area ratio is huge, and it is an economic powerhouse, in some ways besting even the United States. Australia is half out of the zone, but keeps most of its major cities within the zone (as does Canada). Second-tier economic powerhouses, such as Chile, South Africa, China, India, and the newly liberated Russia, lie partially in the zone and partially out of it.

The coincidence seems too stark to be the result of chance; therefore we can expect that even if issues of genetic damage are one day adequately resolved, there will be global economic disparities not too dissimilar to what we see today.



### *Feminism and Female Power*

Perhaps the largest attempt at shifting economic power in the past century has been the feminist, or “women’s” movement, which sought to transfer power to the half of the population that has been traditionally held down by a universal male domination of cultures. What happened to feminism? In the late 1970s, feminism was in its prime, and most of the population seemed resigned, either happily or unhappily, to the apparent fact that the feminist vision was taking over society and would soon be the natural rule rather than the heavy-handed, politically colored exception. Like most movements born in the 1960s, feminism envisioned a radically altered society that would be almost alien to people who lived prior to it. That vision seemed to fizzle in the 1980s, which caused anti-feminists like Morton Downey Jr. to declare the death of the movement, and leading feminists like Susan Faludi to decry the backlash against it. But did feminism really fail?

The fate of the feminist movement is almost perfectly analogized by what happened to the word “Ms.” This word was invented clearly as a response to the unequal state of affairs diagrammed in Table 6-2 — only one term for males, but two for females. Feminists naturally resented this situation because it implied

TABLE 6-2

Formal titles before the advent of the word "Ms."

| female            | male |
|-------------------|------|
| Miss<br>(single)  | Mr.  |
| Mrs.<br>(married) |      |

that men should be informed of a woman's marital status, but women do not need to know a man's. In response, feminists coined the word "Ms." — a formal title for women that does not indicate marital status.

Was the word "Ms." a success? Conservative columnists of the time pooh-poohed it as a "fad word that will soon make a merciful departure from our vocabulary."<sup>38</sup> Yet here we are over twenty years later and the word is in widespread use. Women use the title Ms. routinely without feeling that they are shocking their audience with a bizarre politico-term. And during its assimilation into the language, "Ms." has retained its marital-status-neutral meaning — it has not come to mean "divorced," as some tried to shoehorn it when it was still relatively new.

So the word is an unqualified success, no? Well, actually it depends on what one thinks the word was supposed to do. If the sole intention was that "Ms." would give women the *opportunity* to use a formal title without revealing their marital status, and to do so with a word that is widely accepted as a permanent and normal part of the English language, then yes, the word "Ms." is indeed an unqualified success. But if the goal was to absolutely equalize things across the board — not merely from the standpoint of opportunity, but from a *statistical* viewpoint — then one could say that the word "Ms." has not only failed, it has perhaps even backfired.

<sup>38</sup> Lynn Ashby, The Houston Post.



Most political movements are led by their most disgruntled, socially disaffected members, and the feminist movement of the late 1960s and '70s was no exception. When I recall feminist activism of that period, I am reminded of the career of Ralph Nader who did America a tremendous service by exposing the safety issues of the Chevrolet Corvaire and other problematic cars, but whose political activities ever since have exposed him to be a bitter socialist who wanted all along to believe that the Corvaire was a *representative* product of American capitalism. Likewise, while the feminist movement that had its heyday in the late 1960s and '70s certainly did invaluable work in securing equal opportunity for women, its goals always appeared to go much further than that, envisioning a society where 50% of all technical jobs are occupied by females, or alternatively a society governed by “comparable worth” laws that decide how much a largely female-predominated profession (e.g. nursing) should earn as compared to a largely male-predominated one (e.g. garbage collection).

Most likely, to the leading feminists, the goal of the word “Ms.” was to create the situation depicted in Table 6-3. In other words, they wanted the words “Miss” and “Mrs.” to *disappear* — to be viewed as jaded anachronisms of a quaint and oppressive past. That didn’t happen, however, and the new situation can be summed up as in Table 6-4. Now, there is even *more* information on the female side of the chart than there was before. Women who want to conceal their marital status now have the opportunity to do so, but only by revealing that they *want* to do so. And women who go by “Miss” or “Mrs.” are now revealing that they *want* people to know their marital status, whereas before they were not. It seems doubtful in the extreme that this increase in information about women was the intention of the feminist leadership of the 1960s and '70s.

**TABLE 6-3**

**Absolute statistical equality sought by leading feminists.**

| female | male |
|--------|------|
| Ms.    | Mr.  |

TABLE 6-4

Formal titles of the present and their respective meanings.

| female                           | male |
|----------------------------------|------|
| Ms.<br>(left-leaning)            | Mr.  |
| Miss<br>(single, right-leaning)  |      |
| Mrs.<br>(married, right-leaning) |      |

The success and failure of the whole feminist movement closely parallels the above tale of the word “Ms.” Today, women in western democracies have virtually equal opportunity to become doctors, lawyers, or business owners, to vote, to inherit, etc. For those who viewed the purpose of the feminist movement as opening these doors of *opportunity*, feminism is an unabashed success, and almost certainly a permanent one.

But for those feminists who viewed the goal of the movement as the eradication of hated gender roles and behavioral preferences, of the idea that persons such as Britney Spears and Johnny Depp are the epitomes of female and male charisma, feminism can only be said to have failed badly. Huge, muscular males still line up on the gridiron to packed crowds, and the cheerleaders on the sidelines are almost exclusively women. Pop female sex icons of the early 1980s like Madonna — who looked like part of the backlash against feminism at that time — look practically butch compared to the new breed of Spearses and Aguileras. Nouveau, experimental weddings have fallen out of fashion and the traditional bride-and-groom style is perhaps more popular — especially in terms of being truly *chosen* — than it ever was. Male bodybuilding has moved from a quixotic practice of the very few to such a mainstream phenomenon that most very chis-

eled fitness buffs cannot even hope to compete in local (not to mention national) bodybuilding competitions. In many respects, today's situation would have looked like a bad nightmare to a feminist advocate of, say, 1976.

Further still — the modern situation of hardcore feminism coexisting in society along with sharply traditional gender images has marked feminists as a freakish, isolated, political breed. In the '70s they were at the forefront of mainstream political thought, but today they are the norm only on heavily left-wing campuses, where they retreat further and further into their own world of victimology, from which most mainstream, attractive, young women — even those headed for rewarding professional careers — want to distance themselves.

The feminist battle for *opportunity* was handily won, but the battle for complete transformation of human preferences and statistical behavior patterns never really got off the ground. As soon as the feminist-supporting public realized that women could be doctors and lawyers without ruining the game of football or forcing half of all women to pursue technical professions, then the radical feminist vision was doomed.

### *Transfer of Power*

Is there hope yet for feminists who want to see women move, *en masse*, into positions of power and authority? Perhaps there is. Gender roles and images may remain, enjoyed by most and reviled by few, but those roles do not necessarily preclude a huge shift of *power and authority* — which in fact, is already well underway.

Up to this point, any quest for female power in western society has been caught between the Scylla of Christian scripturalism on one side and the Charybdis of materialistic evolution on the other. Feminists have done a valiant job of trying to twist each to their favor: They have attempted to insert feminist values into liberal Christian denominations, rewriting Christian scripture with a feminist spin. And they have tried to make evolution look like their friend by referring to their opponents as “neanderthals” and speaking of the feminist plan as a more “evolved” way for humans to live. But ultimately, both scripturalism and

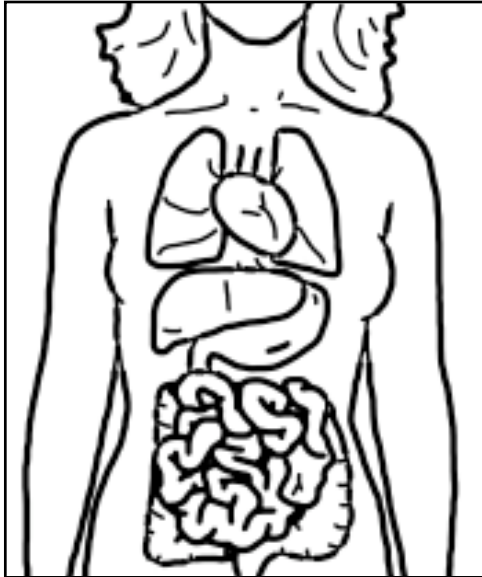
evolution are the sworn enemies of any vision of female authority. Christian scripture — the literal belief of which is the core of Christian religious continuity — clearly relegates women to the status of property, or at best the lowly servants of men. The Christian God is male, and created females as an afterthought; to keep men company. And evolution directly implies that we were created by forces that care nothing of our political desires (e.g. feminism) and expediently evolved the female body and brain to make babies and raise children while men go out exploring, adventuring, and vying for physical authority over all. Perhaps several million more years of evolution or a centuries-distant technology of genetic engineering could reverse this legacy of evolution, but probably not in time for anyone alive today to see the transformation even begin, much less come to fruition.

But — what if religious scripturalism and Darwinian evolutionism are both wrong? What if humans were intentionally created by designers whose true nature is just barely beginning to be seriously investigated? In that case, we are free to speculate about what the designers planned to be the ultimate state of human society. The feminist movement has necessarily coincided with a tremendous burst of technological advancement — the flowering of science as a way of life — and what are the odds that the ongoing male-to-female power shift will just happen to stop at some sort of precise, fifty-fifty balance? The history of social statistics suggests that such a perfectly egalitarian outcome is very unlikely. Perhaps the shift will stop short of statistical equality — but perhaps it will pass the fifty-yard line, and leave us with a society controlled, on average, by females.

As previously discussed, the esthetic of beauty and magical experience in this life is the *concealed mechanism* — the hidden complexities that make the difficult and complicated seem both effortless and mystically powerful. The human body certainly exemplifies this esthetic. Like the ugly complexity of a car engine hidden under a gracefully curved hood, the ugly, asymmetrical, and purely functional devices in our chest cavity are artfully concealed inside a smooth, symmetrical, exterior torso. (See Figure 6-4.) Our designers, it would appear, like the idea that the ugly necessities of life be hidden from view, and have given us brains that appreciate that same esthetic.

## FIGURE 6-4

The ugly mechanisms of the human body and of automobiles are hidden beneath an esthetically pleasing exterior.



Internal organs of the human torso — could be called beautiful only by a surgeon.



The engine and other machines under the hood of a car — could be called beautiful only by an auto mechanic.

Aside from the organs in the torso, the next most prominent feature of the human body's functionality is the musculature. In the female body, the muscles are *artfully concealed* in a smoothly contoured form that just seems to move by magic any way it wants to. But in the male body, the muscles are shaped differently, sheathed in less subcutaneous fat with a different distribution, and seem intended much more for sheer horsepower than for satisfying a designer's esthetic of hidden mechanisms driving apparently magical motion. (See Figure 6-5.)

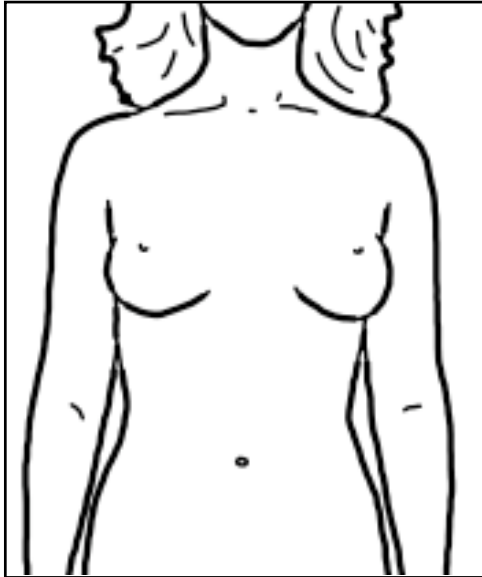
Further, genetic evidence seems to indicate that the male body is a modified version of the female body,<sup>39</sup> possibly indicating that the female human is, quite literally, the original design of the human body, and the male version is a utilitarian compromise with the fact that humans would be dealing with a rough environment in their pre-technological age. Perhaps the designers originally in-

<sup>39</sup> John Gribbin and Jeremy Cherfas, *The Mating Game*, p. 60

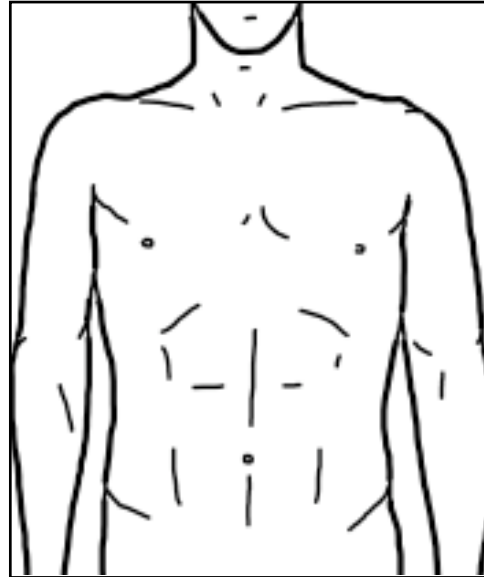
## FIGURE 6-5

Comparison of the human female and male musculatures.

*(from photos by Jim Skipper)*



The female musculature is designed to facilitate motion while retaining the esthetic of concealed mechanisms.



The male musculature is more of a utilitarian compromise with the need for heavy lifting and other tasks of brute strength.

tended for humans to all look as women do (but with different sex organs), and realized at some point in their design process that humans were going to need to be physically stronger to thrive. Rather than spoil their excellent design, they kept it untouched for the females, and made a modified, “workhorse” version for the males — bigger, stronger muscles, and a brain more focused on narrow mission-tasking and technical problem-solving.

In one sense, this analysis is grossly offensive to feminism — certainly the leading ’70s feminists would condemn it. But in another sense, it offers up the prospect of a largely female-controlled society, in a way that neither Christianity nor Darwinism can. If correct, it would mean that the only reason human society has been male-dominated for so long is that in the absence of modern governments and modern technology, human groups would inevitably be ruled by their

physically strongest members, who would be male. As humanity is now transitioning to the era of advanced technology and democratic capitalism, the ability of an exceptionally strong male to physically overpower almost any female has become irrelevant, and male bodily strength is useful for one thing: Performing work that requires it. Thus, we can expect to see continued male dominance of the football field, the military grunt line, and the oil rig, and any other strength-demanding environments — which may remain common as humanity tackles the difficult frontier of colonizing other planets. But this is not really a bad thing for women: If, for example, we all benefit from a steady supply of oil, and the rigs are worked by males, is that an example of male dominance, or female dominance of society? A '70s feminist would call that “patronizing” or being “put on a pedestal,” but seriously, how many women really want to work on an oil rig, now that the mere right to do so is legally secured? How many men want to, for that matter? Even the ones who do would probably quit in a heartbeat if they won the lottery. I myself program computers in an office and wrote this book in a coffee shop — I haven't even set foot on an oil rig. If that's being on a pedestal, so be it; it's a pedestal I'm happy to stay on for the rest of my life.

Until recently, assertive, commanding females were reviled as “bitches,” while their male counterparts were considered natural authority figures. But slowly the word “bitch” has changed to mean either an incessant whiner (“quit your bitching”) or a subjugated underling (“you're gonna be my bitch”). Men were once taught to pursue demure, submissive women, but today such behavior by a woman is more likely to be interpreted as painful shyness, and the desirable qualities are more in line with vivaciousness and sexual aggressiveness (witness Spears).

If human society is ultimately headed for female domination, what will that look like? It won't be an exact inverse of male domination of the past; only in a primitive society can people be bought and sold like property. Instead, it will probably look very similar to what we see today, except that a much larger percentage of the nation's money supply will be in the hands of (or under the ultimate control of) females. In retrospect, the feminist desire to expunge all gender differences will be seen as motivated by an unsupported attachment of the bad historical aspects of maleness (violence, physical control of women, and physical

exclusion of women from the technical professions) with the beneficial aspects (optimization for rough physical tasks and a built-in desire to fulfill them). Now that human society has matured, females, it would seem, have been given the purest opportunity to enjoy life, as it was intended to be enjoyed.



## Altruism, Morality, Perception

*Wake up, sucker! We're thieves and we're bad guys — that's exactly what we are.*

—*Peter, Dawn of the Dead, George Romero*

IN GRADE SCHOOL, MY TEACHER once had the class read a poem that she considered profound. It concerned an ant who got mangled in an accident. Specialized ants attended to this damaged ant (either to help her or just to clean up the mess), and all the other ants went about their business as usual, because “it wasn’t their affair.” Our teacher explained to us that the author was making an analogy to rubbernecking on the freeway, and how people in general should not concern themselves with the affairs of strangers, but stick to their own business. We should learn from the example of the hardworking, industrious ant. This, our teacher thought, was an important lesson from which we could all benefit.

However, this teacher did not draw our attention to a little problem with this insect thesis. The ant poem had a *human author*, and that author was not contenting himself with tidying his own house or doing his own job for his employer — rather, he was writing poems admonishing other people not to rubberneck. Is that what a good, single-mindedly industrious ant would do? I think if this author truly followed the example of the ant, he would feel no need to write such a poem, and would have contented himself with doing his job and not worrying about whether other people rubberneck, or whether other people concern themselves with the affairs of others.

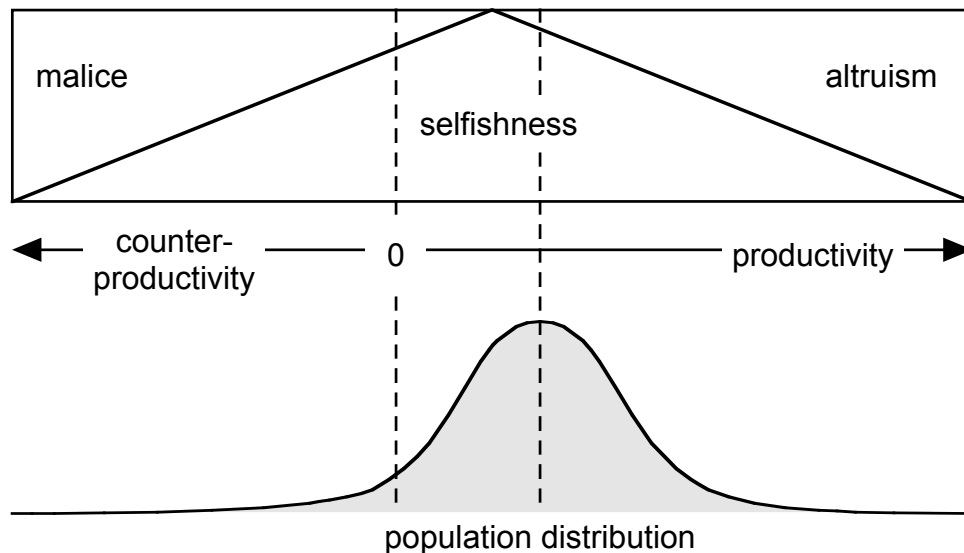
The ant poem exemplifies the critical flaw in virtually all moralistic thinking, including the moralism that undergirds organized religion. As Johnson points out, evolutionists who believe that human reason subsumes to evolution are making an arbitrary exemption for themselves, and as D'Souza notes, cultural relativists don't worry much about the fact that they are advancing a position that is uniquely a product of American culture. Likewise, all moralism is based on a specific exemption for the moralist, and a requirement that the audience consider themselves specially culpable under the moral rules. How many times have you complained about something only to be told "life isn't fair." Of course, the person telling you that life isn't fair could have stoically accepted your complaining as part of the natural trials of life, but instead tried to get you to stop. I greatly admire the music of Don Henley — nevertheless, I am perplexed at his song "Get Over It" in which he tells people to stop bitching about the unfairness of life. It seems to me that Henley could have just "gotten over" those peoples' complaining — he didn't; instead he wrote a song complaining about it.

One of the strong beliefs of the religious right is that all human problems stem from the sin of "pride." When you try to find out exactly what this pride is, it turns out to be any strong feeling of self-importance or high confidence in one's own correctness. This, in turn, raises the question: Are people who openly condemn pride committing it by the very act of condemning it? It would appear that they are, for they are very confident of their own correctness in the matter.

Selfishness is strongly frowned upon by both the left and right, with only mild exceptions by those narrowly focused on capitalism (e.g. "greed is not bad"). Extreme selfishness is widely considered to be the worst state of a human mind, but it is not; it is actually the center of the spectrum between good and bad. Consider Figure 7-1: The spectrum of evil- (actually destructiveness) to-good (actually constructiveness) has selfishness in the very middle. Selfishness diminishes toward either end of the spectrum. This is because to have malice, one must be concerned with the fate of others (i.e. with harming them) to the point of giving up opportunities to maximize one's own comfort. As noted in chapter three, it's a lot more comfortable and less risky to watch TV and eat snacks than it is to go out hunting for murder victims. The malicious person sacrifices the pursuit of his own comfort for the sake of hurting others, much as the

FIGURE 7-1

Selfishness is the center, not the most destructive behavior. Most people are a little on the altruistic side of purely selfish. (Note that “productivity” is measured on the assumption that the individual is in a functioning economy, which would not be the case if all individuals were purely altruistic.)



altruistic person sacrifices comforts for the sake of helping others. A hypothetically purely malicious person, like a purely altruistic one, would be utterly unconcerned with his own fate; only with minimizing the joy of others.

Figure 7-1 also includes a bell-curve representing my strong hunch about how the population is distributed on the selfishness graph. The majority are a little to the altruistic of purely selfish, and a minority are on the malicious side, though not very strongly so. Note that I have placed 0 (the exact middle between productivity and counterproductivity) significantly to the malicious of purely selfish — this is because the pursuit of selfish desires is generally beneficial (in a largely capitalist system like America, anyway) as selfish individuals find productivity to be the surest route to increasing their own comforts. It takes a significant amount of malice to counterbalance the productivity of selfishness and thus render an individual who is, on the balance, a “zero” (i.e. doing about the same

amount of harm as help). Thus, the two dotted lines show that the vast majority of people are productively helpful to others, and only a very small fraction of the population cause net harm, not to mention serious net harm.

The idea that most everyone is strongly selfish is not looked upon favorably, and we usually reserve the term “selfish” for those who commit gross acts of manipulation for purposes of very temporary gain, such as a person who falsely tells you his grandmother died so he can get out of helping you move some furniture. But these people would be better labeled “shortsighted” than “selfish.” By not looking forward, the shortsighted person fails to see that he will lose more in a friend than he will gain by avoiding an hour of manual labor. Both routes are selfish — wanting to keep a valuable friend is a selfish motive.

To see how deeply selfishness is ingrained in the human condition, one need only ask what would happen if we lived in a world full of purely altruistic people. Such a world would make no sense — each person would roam about looking for someone to help, but would be frustrated, finding only other altruistic people who don’t want to be helped but only want to help others. In such a world there would be nothing for anyone to do but perform the most basic of life functions (gathering food and staying out of the rain) that permit their altruistic search to continue. It is interesting to note that hard-left societies, which have seriously attempted to expunge selfishness, resemble exactly that: a horde of luxury-starved, food-gathering human robots who do little more than keep themselves going until they inevitably die. And hard-right religious live similar lives in convents or monasteries, providing the minimum supplies required for survival while praying for entrance into heaven, until their lives are over.

The pointlessness of a world populated by purely altruistic people is abruptly relieved by the presence of even a single selfish person. If I (a selfish person) landed on a planet populated by purely altruistic beings all wandering around confusedly searching for someone to help, then I would become king. All the altruistic creatures would flock to me and provide me with everything I wanted. I would truly be in paradise. And this paradise is the secret wish of all advocates of altruism. Every poet or philosopher who has waxed with praise of altruistic behavior was secretly wanting others to altruistically provide for his own, selfish desires.

Advocating for altruism is not an altruistic activity — it is a *selfish* one. A truly altruistic person does not care whether others are altruistic; in fact, he prefers that they be selfish so he can provide for their selfish desires. If I am altruistic towards you, I want to discover your selfish desires and provide for them, not admonish you to be altruistic. Even if my admonishments are intended to prevent war by encouraging people to care for each other, then I am simply pursuing my own selfish, personal revulsion and fear of war. We're all going to die — it is quite selfish to want the entire population of billions of other people to reform itself to an image that pleases you.

I am not saying that altruism does not exist — my Figure 7-1 indicates that I believe it does — I am simply saying that to fulfill its function, altruism *needs* selfishness. Some persons simply have altruistic desires to satisfy other persons' selfish desires, and the two find each other and are both satisfied by the interaction. The idea that altruism is a good unto itself and that selfishness is expendable (at best), is simply another beautiful lie that we acquire from our parents' admonitions to be altruistic. We become rebellious against our parents at adolescence primarily because we have become experienced enough and intelligent enough to see through this lie, realizing that our parents are not particularly altruistic themselves, and probably only encouraged us to be altruistic out of their own selfish desire to have children who “do them proud.”

Saying that almost all people are very selfish is similar to saying that everyone thinks they're right all the time. It sounds like a condemnation, but it really isn't. It's logically impossible to think you're wrong; that's practically a contradiction in terms. You can *discover* that you are wrong, but the very act of doing so changes your belief, and so you immediately, once again, think you're right. Thinking you're right is an unavoidable consequence of thinking at all. Similarly, selfishness is just an unavoidable consequence of the fact that you have only your own, one brain to think with and your own, single body to move around in and act with. Everything you do is in some way an attempt to satisfy your own desires — how could it be otherwise? Acts of altruism satisfy preprogrammed emotional desires to see someone else's wants fulfilled. Good and evil hardly enter the equation. Christians say that our creator wants us to behave altruistically and despises selfishness. The evidence suggests instead that our crea-

tors gave us a plethora of selfish and altruistic desires, apparently so that we would live interesting, interacting lives.

The religious implore us to avoid sins such as stubbornness and infidelity, but fail to notice that the two are opposites. When a person refuses to change his mind, we call him stubborn, obstinate, and close-minded if we want him to change his mind, or call him faithful, resolute, skeptical, and firm if we approve of his sticking to his guns. If he does change his mind, we call him fickle, faithless, and gullible to express disapproval, or open-minded and reasonable if we like his new position.

“What if everyone acted that way?” we are challenged, but how many of us think to answer, “Everyone isn’t acting that way. Only some are, and I’m one of them,” or “If everyone pursued a medical career, it would be an economic catastrophe — so should I not pursue a medical career?”

Be humble, not proud, we are told. But if I follow this advice, will I become proud of my humility? Witness the Amish, who have made a whole lifestyle out of humility. Are they not quite proud of that? Is a sexual submissive who bows to the will of a dominatrix performing an act of supreme humility, or is he filled with pride that he can obey even her most difficult commands? Is there any difference? To avoid being proud of my humility, I must cease to care whether I truly practice humility — in which case, I may not be very humble at all. Trying to separate pride from humility is truly a maze of contradictions, and the only certainty is that those who think they are humble probably really aren’t. And, in like manner, all exhortations to morality fall on the rocks of self-application:

If mankind minus one were of one opinion, then mankind is no more justified in silencing the one than the one — if he had the power — would be justified in silencing mankind. —John Stuart Mill

If Mill was merely encouraging us to let others speak their minds, then I suppose I can’t find fault with his statement (provided we can all agree on appropriate speaking forums for those who want to be heard). But if he meant this as it sounds — as a high principle of gravitous, civilized, moral truth — then what of my opinion if I disagree with him? Perhaps he wouldn’t want me literally si-

lenced, but he surely would consider me to have left the realm of reasonable people. His statement implies as much. Is his statement just an opinion, with no more absolute authority over human morality than that of the one person who shouldn't be "silenced?" All statements of moralists make sense only when you forget to apply the morality universally, and instead apply it only to select individuals, or to a lone individual. Moral statements are, really, statements of what one person would like others to do, and hopes to persuade them to do by convincing them that it is "moral."

Laziness is the mother of invention, so the paraphrased saying goes. But what, exactly, is laziness? My desire to write videogames or philosophy books could be interpreted as either industriousness or laziness, depending on what you want me to do. Is this book you are now reading an attempt by me to escape the Dilbert maze? Certainly. Is that laziness? Very hard to say. In many of my cubicle jobs, I have spent whole days doing literally nothing, whereas any hour spent working on this book was extremely productive. On the other hand, my hope is that the book will be a smashing success and earn enough revenue to allow me to spend half of my weekday working on new (and highly speculative) personal projects, and the other half relaxing or spending quality time with my family. Laziness is very hard to pin down.

Part of the reason capitalism works so well is that it allows each individual's strong preferences to be factored in, in a way that socialism does not, because people can lie. If ten people all insist that they are only truly happy painting at the beach, and only one of them is telling the truth, how are we to know which? In capitalism, the persons who truly desire to paint at the beach all day will make the sacrifices necessary to achieve that dream (at some level of comfort or another), and no one needs to read their minds to make the system work. Subjective judgments of laziness need not be made, although one can easily imagine that if the beach painter's parents wanted him to be a doctor, they will no doubt call him "lazy" any time they think it might push him towards medical school.

Is gluttony transparently wrong? So, allegedly, is vanity. These two contradictory moralisms can be made compatible only by declaring that everyone must be average — not exceptionally fit, but neither exceptionally fat. Good luck trying to achieve that; maybe one day we'll all be exactly the same weight? And

most religious moralists don't allow for such a middle ground anyway: If you eat even a little too much, you're a glutton, and if don't you're vain; whichever is convenient to accuse you of at the moment — or praise you for avoiding, as their whim dictates.

The “golden rule” is revered by many as the ultimate morality-in-a-nutshell: “Do unto others as you would have them do unto you.” But it is as empty as any other moral admonition. I would certainly have others give me a few million dollars (chipping in as a group if necessary, or from some ultra-rich person to whom the disbursement is only a minor financial dent). I would live comfortably off the interest, and would never have to work again. So should I chip in towards giving such a golden parachute to some other random stranger? Am I immoral if I don't? Perhaps we could amend the golden rule with the stipulation “but only that which we can all do for each other simultaneously.” That's a little clearer, but still awfully ambiguous. There are many things that I want, that could conceivably be provided by everyone for each other, but that many other people do *not* want. So the golden rule degenerates to “Give others whatever they want, as you would want them to give you whatever you want.” What if what I want is for them to care for me and expect nothing in return? What if that's what they want too? Back to the hall of mirrors!

The popular game show *Survivor* strands its contestants on a remote beach where they must live off the land and, one by one, vote each other out of the game. It is interesting to see how the attitude changes over the course of the competition: In the early phase, when there is safety in numbers, the chances of being voted off are small, and the likelihood of winning the million-dollar prize is equally small, the prevailing attitude is that this is just a game, and not to be taken too seriously from a moral standpoint. But as the game draws to a close, and both the odds of winning and the odds of being voted off at the next tribal council go way up, tempers flare and accusations of unethical behavior fly. Suddenly, it seems, it's no longer “just a game” — objective standards of morality really do exist. But of course, in the end it *is* just a game, and all the moral outrage was either an emotion *du jour*, or an effective strategy by a savvy player.

Now the point of this exposé of vacuousness in moral declarations is not that we should think morality is meaningless and that we should all behave like wild



animals. Rather, it is simply to realize that morality is not a stern directive of our creators; such feelings likely derive from projections of our parents as authority figures from when we were little children. The truth is that our creators have not given us moral codes, but at the same time those creators probably recognize that legal codes (and accompanying moral assertions) will arise naturally in human society. It's obvious why murder must be illegal, and in chapter three I discussed why society is (and may always be) reluctant to admit that any long-term social benefit can come from murder. This reluctance also translates into a fear to let go of concepts of morality in general.

My only answer to that fear is just to note that even if murder and theft aren't crimes in the eyes of our creators, we can still throw people in prison for killing and stealing. Even if our creators are not concerned with the fact that some individuals prefer to watch the surf all day than have any kind of productive career (knowing that those individuals are relatively rare and do not pose a threat to the ongoing success of human science and technological progress) we can still openly disapprove of such a lifestyle should our own children seem to be adopting it. Nothing really changes except that we lose the illusion that the beach bum's lifestyle is earning him infinite brutality in hell, and our office job is earning us unending joys in heaven. After being sold a religious story like that, it's a bit of a letdown to think that your office job is purchasing just parenthood, a nice house and car, high-speed internet, comfortable vacations and the like. But the beach bum generally doesn't get those things. You could give up all that and become a carefree drifter, but will you? I won't. I choose productivity; I'd go crazy without it. It's my built-in *preference* — not a moral choice.



### *Perceptual Feedback*

The illusion that many a moral dictum has meaning or gravity is a confusion over self. As previously noted, we are each trapped in one body with one brain running the show. This state of self can be used to manipulate you into not being

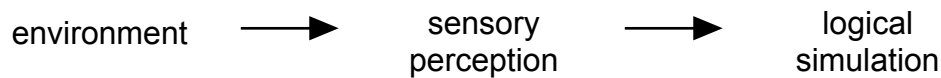
“lazy” (i.e. into not declining to do what we the moral admonisher wants you to do), in the hopes that you will not realize that your self’s preferences are at least as significant in your decisions as are his. It can also be used to convince you that you can’t trust your own perceptions, and must therefore rely on those of your instructors (failing to notice, they hope, that they rely on the same human perceptions as you do). Johnson and Dembski are not the only intellectuals who like to use the issue of self-reference to their advantage while arbitrarily exempting themselves from the doubts it raises. In fact, a whole school of thought seems to have arisen about how seriously flawed human perceptions really are. This school draws its strength from the ease with which one can find examples of how human perceptions can deceive.

Once I awoke in the middle of the night and was about to go get a drink of water, when I saw something that looked like a very large raccoon sitting in the corner of the dark room. It wasn’t moving at all, and I knew it had to be something else — a pile of laundry perhaps? A blanket sitting in a heap? I stood motionless in the dark room, the light switch within easy reach, determined to figure out what the thing was before turning on the light. The raccoon-like creature stared oddly into space, and the longer I tried to figure out what I was really examining, the more perplexed I became.

Finally I could take it no longer and flipped on the light. *Nothing*. The corner of the room was absolutely empty: just a floor and two walls! Experiences like that one make it clear to me why Carl Sagan would describe our world as “demon-haunted.” Human perceptions can be massively deceiving — indeed, the magician’s illusions discussed earlier in this book would be impossible otherwise. But does that mean that human perceptions are inherently untrustworthy?

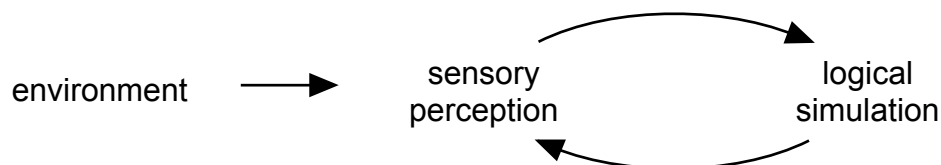
*Logic* is a process by which we run simulations in our mind, and thus predict what the future will be, and how we can best interface with it to our advantage. As a rule, simulations are much smaller, simpler versions of the larger reality which surrounds them, and human logic is, of course, no exception. The simulation you run in your head of what’s going on around you is dramatically smaller and simpler than the universe — or even the society — in which you live. Your mental simulation of your surroundings involves a relatively small number of persons (those you know personally, have met, or have heard about), and em-

employs very limited amounts of information about those individuals. This information is gathered through your *perception* — your visual, auditory, and other sensory information you receive minute-by-minute. Throughout your life, you perceive your surroundings, and then logically simulate future events in order to guide your decisions. This process can be diagrammed so:



The diagram illustrates the flow of information from our environment, through our sensory perception, to our mind where we can use that information as input in a logical, mental simulation that predicts the results of our options, telling us what we can do to make our lives more interesting and enjoyable.

In our modern times, we find that many in academia believe that they have found a critical flaw in the above diagram; a flaw that suggests that human perception is itself seriously flawed — so flawed, in fact, as to be more a reflection of the individual psyche than a faithful representation of the reality around that individual. What is this flaw? It has to do with the fact that sensory perception is not merely a passive activity. We do not sit in place and just take in what comes. Sensory perception is an activity which involves decisions of what will be observed, when and how. These decisions are in turn guided by the logical simulation. Thus we have a circle whereby sensory perception provides the input for the logical simulation, but the logical simulation provides the conclusions that guide the activity of further sensory perception. This circular path can be diagrammed so:



Now suppose that my logic simulation of some particular perception is flawed (as any simulation may sometimes be). Using the flawed results of this

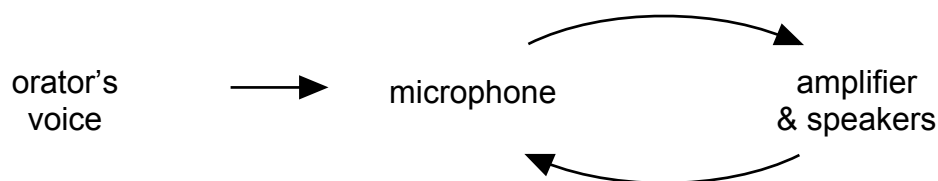
simulation, I make bad decisions about how and what to observe next. This leads to even more flawed simulation (for even the most rigorously careful logic will give bad results if it starts with flawed input). The cycle perpetuates itself and I am unable to perceive anything very well at all. What I think is valid perception is actually the product of a circular loop in my own head. It is on the basis of this circularity that many intellectuals draw the conclusion that human perception is highly subjective at best.<sup>40</sup>

Is there any escape from such a gloomy forecast? Indeed there must be. Humans have survived, prospered, and invented all kinds of cool technologies using their perception. And if human perception was really that flawed, the persons claiming it is flawed would have no basis to trust their own perception of the flaw! They don't seem to be too concerned with that glaring hypocrisy, so they must know something they're not telling us. What could it be?

To answer that question, let's look at another example of flaw-by-circularity: Feedback in a public-address system. Ideally, a P.A. system works like this:



But because the speakers are in the same room as the microphone, this is what actually happens:



The sound from the speakers goes back into the microphone and gets re-amplified. This process continues indefinitely, and soon the speakers are emanating a shrill squawking sound that in no way represents the orator's voice.

<sup>40</sup> This idea is actually very old; recall Plato's assertion that you can't find out about dogs by studying them, because if you haven't already made up your mind what a dog is, then you won't know which creatures to study.

The analogy of audio feedback seems to confirm the flaw in human perception, until we remember one little fact: Orators use P.A. systems all the time, and they usually work fine — how can that be? The answer is simple: If the system is tuned correctly, the amount of sound that reaches the microphone from the speakers is small compared to the amount of sound coming from the orator's voice. Thus, although feedback *is* occurring, it is constantly *diminishing* out of the system, leaving the orator's voice well represented in the sound coming out of the speakers.

Likewise with human perception: Yes, our sensory perception is influenced somewhat by the output of our mental simulation, but that effect is small compared to the sensory input from the environment. A flawed mental simulation might persuade me that fire won't hurt me, but one brief encounter with the flame will quickly correct the error. When academicians show you unusual stimuli to demonstrate the flaw in your perception — such as briefly displayed playing cards with black diamonds and red clubs — keep in mind that they are demonstrating but one brief cycle of your feedback loop. Before the class is over, you become fully aware that occasionally the Queen of Diamonds can be black; your human perception ultimately corrects to the environmental input. If it did not, how could your (human) instructor have ever learned of a black Queen of Diamonds, or reliably included it in the class lecture?

If the environment is providing weak or inadequate sensory perception, then the logic simulation part of your brain has a chance to go into feedback, and Sagan's "demons" can spring to life, such as in the form of the raccoon in my bedroom corner. By flipping on the light switch, I was massively strengthening the environmental input, breaking the feedback loop and dispelling the raccoon — literally "enlightening" myself to the emptiness of the corner.<sup>41</sup>

Sadly, however, longer-term delusions are not so easily exorcised. For many years, I labored under the perception that any skilled programmer could write computer games and make a very handsome living doing so. This perception was based on my observations of other programmers who had done exactly that, and on my own skill at programming and my deep understanding of how video

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<sup>41</sup> This is also why placebo recipients are needed when testing a drug that has a marginal effect. If the effect of the drug is very slight, then the feedback loop has a chance to take over, and make the patient think the drug is having a positive or negative effect that it is not.

games work at a low, algorithmic level. Today, however, I realize that there are other necessary factors which I did not possess, such as having the right game idea at the right time, having enough free hours in the day to put in the needed programming time, and having a sufficiently optimistic view of life to prevent discouragement from sabotaging momentum. Lacking these, my efforts failed.

Does my unsuccessful foray into videogame authoring illustrate that human perception is self-correcting (as I have asserted above), since I now know that I cannot easily make a fortune by writing games? Or does the twenty-year span of my game-authoring efforts prove that human perception is indeed crippled by a feedback loop? Both, perhaps. P.A. systems do degenerate into useless feedback when their speakers are too close to their microphones, and in similar fashion a human can suffer from too great a desire that a particular conclusion be correct. In that case, the output of his own logical simulation overpowers the input from his environment, and it can take a long time indeed before the cycle is broken. Many a scientist has wasted his whole life trying to prove a theory that never worked; trying because fame and fortune would result if it *did* work. Luckily for human society, persons such as these — such as myself — are rare exceptions. Most individuals possess a well-balanced perception loop, with logical conclusions providing a small but significant contribution to the next round of perception.

There is a lot of truth in the popular definition of insanity: to try the same thing over and over, getting similar results each time but expecting different results. Kurt Gödel, the mathematician most famous for focusing on the problem of self-reference — Phillip Johnson's "hall of mirrors" — went into seclusion and eventually starved himself to death. Researchers have recently discovered a possible link between Alzheimer's disease (brain dementia) and heavy use of the part of the brain that controls daydreaming.<sup>42</sup> The human mind, it would seem, is designed for *science*, the constant interaction with and study of the society and world around it. Our ability to accurately perceive that world is not flawed, provided we are always willing to accept fresh input, and do not turn our scientific abilities into a feedback loop in our own heads.

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<sup>42</sup> Associated Press, August 24, 2005.

## Apocalypse and War

BOTH SIDES OF THE SCRIPTURE-EVOLUTION DICHOTOMY are friendly to the idea that humanity is likely to extinguish itself, or otherwise be destroyed, in the not-too-distant future. This apocalyptic vision is compatible with evolution because evolution views humanity as an unintended accident which, like the dodo bird, is quickly and easily disposable. Humanity was never intended to exist, and the probability that it would exist in the first place seems rather small (as a function of chance), so there's every reason to believe that we'll disappear any time now. Scriptural fundamentalists point to predictions of apocalypse in the Christian bible (which must come to fruition relatively soon or else have little significance in our lives), but more generally are amenable to humanity's impending extinction on the grounds that we have created a repugnant, sinful society that God surely would destroy, or at least decline to protect from its own destructive vices.

Precedent for mass destruction abounds. Throughout human history, millions have died in short periods due to war, earthquakes, volcanoes, tidal waves, and horrible plagues too numerous to mention. And all of those things happened before the advent of nuclear weapons, which threaten to exterminate humanity literally overnight.

The ID scenario is, in principle, undecided on apocalyptic matters. It could be argued that the designers of humanity have gone to a lot of trouble to protect us from many different kinds of total destruction, but then there is no way to know just how long those designers wanted us to be so protected, or how many similar species they might have created on other planets, which could make any one of them (e.g. humans) expendable. However, in practice ID seeks to answer such

questions with scientific consideration: What are the known threats to humanity's survival, and how dangerous is each?

The worst plagues in history killed millions, but they also left millions alive. And that was just in the region of the world where the plague occurred. Yes, today we have rapid around-the-globe travel that could spread a plague everywhere, but we also have modern communication (which is much, much faster than travel) and modern knowledge of what plagues are and how they are spread. The minute the news broke that a killer plague (perhaps an escaped germ warfare weapon or stupendously successful act of bioterror) was wiping out large numbers of people in multiple nations, millions of people around the globe would slam their doors and wait for the plague to blow over. There simply isn't any way that humanity could fail to survive such an event — and would survive it with many pristine copies of each gene still intact in the gene pool.

Nuclear weapons, as noted earlier in this book, are actually a *preventer* of war, and are quite difficult to build and maintain.<sup>43</sup> Further, even if by some spectacularly unlucky disaster all existing nukes were to simultaneously go off over the most populous areas, millions of humans would survive in less populated areas. Even the controversial, Carl Sagan-championed “nuclear winter” hypothesis — that the smoke from nuclear war would significantly disrupt the biosphere and the food chain — delivers worst-case predictions that fall far short of human extinction.

Nukes have greatly reduced the ability to gain from conventional warfare (at least between nations that both have nukes), but even before the atomic bomb, the worst human perpetrated massacres always left immense numbers of people unscathed. The Romans may have killed every man, woman, and child in Carthage, but they could do so only by having their own healthy population to drive their army. The destruction of war, as noted by Captain Kirk in “A Taste of Armageddon,” greatly reduces our ability to continue to wage war.

The only near-term threat to humanity's survival seems to be a big meteor or comet collision with Earth. Though theoretically possible, the odds are against it, even if we don't lift a finger to stop such a collision. And since our technology is

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<sup>43</sup> This is not to suggest that the bombings of Hiroshima and Nagasaki are the last nuclear attacks on humans; I'd be (pleasantly) surprised if there aren't at least a few more coming.



now reaching the point of being able to divert such impacts, even that threat is only a minimal phantom.

Overpopulation is a popular demon in the lexicon of doomsday scenarios. But it is a horribly weak candidate on many fronts: How can humanity die off by having too many people? Even if there was mass starvation, wouldn't that just bring the population back to a manageable level? Population growth has slowed dramatically in developed nations, especially among the middle and upper-middle class. This suggests that as people's lives become more technologically comfortable, they have fewer children simply because they are accustomed to an unburdened lifestyle. And finally, the belief that our resources are "running out" is simply not supported scientifically. The sun provides all the energy we need (at least to survive as a species), and there's not even a proposed way that we could destroy our vital resources if we *wanted to*. The ozone layer is self-regenerating — constantly created by the same UV light from which it protects us — and although damage to the ozone layer from human-made chemicals may (or may not) be a valid *concern* (i.e. we'd like to sunburn less easily and have lower skin cancer rates) it is not even close to being a threat to the survival of humanity.

Dramatic rises of the population do not even make our lives more miserable on the whole — in fact, it could be seriously argued that they improve our lives. More people means more talented artists, more genius inventors, etc. Since music and machines can be easily mass-produced, we all benefit tremendously from having a large population. In every part of the world where population seems to be a net harm (Mexico City, parts of India, etc.) the fault can be traced to hard-left socialist policies that impoverish the people to the point where they cannot afford to commute, and businesses cannot afford to locate in the suburbs. Take any comfortably populated city like Denver and then imagine what an overpopulated hellhole it would seem to be if most everyone who lives there now suddenly had to reside within daily walking distance of downtown!

Population size also diminishes the "comparative satisfaction" problem (Table 6-1). The slope of the population's wealth represented in Figure 6-2 is kept down by this comparative satisfaction and the socialist voting it breeds. But the greater the population size, the steeper the graph can get before large numbers of individuals become irritated at the greater wealth of their neighbors. In a

population of millions, a sizable neighborhood can encompass only a relatively small segment of the wealth slope, and thus breed less resentment, and allow more voter cooperation with capitalist policy. (Or put another way, a larger population spreads the graph horizontally, allowing it to reach greater heights of wealth while keeping the same slope.)

Finally, and most intriguing, is the possibility that humans will create a race of self-replicating robots who will then turn on us and destroy us, an idea popularized by the *Terminator* movies and other works of science fiction. I think that this is not a realistic possibility, and here's why: It is actually quite easy, with existing technology, to make a self-replicating robot, and one large enough and strong enough to be a physical threat to human beings. Imagine we close off a huge warehouse as our testing ground. Into this environment, we randomly scatter a large number of robot heads, and headless robot bodies. Further, each robot head has an empty memory bank. Nothing happens. Now suppose we snap one of the heads onto one of the bodies, then plug our computer into this head and load its memory with a sophisticated computer program. We hastily depart the warehouse while the completed robot gains its senses. It looks about, sees robot heads and bodies nearby, and starts putting them together. After putting each one together, it connects to the new robot's head and copies its programming into that robot, so that it will now start performing the same task. This process will grow exponentially until the raw materials (heads and bodies) are exhausted; then the army of robots will search vainly for more heads and bodies until it runs out of battery power and shuts down.<sup>44</sup>

This warehouse-robot scenario is very closely analogous to our universe, which has been very carefully tailored to be suitable for self-replicating machines, and has been given a quantity of raw materials and energy that will one day run out, bringing human life to an end. Now — is there any chance that these robots, should they escape the warehouse, will run amok and wipe out humanity? No. They are capable of replication only in the very specially tailored environment of the warehouse. Outside the warehouse, the surface of Earth is a very different environment, tailored for self-replicating machines made not of

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<sup>44</sup> This scenario was actually created in 2005 using small robots made of cube-like modules, as reported on slashdot.org.

gears, pumps, and microchips, but of proteins, lipids, DNA, and the like. To be truly self-replicating, a machine must be capable of creating all its parts from the raw environment, and doing so in a timely manner so that it creates more new machines than are wearing out during the process of creation. I cannot prove, but strongly suspect, that the laws of physics of this universe do not permit the metal-and-wires, C3PO-style robot to exceed this critical mass of creative power.

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## FIGURE 8-1

Bug-eyed Earl visualizes world peace. (*{awaiting reply to permission-to-reprint request}*)

*{Red Meat comic strip “creme filling for hollow victories”*

*Bug-eyed Earl says “If I could have just one wish for this Christmas, it would be for peace on the Earth and goodwill towards men.” He thinks for a few seconds and then adds, “Which would be enforced twenty-four hours a day by my own army of giant killer robots and all them amazon bikini troops that’ll be guarding my flying nuclear battle station.”}*

It is difficult to argue with people who harbor a blanket opposition to war and who seriously strive for a world of complete harmony and cooperation. All they have to do is cite the mass extermination of innocent children, and you will be perceived as positively vile if you don’t shut up and at least nominally agree with their position. So it is with no small trepidation that I here advance the idea that war serves a useful function in human development.

We used to think that forest fires were a horrendous disaster, and made every attempt to stop them, perhaps imagining that we would one day be able to prevent them altogether. What we now know is that forest fires are always burning somewhere in the world, and that they serve an important function in the maintenance of the biosphere. One of those functions is to reset overgrown forests so

they can start over again. Another is to regulate the amount of oxygen in the atmosphere, keeping it in the narrow, biologically friendly range. Our planet has other, similarly self-regulating phenomena, such as the percentage of cloud cover, and the aforementioned ozone layer, that keep things fresh and amenable to human and animal life.

Is human war such a phenomenon? Captain Kirk gave “the horrors of war” back to the Amenians, who had made war “neat and painless.” Kirk instructs them that the horrors of war are what make it “a thing to be avoided.” But Kirk never suggests that those horrors will prevent war altogether, and when Spock chides him for taking a big risk, he remarks that an actual war would kill no more people than the Amenians were already killing with their neat disintegration chambers, but it would “end their ability to make war.” Thus, from this one (albeit fictional) example, we can see that war is self-regulating in two ways: Its horrors discourage its use; and when it is used, it tends to beat down one or both sides until war is no longer sustainable, just as a forest fire destroys its own fuel source. But to do this, wars must periodically *occur*, and (like forest fires) are usually happening somewhere in the world on any given day.

Ask physics students whether a toy balloon has greater, lesser, or equal pressure on its inside as compared to its outside. If they have been taught sloppily, they will say the pressure is the same, which keeps the balloon from changing in size. If they have been taught well, they will realize that the pressure must be higher inside the balloon; otherwise the elastic material of the balloon would not stay in its highly stretched state. Most self-regulating phenomena are like that: They do not completely eliminate the undesirable characteristic, but instead keep it at a relatively low level. The ozone layer blocks most, but not all of the UV rays that create it, for if it blocked them all, ozone production would stop. The threat of winding up as a street beggar keeps office workers coming to work day after day, even as their lives go through various personal crises. But the threat is only real if there are at least a few beggars on the street to remind us just how real the threat is. So it is with war: Its horrors are only able to influence our decisions when they are real enough in our minds to have significant weight in those decisions, and if there was no war happening anywhere — if war was only a history lesson from the distant past — then it wouldn’t have much weight at all.

Another function of war is to sweep away rotten systems and replace them with something better. This happens even if the rotten country attacks first, for once war is underway, the stronger, more efficient society is pretty much destined to win.

But the most important thing to note about the dream of total peace and cooperation is this: To achieve a combat-free society, what do we do with those persons who *like* combat — will we combat them? As shocking as it may seem, many people don't *want* to live in a world of total harmony. They would find such a world too *boring*. To achieve a world of complete harmony, we will have to stop such people from refusing to cooperate with that harmony. And to do that will require force; i.e. violence, suppression, and even war. True harmony of universal scope can be achieved only if everyone truly wants it, and they simply do not. Figure 8-1 shows us how Earl the street person carries the logic of world peace to its inevitable conclusion. His vision of megalomaniacal power strikes us as an absurd departure from peace — yet is probably more realistic than the dream held by most world-peace advocates. For what, really, is the difference between peace and a war in which one side is doing all the winning?

The classic sci-fi movie *The Day the Earth Stood Still* attempts to teach us how advanced we will become when we put a stop to our warlike ways. Yet the movie (made by a human filmmaker, of course) is riddled with logical flaws. The wise, total-peace humanoids are patrolled by a race of indestructible enforcer robots who fire death rays to enforce peace! To be invincible, these robots would need to be self-replicating, and as we've already seen that probably isn't going to be possible. Luckily, the robots never turn against their creators, *Terminator* style. But how do the robots negotiate disputes between their creators? How do they know who is at fault in any conflict, and fire their lethal lasers only at the ones who violated the peace? Do they know the difference between aggression and self-defense? Do these robots arbitrate contracts, or do they follow the orders of humanoid judges in humanoid courts — in which case, they're not significantly different from our own police, prison guards, and even armies. And as if those unanswered puzzles weren't enough, the humanoids further threaten to turn our planet into a "burned-out cinder" if we don't comply with their orders to be peaceful. Bug-eyed Earl couldn't have put it any better.

## Conclusion

*Why do I find it hard to write the next line  
Oh I want the truth to be said*

*“True” — Spandau Ballet*

OF ALL THE EARLY VIDEOGAMES, the one that had the largest number of independently moving objects was Asteroids. In this game, there was only one human ship (yours), up to four human-launched missiles, up to one UFO, up to two UFO missiles, and up to 64 rocks. Far and away, the rocks were the most numerous objects in the game.

The computer that ran the game had to constantly monitor the possibility of collisions between many of these objects, for example, missile-rock collisions, ship-UFO collisions, ship-rock, etc. But not all possible collisions were monitored — in particular, rock-rock collisions were ignored. As a result, the rocks would drift right through each other with no effect. This seemed to serve two purposes. First, if the game had been written so that the rocks bounced off of each other, or broke up and scattered upon impact with each other, the game would have been so violently chaotic as to be almost completely unplayable. Being able to predict where the rocks were going to be was critical to survival planning. Secondly, the number of collisions between the potentially maximum number of rocks (64) would be large:  $64 * 63 / 2 = 2,016$ . Probably, the processor used by the game Asteroids did not have the ability to perform over two thousand collision checks every hundredth of a second or so.

Our universe has far more photons than any other particle, and photons have the unusual property that they can pass through each other without any noticeable disturbance. If our universe is a particle/position model like Asteroids,<sup>45</sup> then ignoring photon-photon collisions would be an immense savings in processing power in whatever computer is running (or ran) this universe. Ignoring such collisions is also necessary for us to make visual sense of the world; if photons bounced off of each other, we would see nothing but a diffuse glow. This hints that our universe, like the game of Asteroids, is a system designed for users, and is limited by the constraints of a larger world outside of it.

The videogame Asteroids illustrates something else as well. The player-controlled ship was but a tiny object on the play field, and often huge expanses of emptiness separated your ship from almost any other object in the game. Did anyone who played Asteroids find this big empty space on the screen alarming or confusing? Did it cause the player to step away from the machine, dissuaded from the belief that the game was well-made or worth playing? No, of course not. But compare that to Carl Sagan's statement that Earth is merely "a lonely speck in the great enveloping cosmic dark," and thus obviously not an intentional creation. When we consider that this universe may be the playing field of a large videogame, Sagan's "lonely speck" comment seems pointless — just a demon of purist materialism haunting the mind of a man unable to face anything less starkly opposed to the beliefs of pre-scientific religion.

Scientific revolutions are painful and difficult for humanity to swallow, and the scientific inference to entertainment that arises from ID is far from exceptional in this regard. Virtually all the ID proponents are softly promoting Christianity (though not extreme scripturalism), which invites their opponents to brand ID as Christian creationism in a new guise. And if it seems difficult to expect serious, materialist scientists to accept that life was designed, just imagine how much harder it's going to be to get them to admit that this world is a *game* or a *movie*. Dembski's admonition that an idea must be attractive to succeed is not entirely lost on me, so let's enumerate a few of the good things about the entertainment inference, that might make it more palatable to some:

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<sup>45</sup> Such a model would contradict the particle-and-wave model described in chapter five, unless the particles are stored as objects with positions, not as part of the wave-propagation medium.

- If you never become rich or famous, it's OK, because life is just a audio-visual-tactile-emotional adventure, and you probably get to play again many times. You might have chosen to experience the life of this particular person, simply because it was an interesting one.
- The billions of deaths that have occurred throughout human history, various caused by old age, disease, war, murder, accident, and suicide are not an unfathomable tragedy in the grand scheme of things. Movies are often about tumultuous, even depressing events, but when the lights come up, it was still just a movie. We can go see a different movie tomorrow.
- Transgressions of conventional morality are not going to cast us into eternal fire or anything like that. If you stole fifty bucks once when you were eighteen, and got away with it, you really *did* get away with it. Even if the designers of this universe happened to see you do it, what do they care? It's just one of the many interesting things that happened in their simulation called "humanity." Do you need to worry about winding up in jail if you steal again, today? Sure. But don't think past offenses are going to haunt you forever — they will haunt you only in your own head if you feel like being haunted.
- Because this life is just a game, and one you may have played many times before, you are much freer to take risks. You don't need to take the safest-but-boring route, in the mistaken belief that you have but "one life to live."
- Most important of all: You don't have to live a life of perpetual doubt that the belief system you have been taught is baloney. Entertainment ID is based strictly on scientific inferences, which have never failed humanity in the past, and is the first, and currently the only, belief about the purpose of this life that is so scientifically based.

Tossing the Bible on the trash heap is a little shocking, so let me say that I think it entirely possible that some aspects of its creation story are factual. I think it likely, for example, that there was a distinct pair of original humans. I don't see a problem with inbreeding during the first several generations, because a newly created species would have no mutations that would make inbreeding harmful. The first pair of humans had no parents, so they may have been cared



for by a special, protected environment, fictionalized as Eden. And when they reached puberty, they would have been expelled from this environment for the same reason that everyone is shoved out of the nest at maturity — it's time to go out, support yourself, and build your own nest in which raise your own children. The first human pair might have erroneously associated this expulsion with the discovery of sex, and given humanity a perpetual guilt trip in the form of the story of "original sin." But such a grand error would be no reason to discard the Bible completely — it is one of our greatest and oldest semi-factual writings, and as much as possible, I would like to see its stories explored scientifically.<sup>46</sup>

The designers of our universe have laid out a chain of scientific discoveries and technologies for us to sequentially solve, and this means that they *already know* the things that we must find out by science. Is that a contradiction? Doesn't the scientific method preclude special knowledge of that sort? Actually, no. Science precludes the unverified acceptance of any human claim to have *received* special information from our designers. The mere possession of that information by the designers themselves is not antiscientific. We routinely use science to discover things that other people already know — such as the identity of a murderer and his *modus operandi*, which he already knows but we must painstakingly deduce through the scientific method.

And if our designers never speak to us as the Bible says God spoke to Moses (and I think they probably don't), that would explain why. The only thing our designers could tell you that would ever be believed, would be the details of a future technology. And why would they want to tell us that — we've been put here to discover it.

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<sup>46</sup> National Geographic's *Searching For Noah's Flood* is an excellent example of this sort of treatment.

*What a wonderful world this will be  
What a glorious time to be free*

*“I.G.Y.” — Donald Fagen*

Looking into the metaphorical crystal ball, what do I think the future holds? I see a society in which most if not all people are as intelligent and as comfortably well-off as the smartest one-percent of the population today. I see a society where suburb-like neighborhoods and shopping malls have become the new centerpieces of modern cities, and downtown skyscrapers are a relic of the age when high-quality videoconferencing from just about anywhere was expensive or non-existent. I see a day when hardly anyone must pretend to be working for hours each day; when the myth of the forty-hour information-worker has been completely replaced by on-demand work performed from great distances.

I see a society where gender stereotypes are alive and well, on average, but most women enjoy a far greater degree of control over their lives than they do even today; a society where men must live up to much higher standards of achievement and self-control in their pursuit of relationships with women. I see a society where serious crime has been largely eliminated by DNA cleanup and by an end to captive populations and autocratic governments; a society where war is both very rare and very limited in scope.

I see a society where the secrets of the DNA — including ID-related information about how and why it was written the way it was — are being steadily unraveled by the leading edge of the biological sciences, and Darwinism is studied in biology classes as a historical example of the mistakes of overreaction, unchecked extrapolation, and the confusion of reductive explanation with reductive cause. I see a world in which the science of ID is utterly divorced from the Christian faith, and the religious are fighting amongst themselves over whether to cling to scripturalism or evolution as the slower-sinking boat. I see a world in which science categorizes all knowledge into two buckets, the known and the as-yet-unknown, and does not pretend there is a third category of permanent magic, of undefinable behaviors that go beyond mere logic and reason.

But perhaps I'm dreaming. Perhaps humanity is incapable of shedding its myths and fears and angers, and its sense of ultra-seriousness; perhaps the human brain has been programmed to hold onto those things. Perhaps, like the socialists pursuing a land of total equality, and the capitalists trying to persuade people to vote free-market and ignore inequities, I am imagining a state of human society that cannot really exist in this life. Time will tell.

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