

GOLDMAN'S BULLDOG PRESENTS

**NOBODY KNOWS
(THE THING THAT REALLY MATTERS ABOUT)
ANYTHING!**



**A USERS' GUIDE
FOR THE 21ST CENTURY**

WRITTEN BY:
NOBODY!

ADVANCE PRAISE FOR *GOLDMAN'S BULLDOG*

“Let’s have Nobodies review the book before we publish it. That’ll give us a jump on the critics!” Nobody!

1. “Nobody! has written a book for Nobodies everywhere. Who knew there was a market?” Nobody on Madison Avenue
2. “Equivalent to Martin Luther’s ‘95 Theses’ only nailed to the door of science!” Nobody in Wittenberg
3. “Balanced skepticism!” Nobody at the Bureau of Weights and Measures
4. “Nobody! obviously knows nothing about science!” Nobody at Fermilab
5. “If you say it’s bad science, it’s humor. If you say it’s bad humor, it’s science. What an Interpretation!” Nobody in Copenhagen
6. “Nobody! *is* the black hole that everybody is afraid of!” Nobody at CERN
7. “It’s a deadly serious book with a science humor escape clause!” Nobody at The Claremont Colleges
8. “What escape clause? There’s no such thing as science humor!” Nobody at the Los Alamos Nuclear Testing Grounds
9. “Science in a nutshell!” Nobody on Maui
10. “What’ve you been smoking? A macadamia nutshell! Science for nuts!” Nobody at Planters Peanuts
11. “Ban this book!” Nobody in Boston

12. "Burn this book!" Nobody in Bradbury
13. "Steal this book!" Nobody at Sing Sing Prison
14. "Not in our schools!" Nobody at the Board of Education
15. "Nobody! is guaranteed to offend everybody!" Nobody at the Ministry of Truth
16. "Essays so clear they don't contain a scintilla of truth!" Nobody at the Ministry of Clarity
17. "Nobody!'s genius was to realize that science was comedy!" Nobody at the University of Clown Science ("The Science of Clowns! The Clowns of Science!")
18. "Nobody! is proof that you can fool 'some of the people all of the time.' Or was that 'all of the people some of the time?' Either way!" Nobody at the Lincoln Memorial
19. "It's as if the 'Extracts' ate *Moby Dick!*" Nobody at Real Vanilla Extracts
20. "Out Nabakovs Nabakov. *Pale Fire* for *Idiots!*" Nobody at the Red Onion State Prison "Super-Prison Literary Society"
21. "*In Cold Blood*--without all the blood!" Nobody eating *Breakfast at Tiffany's*
22. "Science for mystics! Mysticism for scientists!" Nobody at Carnival Krewes Lines
23. "It's one of the longest words in the English language. How do you spell SPRUNGFULLGROWNFROMTHEBROWOFZEUS?" Nobody at the National Spelling Bee
24. "Did Nobody! really say, 'shivs for the scientific point of view?'" Nobody at San Quentin Prison [Editor's Note: Of course not, that was "shills for the scientific point of view," but Nobody! said the light was often poor in prison.]
25. "You can read it as a book of Twainian essays or as an existential novel with Nobody! as the anti-hero!" Nobody in Algeria
26. "Or you can read it like the dime-store philosophy that it is!" Nobody at the Five and Dime
27. "Nobody! makes you think--then wish you hadn't!" Nobody at Think Tanks
Anonymous
28. "*Don Nadie es el Borges de los escritores de ciencia!*" *Don Nadie en Buenos Aires, Argentina* [Editor's Note: Apparently, "*Don Nadie*" is "Nobody!" in Spanish.]
29. "You get Borges, but you want Mickey Spillane!" Nobody at Mike Hammer Investigations
30. "*Pienso que Don Nadie necesite cien anos de soledad!*" *Don Nadie en Macondo, Columbia* [Editor's Note: "*Don Nadie*" thought the writer probably meant "solitary" not "solitude." He said he couldn't find Macondo on the map.]
31. "It's about a man who went crazy because he *believed* the books he read about science. '*Don Nadie*' es '*El Quijote*' del siglo veinte-uno!" *Don Nadie en El Instituto Cervantes*
32. "'The pen is mightier than the sword.' Our newest model is the 'Nobody! Commerative Pen' --it writes with invisible ink!" Nobody at Parker Pens

33. "Our Nobody! pens are two for a buck and write with real ink. Put that in your 'Commerative Pen' and smoke it!" Nobody at BIC Pens
34. "Nobody! takes 'abstract' writing to a whole new level. Plus, he had the good sense to number things!" Nobody selling Jackson Pollock's Numbered Paintings ("They make people look at a picture for what it is--pure painting!")
35. "Nobody! writes his own reviews. Saves us time and paper!" Nobody at *The New York Times*
36. "Bezos! We've got a problem. You know the novel is dead when it's been reduced to a handful of jokes and a book of essays!" Nobody at Amazon Books
37. "Nobody! doesn't just blur the line between art and science, he erases it!" Nobody at The Great American Eraser Company
38. "Everything you always wanted to know about science but were afraid to ask!" Nobody at the Reuben Sandwich Shop
39. "It's not science humor. It's that hot new genre *fiction non-fiction!*" Nobody at the School for Modern Fiction Writers
40. "When will Nobody! be apologizing on Oprah?" Nobody in Chicago
41. "Who would've thought to make Bohr, Godel, and Schrodinger the heroes of an existential novel? Nobody!" Nobody in Paris, Texas
42. "You know that a fad has ended when it's been reduced to satire. Existentialism is dead!" Nobody in Tombstone
43. "Nobody! can say things that bodies can't say!" Nobody on Boot Hill
44. "Reading Nobody! is like having sex with a pimp; you have to work *and* pay!" Nobody at The Paris Hilton
45. "I think Nobody! is channeling George Carlin!" Nobody at The Ritz-Carlin [Editor's Note: The Editor thought this should be "The Ritz-Carlton," but Nobody! said that George had left a provision in his will to buy one of the hotels and fix the name.]
46. "People in prison have a lot of time to read. Nobody! calls us his 'Captive Audience!'" Nobody at Lompoc Prison
47. "It's the way that you tell it!" Nobody on Rikers Island
48. "Everybody loves Nobody!" Nobody on Long Island
49. "Nobody! has finally written a water-cooler book about science!" Nobody at Sparkletts Water Coolers
50. "Sly, seductive, rye humor--makes me want to fake an orgasm!" Nobody in Seattle [Editor's Note: The Editor thought that this should be "wry" humor, but Nobody! insisted that it was correct. He said that he was only funny if you've been drinking.]
51. "Nobody! puts the fiction back on the science shelf where it belongs!" Nobody at *Fiction Science Magazine*

52. "Nobody! puts the scientist back into American science. Our question is: 'Is that a good thing?'" Nobody at *Scientific American Magazine*
53. "I think that Nobody! made it all up and then called it non-fiction!" Nobody at *The Skeptical Inquirer Magazine*
54. "I think Nobody! put all the jokes up front just to get people to buy the book!" Nobody at *Saturday Night Live*
55. "We have met the enemy and he is Nobody!" Nobody at the National Powered Pogo Stick Convention
56. "Nobody! has arrived just in time to save the publishing industry singlehandedly!" Nobody at *Publisher's Weekly Magazine*
57. "Nobody! makes Anonymous irrelevant!" Nobody at Warner Books
58. "Irreverent--NO!--Irrelevant common sense! 'Nobody! Knows!'" Nobody at *Rolling Stones Magazine*
59. "Nobody! is a better thief than he'll ever be a writer!" Nobody at Four Corners Minimum Security Prison and Country Club
60. "Would'st thou Nobody! be better writer than thief?" Nobody at Stratford-upon-Avon [Editor's Note: Nobody! said that he thought this was Elizabethan English for, "What do you want, Shakespeare?"]
61. "Nobody! puts the conviction back in the convict. You can count on it!" Nobody in Monte Cristo
62. "Bam! Nobody! is the Emeril of science writers! He cooks!" Nobody at Emeril Live
63. "When the guards at Four Corners heard that Nobody! had added 'and country club' to the prison name, they revoked all inmate privileges and starting serving Spam! I hear that the convicts have put a contract out on Nobody!" Nobody at the Red Onion State Prison
64. "Nobody! is the biggest thing in popular science since Mr. Wizard!" Nobody at Hogwarts' School of Witchcraft and Wizardry
65. "Popular science? Nobody! *subscribes to Popular Science!*" Nobody at *Popular Science Magazine*
66. "Nobody! is the Johnny Cash of the twenty-first century. Too bad he can't sing or play the guitar!" Nobody at Folsom Prison
67. "Nobody! has obviously been thrown by one too many rodeo bulls!" Nobody at the Oklahoma State Prison Rodeo
68. "Nobody! casts a life-preserver to a drowning society!" Nobody at ACME Chain & Anchor [Editor's Note: Nobody! said, "ACME is an acronym for 'American Company Makes Everything!' Their advertising slogan is 'Wile E. Coyote shops here!' The Road Runner owns controlling interest in the company. The cartoons make more sense now, don't they?"]
69. "Listen to what he says. Nobody! is the Pink Panther of science speakers!" Nobody at *Pink Panther Cartoons*

70. "If Nobody! were possible, he wouldn't be as entertaining. Nobody! must be a cartoon!" Nobody at Pixar Animation Studios
71. "In my opinion, Nobody! gives bulldogs a bad name!" Nobody at the American Kennel Club
72. "Nobody! takes science to new heights--and then drops it without a parachute!" Nobody at ACME Parachutes
73. "One of our employees had a nervous breakdown just trying to figure out what shelf to put the damn thing on!" Nobody at Barnes & Nobles Books [Editor's Note: Nobody! sent flowers by way of apology and a note that read: "It should be filed on the Paradoxes and Contradictions Shelf, but absent one, it should go on the Science Shelf, which is where the majority of the paradoxes and contradictions are located."]
74. "I hear that Nobody! plays the banjo!" Nobody at Gibson Banjos
75. "It's a one-joke book. And he gives away the punch line. Nobody! is a comic genius!" Nobody at The Comedy Club
76. "A banjo-playing comic genius? *Quod erat demonstrandum*, Nobody! is Steve Martin!" Nobody at Steve Martin Cattle Prods
77. "Get real! Nobody! is Murphy! We'll see Steve in court!" Nobody at Murphy's Law Firm
78. "The whole book is a self-referential paradox! You'd have to be drunk to get it!" Nobody at Zeno's Bar
79. "You'd have to be drunk to write it!" Nobody at Wild Turkey Bourbon
80. "Nobody! takes literary fiction to new depths!" Nobody at ACME Diving Bells
81. "You get your head shaved; you get de-loused; you get a body-cavity inspection; you get prison clothes; and you get Nobody! Nobody! is required reading for all new inmates!" Nobody at New Prisoner Orientation
82. "The Beatles? The Stones? Tina Turner? Nobody! is a Boomer fossil!" Nobody from Gen-X
83. "Who are Millennials reading? Nobody!" Nobody at the Millennium Ball
84. "WHY?" Nobody from Gen-Y
85. "I think Nobody! did time!" Nobody at the Los Angeles County Jail [Editor's Note: When asked about this, Nobody! said, "Isn't the world a prison?"]
86. "I think Nobody! drinks too much!" Nobody at Alcoholics Anonymous [Editor's Note: The writer enclosed a photo. When Nobody! saw her picture he said, "From the mouths of babes!"]
87. "A sufficiently rigorous skepticism is indistinguishable from madness!" Nobody at *The Diagnostic and Statistical Manual of Mental Disorders*
88. "Nothing happens! Nobody comes! Nobody goes! He can't carry a tune! It's awful!" Nobody Off-Broadway at *Godot! The Musical!*

89. “Nobody! writes for the cheap seats!” Nobody at Cheapseats.com
90. “‘*The Rolls-Royce of Universes!*’ *It's Where It's Happening!*’ What’d we pay this guy?” Nobody at Rolls-Royce Motor Cars
91. “Nobody! is the undisputed master of product placement! He doesn’t even ask permission!” Nobody at the National Institute of Product Placement
92. “I told you to give the man the California convertible! *Potrebbe essere stata ‘La Ferrari degli Universi!’*” *Nessuno a Scuderia Ferrari*
93. “The best chapter in the whole book is ‘Recommended Reading!’” Nobody at the FBI Anti-Drug Task Force Special Investigations Unit
94. “Nobody! doesn’t just think outside the box--apparently he lights the box and smokes it!” Nobody at the California Medical Marijuana Club
95. “Perhaps Nobody! should be illegal!” Nobody in Washington D.C.

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**NOBODY KNOWS
(T³RMA)
ANYTHING!**

“THE ROLLS-ROYCE OF UNIVERSES!”

THE ROLLS-ROYCE OF UNIVERSES!

“IT’S WHERE IT’S HAPPENING!”

**A USERS’ GUIDE
FOR THE 21ST CENTURY**

WRITTEN BY:
NOBODY!

www.goldmansbulldog.com

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FOR PRISONERS EVERYWHERE!

In fond memory of the Birdman of Alcatraz, the ACME Toilet Printing Company will TP (Toilet Print) this book for prisoners for FREE! (you must order in case lots of 1000 and pay the daily international spot market price for the toilet paper). Even in a 16-point font (for low-light conditions) the book fits easily on a 1000-sheet roll and is, of course, completely recyclable! They even offer a fluorescent ink option so that the words will glow in the dark for prisoners in solitary confinement. Wherever you are in prison, Nobody! is thinking of you! WHYASKWHY?

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Here moulds a posing, foppish Actor,
Author of THE SOT-WEED FACTOR,
Falsely prais'd. Take Heed, who reads this
Epitaph; look ye to Jesus!
Labour not for Earthly Glory;
Fame's a fickle Slut, and whory.
From thy Fancy's chaste Couch drive her;
He's a Fool who'll strive to swive her!¹

Ebenezer Cooke, Gentleman, Poet and Laureate of Maryland

¹ John Barth, *The Sot-Weed Factor* (Anchor Books, Doubleday, New York, 1967, pp. 755-6) For decorum's sake, Ebenezer's family chose not to chisel this epitaph on his tombstone, which has never been found.

“Don Quixote Rides Again!”

Sauncho Pauncho

“*Back to the Future* of Literary Non-Fiction!”

Nobody at DeLorean Motor Cars

“We know nothing

Except that we know nothing.”

Don Nadie

CHAPTER 1: THE WAY OF THE LAZY RIVER

Don Nadie singing softly, channeling Louis Armstrong (this was *before* George arrived):

“Up a lazy river by the old mill stream
Crazy, lazy river where we all can dream
Linger in the shade of the Boltzmann tree
Throw away your troubles, live a dream with me.”

There it is; the whole book in just four song lines. If you’re an abstract writer, it fits nicely on a three-by-five card. Nobody! once wrote abstracts for a living; it’s a great way to learn a lot about obscure subjects.

People who don’t live in prison often don’t have time to read a whole book. Nobody! has thought of you. For those who feel that the Lazy River Abstract just isn’t enough, there is both a “long path” and a “short path” to the insights contained in this book.

The long path:

The Way of the Ant!
The Way of the Government Bureaucrat!
The Way of the Prison Inmate!
The Hard Way!

is to read the whole thing twice, hence the name.

The short path:

The Way of the Grasshopper!
The Way of the Slacker!
The Way of the Thief!
My Way!

involves just reading the synopsis before the title page (“Advance Praise for *Goldman’s Bulldog*”) and then continue on reading through the end of the chapter “The Day Bohr Killed His Students.” Once you understand the set-up (the crime, the murders, the dead students), you can skip to the climactic chapter (“The Rolls-Royce of Universes!”) and then the resolution and denouement (“The Tale of the Book”) and then read on through to the end. An hour tops.

Think of it as *The Way of the Lazy River*.

CHAPTER 2: PREFACE

The nineteenth-century English biologist Thomas Henry Huxley was known as “Darwin’s Bulldog” for his early impassioned advocacy of Darwin’s theory of evolution. Huxley was largely responsible for popularizing Darwin’s new--and controversial--theory with the general public. I am quite sure that when novelist and screenwriter William Goldman wakes up in the morning, he doesn’t think that he needs a “bulldog,” but genius cannot always be expected to recognize the full potential of its own ideas. Goldman’s

brilliance lay in creating a principle for a specific purpose that turns out to have a universal applicability, like Darwin's theory of natural selection which seems to apply to everything from the origin of species to the evolution of fins on Cadillacs. Goldman may not know that he needs a "bulldog," but he does.

Goldman coined the phrase:

NOBODY KNOWS ANYTHING.¹

in his 1983 book about writing screenplays for Hollywood titled *Adventures in the Screen Trade*. He wrote it just like that--as a single, standalone, centered, capitalized paragraph. Actually, he wrote it just like that twice, "for emphasis."² He considered this epigram to be "the single most important fact, perhaps, of the entire movie industry."³

"Because nobody, nobody--not now, not ever--knows the least goddamn thing about what is or isn't going to work at the box office."⁴

The interesting point here is that all of the people involved in the process of making movies are experts. Studio executives are experts at selecting the best projects. They are experts at casting the biggest stars and hiring the best directors who, in turn, pick the best actors, screenwriters, cinematographers, composers, editors, and set designers. Experts all. They live and breathe movies. They can design a movie to make you laugh or make you cry--or better yet, both. They can thrill you with hair-raising action and special effects. The only thing they can't do really, and this is the NOBODY KNOWS ANYTHING part, is know if anyone will come to see the movie that they've made.

Of course, whether or not people come to see your movie is "the thing that really matters" to people in the movie industry (it is, after all, a business). Not the only thing, obviously, but the most important thing, the central core--that's what "the thing that really matters" means. Goldman details many Hollywood disasters: movies that cost a fortune to make and had major stars, directors, and screenwriters; movies that everyone involved knew would be big hits, but that nobody went to see; movies that bled red ink. Or movies that all the studios passed on because they knew that no one would go to see them; movies that went on to become record-breaking super-hits.

What Goldman failed to do (because his interest was in writing about Hollywood) was to extend his idea to a wider arena, which is my purpose here. Goldman's idea actually applies to every field of human knowledge. It is a universal truism: "Nobody knows the thing that really matters about anything!"

During the go-go nineties, I started reading books about science to discover how science knew that the universe started in a big bang and how they knew that all life evolved from a single cell. An early book that I read was Leon Lederman's *The God Particle* about the oddly named "Standard Model" as if it were an economy car...like a Rambler American. Oddly named or not, the Standard Model explains how the universe could have popped out of, essentially, nothing. Today, my library contains over one thousand books. After almost twenty years of reading about science, I finally realized that all the books had the same disquieting feature. When you got to the really important part, the part you really wanted to know about, they always said that they didn't know yet. Hmmp! Nobody knew anything!

I might have described this book as *A Skeptics' Guide* instead of *A Users' Guide*, but I am afraid that the current champions of skepticism have somewhat damaged the brand. Modern-day skeptics and skeptic societies are, more often than not, shills for the scientific point of view. They are predominately interested in skepticism of non-scientific

viewpoints. They have a pro-science agenda that is, of course, anti-skeptic. True skeptics are also skeptics of science, as are true scientists.

¹ William Goldman, *Adventures in the Screen Trade* (New York, Warner Books, 1983, page 39)

² Ibid. (“Ibid.” means, “It’s in the same book and on the same page” in Latin)

³ Ibid.

⁴ Ibid., page 41 (Unless, of course, it’s on a different page!)

CHAPTER 3: INTRODUCTION

Nobody! needs no introduction.

CHAPTER 4: THE DAY BOHR KILLED HIS STUDENTS

Why does the hero always outdraw the villain in a western showdown? This isn’t a trick question; I’ll give you the answer upfront. The hero always outdraws the villain in a western showdown because he draws second. Sounds simple enough, but why does the person who draws second always win? And why is the person who draws second always the hero? The answers are all quite simple, but it took a Nobel Prize-winning physicist to figure them out.

The great Dane, Neils Bohr--the father of quantum mechanics, complementarity, and the infamous (in Einstein’s and Schrodinger’s houses, at least) Copenhagen Interpretation of quantum mechanics--was a big fan of American westerns. Bohr used to take his students to the matinee on Saturday mornings to watch the weekly western. Bohr became obsessed with the showdown at the end of every western, and the question we asked earlier. Being a scientist, Bohr decided he’d figure out why the hero always won.

He got the obvious part right away. The hero always drew second, but why was drawing second an advantage? Bohr decided that the advantage lay in the fact that whoever drew first had to think about what he was doing, while whoever drew second just reacted. Bohr reasoned that it took longer to make a conscious decision than it took for an instinctive reaction. Whoever drew second took less time; enough less time that even drawing second he would always win. His students, being students, disagreed with him.

Bohr rose to the challenge, and they all went to a local toy store, bought toy guns and holsters, and returned to the lab. Since it was his idea, Bohr got to be John Wayne (the hero) and go second. One by one, his students strapped on their six-guns and faced him down, eventually drawing first. That afternoon, Bohr “killed”¹ them all!

Those who engaged in western showdowns in the Wild West (if anyone really did) knew all this, of course, as did the people who made the movies about them. You don’t have to be a rocket scientist to see that whoever draws first always loses even if you don’t understand how it works. The solution is obvious. If you’re in a showdown, never draw first.

The problem with this solution is that *somebody* has to go first. That’s why a showdown is really a battle of nerves. You’re waiting for the other guy to go first so you can win. You know that just a twitch in the direction of your holster might cause an instinctive reaction in your opponent, getting yourself killed without even going for your gun. Nerves!

So why is the villain always the person who draws first? That part’s easy. You can see it in his face as the hero stares him down. The villain is afraid. He’s afraid because, deep

down inside, he knows that he's a coward. The very definition of a hero is that he is not a coward. The story is the process by which the hero *learns* that he is not a coward.

[Historical sidebar: Like everything in Darwin's world, the western evolved. The hero learning that he was a hero was just the early stage. It all changed with one man who was royalty in the movie west, the Duke himself. The Duke, who apparently had the best agent in Hollywood, put it bluntly: "I don't want to be the one who learns; I want to be the one who KNOWS!" (The rumor that Nobody! might be related is understandable but false, although Nobody! does, coincidentally, ride a KTM Duke, The Boop Duke.) Few actors have the clout to bend genres to their whim. That single phrase effectively ended the western as a genre for the rest of us. From then on, the western was nothing more than the modern action movie--*Man Against Many, Man Wins!* Drat! That's another murder! John Wayne killed the western!]

Anyway, in the classic western, the villain always looks a bit panicked just before he draws. The hero gets the second draw advantage, and wins, because he has courage, because he's a hero.

Bohr reasoned that it took longer to make a conscious decision than it took for an unconscious reaction, and he demonstrated it empirically, but he could not quantify his answer scientifically. Half a century later, a scientist named Benjamin Libet would "put a number" on just how much longer it took to go first in a western showdown. (It's important to understand that nothing really exists in science until somebody "puts a number on it." Once the Silver Surfer of Hitchhikers² gave the universe its number--FORTY-TWO--we all slept much better, although many thought the number was too low. If you think that numbering universes seems a bit strange, it will make more sense later.) A conscious act, it turns out, takes a full half-second to initiate while an instinctive reaction can take as little as two-tenths of a second. That gives whoever goes second three-tenths of a second advantage. Libet is justifiably famous for having discovered the "half-second delay of consciousness."³

As it turns out, a half-second is too long for consciousness to have any real utility in a western shootout, and one would think, in any life-threatening emergency. Whatever consciousness is doing, it doesn't seem to be protecting our genes in life-threatening emergencies. That's odd. Things that don't protect our genes in life-threatening emergencies aren't supposed to evolve. In the world of evolution, protecting our genes in life-threatening emergencies is Job #1. If consciousness gets you killed in a showdown, what good is it from an evolutionary perspective? Bohr didn't ask this question because he was a physicist, not an evolutionary scientist.

Like Newton's falling apple, the fact that a conscious thought takes longer than an instinctive reaction may be the single most important scientific fact in the human world we all live in. It unlocks a great secret about us as human beings--one which scientists seem to prefer we not know.

¹ George Gamow tells the story about how Bohr "killed" his students in his book *Thirty Years That Shook Physics: The Story of Quantum Theory* (Dover Publications, Inc., Mineola, N.Y., 1985, pages 55-56)

² Douglas Adams, *The Hitchhiker's Guide to the Galaxy* (Del Ray Ballantine Books, New York, 2009)

³ Benjamin Libet, *Mind Time: The Temporal Factor in Consciousness* (Harvard University Press paperback edition, Cambridge, 2005)

CHAPTER 5: THE GOLDEN AGE OF SCIENCE

“Science is not powerful because it is true, but true because it is powerful.”¹

Hilary Lawson

And science has never been more powerful. We are living, quite literally, in the golden age of science that was predicted by the geneticist Gunther Stent in the hippie days of the sixties when he was a professor at University of California at Berkeley in his book, *The Coming of the Golden Age*.² (Historical sidebar: In this book, Stent was one of the first geneticists to notice the remarkable similarity of the genetic code of DNA to the life code developed in the ancient Chinese book, the *I Ching* or *Book of Changes*, but that’s another story.) Stent saw the golden age of science as a double-edged sword. The road to Polynesia (in Stent’s scenario, a paradise where naked people no longer had to work--you gotta remember, this was the sixties) would also, quite paradoxically, mark the end of progress. The subtitle of his book was “a view of the end of progress.” He claimed that science was not an open-ended enterprise. Like everything else, the heyday of science would have a beginning, middle, and end.

The most powerful tool that humans ever “invented” was language. Language made everything else possible--civilization, conquest, writing, progress, science, everything. But even language, which evolved from grunts to Shakespeare and continues to evolve constantly, had a beginning (grunts), middle (grammar), and end (as a metaphor--Shakespeare). Nobody works on the improvement of language anymore; today people are more concerned with the preservation of language. New words are added effortlessly, although sometimes painfully for the preservationists.

Stent argued that the end of progress would occur after the golden age of science had peaked. While we aren’t all lounging naked in paradise yet (bit of a “Drat!” there, Gunther), many of Stent’s predictions have already come to pass. We currently live in times where almost any problem seems capable of a scientific solution--if not today, then in the near or distant future. The acceleration of scientific progress is so great right now that most scientists today are perfectly aware that they are already in the midst of the golden age of science, although few believe that this will also mark the end of scientific progress. Much like the medieval Church just before the Reformation, which was at the peak of its spiritual and temporal power, modern science has become a victim of its own successes and what some might call excesses. One needs to remember that when Martin Luther nailed his “95 Theses” to the door of the Wittenberg church that he had no idea that they would cause controversy--let alone the Reformation. He thought that by pointing out the obvious that the Church would reform itself out of embarrassment--clearly, he was a bit of a medieval Pollyanna. Even the Reformation was an unintended consequence.

Starting early in the seventeenth century, science set out to understand how the world works using Descartes’ formulation of understanding “matter in motion.” Matter in motion, it turns out, is a powerful tool for understanding the physical world. With Galileo’s laws of inertia, Kepler’s laws of planetary motion, and Newton’s laws of motion and gravity, scientists have come to understand how things move on the earth and in the heavens.

Then in the nineteenth century, Darwin and Wallace developed the theory of evolution, and Mendel developed the theory of genetics. When Watson, Crick, Rosalind Franklin, and a cast of many discovered the double-helix structure of the DNA molecule in the mid-twentieth century, we pretty much had the puzzle of life figured out. Now scientists understand heredity and why our children only “sort of” look like us.

Earlier in this century, with Einstein's theories of relativity (special and general), scientists have come to understand time (relative), space-time (curved), and gravity (curves space-time) in a whole new way. Einstein's formula $E=mc^2$ (certainly, the most famous formula ever conceived) unleashed the power of the atom, for better and for worse.

By mid-century, light arriving from distant stars had been interpreted to mean that the entire universe started in an explosion of sorts around fourteen billion years ago and contained such exotic things as black holes (gravity-sucking monsters from which no light can escape that are formed by the collapse of stars). Basically, science understands pretty much what can be understood about matter in motion, at least locally in the corner of the universe where we live.

Not that we've come to the end of science by any means, but the low-hanging fruit has mostly been culled. The deterministic sciences (physics, chemistry, planetary motions) have been mostly worked out. We have moved beyond the discovery phase and into what the scientist Eddington referred to as the "stamp collecting" phase of science where there is a lot to do but little new basic knowledge to be gained. The creative scientists leave the field to the technicians.

The most powerful blow to modern science was delivered in the 1920s by the new science of quantum mechanics (what Bohr and his students were doing when they weren't shooting each other), which taught us that our knowledge of the atom would come at the cost of understanding (that pesky Copenhagen Interpretation). We can measure the atomic world and make predictions, which have probabilistic outcomes--but that is all that we can do. We can say nothing about what the atomic world is like; we can make no absolute predictions (if you do "this," "that" always follows--apparently Hume got it right when he said that you can never say that for sure), and we have to live with a host of contradictions like wave-particle duality, which nobody can understand, let alone explain (you cannot imagine the number of experts working in this area alone; it's a regular cottage industry in physics). Worse, we have to believe that an atomic particle does not even *have* a location and a velocity unless--and *until*--we measure it. Einstein had to ask Bohr if he really believed that the moon wasn't there when he wasn't looking at it.

Just to be clear--quantum mechanics is the most accurate science ever invented, but its creation destroyed two of science's greatest illusions. The first illusion was that the future could be predicted from the past. At the subatomic level, at least, that proved to be impossible. Predictability did not "go all the way down" but stopped somewhere around the second floor of the scientific edifice as probability--how embarrassing. The second illusion was that by using the tools of science we could come to an understanding of how the world works. At the subatomic level, we were not simply denied that knowledge--any traditional sense of understanding we may have had was dragged for several miles behind science's pick-up truck and left gasping for survival. We are fortunate that knowledge of *how* the quantum world works is not necessary to our survival in this one. If it did, we'd be quantum toast! You kind of have to thank God that science isn't that important, don't you?

The other sciences that interest us are the non-deterministic sciences like the weather, economics, anthropology, sociology, psychology and the like. These sciences relate to the things that matter most to us as human beings, but at the same time they are remarkably hard to get our hands on because they are not predictable (they are not deterministic). As a rule, you can't predict the weather for more than a day or two into the future with any accuracy.

The most non-deterministic science of all is biology. Scientists believe that biological systems have evolved over billions of years as DNA molecules interacted with their environments and some survived while others didn't. As this was a random and non-deterministic process, biology remains to this day the most complex and elusive of sciences. Our greatest triumphs in biology have had more to do with hygiene, diet, antibiotics and vaccines than with any great scientific breakthroughs in our battles against smallpox, tuberculosis, malaria, cancer or AIDS--or the flu, or the common cold, for that matter. We remain better surgeons than doctors.

As it solved the simple problems and moved on to the more intractable ones, science has gotten to be more and more complex and, therefore, more and more expensive. It is no surprise that the greatest risk to our financial future is not due to the retirement bubble of baby boomers but to the skyrocketing costs of their medical care. Doing science is outrageously expensive and provides us with diminishing returns; we spend almost \$8000 per person per year for health care in the United States (double that of the rest of the industrial world) but get progressively less and less. The quality of our medical care has deteriorated compared to other industrialized countries, while our investment in it has skyrocketed so we have the most advanced, but by no means the best, medical care in the world (a pesky contradiction). It's as if science was once a nice sturdy fishing boat that daily brought in loads of fish. Now, it has become a luxury yacht, which is a far superior sailing boat but a distinctly mediocre fishing boat. More than one owner has been humbled by yacht ownership--defining it as "a hole in the ocean into which one shovels money." Even the US Congress--possessor of the largest money shovel in the known universe--is starting to realize this.

Since medical care is so expensive, it has become big business that is practiced by pharmaceutical companies, government agencies (like the National Institutes of Health and the Centers for Disease Control), universities, hospitals, insurance companies, health maintenance organizations (HMOs), and independent biotech companies. The lone scientist working in his lab has long been extinct (except in Hollywood, of course).

Almost every day, some scientists somewhere announce the discovery of "a new gene, which will one day..." Actually, they never tell you what that new gene will lead to one day because they don't have the slightest idea. Instead, they have high hopes. The news media continues to report each new gene as if it were actually news. The reason for this is that science is so complex now that it has become the "science of promises." It cannot accomplish anything in the present--science just takes too long--everything must be accomplished in a future that sometimes never seems to arrive. There's a joke in the physics' community that "hot fusion is the energy source of the future--and it always will be!" If the news media did not report on the promises of science, the science page would all but disappear from modern newspapers. It does seem remarkable, however, that the science page has evolved into science's horoscope--predictions of a future that may or may not come to pass!

What we have come to learn in the postmodern era of science is that everybody--including scientists--has an agenda and that agendas can interfere with the good practice of science. Agendas interfere with peer review--the process by which colleagues can block the publication of scientific papers by their peers simply because they disagree with them (it's every bit as prone to abuse as its description implies). Agendas cause studies and experiments with negative results not to be published for what are, essentially, personal, political, judicial, or commercial--certainly not scientific--reasons (effectively, the

published data is slanted towards a desired result). Agendas can stifle scientific debate in the name of public health or safety (necessary perhaps, but stifling debate can never be scientific as the very essence of science is debate, which is also the problem with peer review). Since much of science is funded by grants, scientists who publish opinions that other scientists disagree with can be cut off from the source of their funding (another process especially ripe for abuse as large amounts of money are involved). Ridicule is used frequently in the scientific community, although it seems unscientific to call colleagues names just because they disagree with you. Needless to say, there are a lot of big egos in science, with all the baggage that big egos entail (think rock stars or movie stars with PhDs and a lot less money). Fraud is a word that seems to be associated with science more frequently than in the past. Or maybe it's just that so much more science is being done today that there is more fraud uncovered.

Just to use pharmaceutical companies as an example, they have a need to generate profits. They have a limited window of opportunity to financially exploit any innovation they develop (the patent period). They have no desire to share their expensively acquired knowledge with others (read "competitors") hence the openness that science depends on can deteriorate. They have a tendency to defend their own products while they are protected by patent and then to cast them to the wolves of litigation when the patents have run out, and they move on to the next big thing. While science is at the heart of the process, its objectivity is in question. We essentially have to trust the big pharmaceutical companies to do good science and to report it accurately. Repeated scandals have made that trust more difficult to regenerate.

Imagine that you ask a government scientist if a given ingredient in drinking water is dangerous? You would assume that this is a fairly straightforward scientific question, but you would quickly discover that it is an extremely complex social/political/scientific question that cannot be addressed simply (i.e., by the scientific method alone). There are logistic and economic considerations. Who will have to pay for cleaning up the water? We don't want to panic people. What would happen if everyone thought their drinking water was dangerous? How dangerous would that be? How dangerous is dangerous, really?

The same is true of many of the scientific questions that you can ask today. Is the new CERN Large Hadron Collider potentially dangerous? That would seem to depend on whether you're a physicist who thinks we should worry about obscure possibilities (when the consequences are the most devastating imaginable--the disappearance of the earth into a collider-created black hole) or a collider scientist anxious to conduct experiments and dispel fears. If you ask a biotech company how the new product they are working on is coming along, do you think you'll hear the truth, or a statement made to keep their investors calm so they won't sell their stock? Can you expect a hospital that is afraid you will sue them to tell you the truth about a mistake that they have made? The answer would have to be, "Maybe yes, maybe no." And what about universities? Certainly, institutions of higher learning are above the fray. But where do they get the funding to do the research that they engage in? Who do they answer to? It's nice to believe that the answer is "the pursuit of truth," but we wonder.

The simple reality is that we don't know and can't know the motivations of scientists, but we have become suspicious of the scientific enterprise as we understand that science is a "special interest group"--and one that needs huge amounts of our cash. In the sense of a financial juggernaut, science is the medieval Church of the modern age; super-colliders and genome projects are its modern cathedrals. The reason that we trust in science is that we

were trained to do so as children in school, but for many adults living in the real world, that belief structure is eroding (noticeable, perhaps, as an erosion of funding). Science has been revealed to have deep flaws in addition to its positive points, and yet it seems blissfully unaware that a problem even exists. Perhaps, like the medieval Church, science believes that it is too powerful to have to worry.

The most interesting thing about science is that it has no Church, no Pope--no umbrella organization that is even nominally in charge. Like evolution, science is a process, not an actor on the human stage. No organization exists that regulates science, except locally--with locally determined rules. There is no place to file a grievance (except locally)--no door to which Martin Luther can nail his complaints against Mother Church.

All golden ages eventually end (the Scientific Revolution ended the Golden Age of Alchemy, as well as chopping the medieval Church down to size), but the Catholic Church continues as a powerful force in the world today even though it no longer possesses the near omnipotent power that it possessed in its medieval heyday. Science has every expectation of a similar important continuing role long after its golden age has passed.

¹ BBC Documentary Film "Science...fiction?" written and directed by Hilary Lawson

² Gunther S. Stent, *The Coming of the Golden Age: A View of the End of Progress* (The American Museum of Natural History, The Natural History Press, Garden City, 1969)

CHAPTER 6: SCIENCE ON THE ROPES

While the quantum revolution dealt it a serious blow, the public perception of science did not significantly change until August 6, 1945, when we dropped the atomic bomb on Hiroshima. That bomb simultaneously revealed to the world the miracle that such a thing was possible along with the horror of its effects. The second bomb taught the world that we had two.

The scientists who built the atomic bomb in the fear that Hitler might develop it first were originally led to believe that it would be used as a demonstration weapon to convince the Japanese to surrender. That naivete soon gave way to an understanding of a simple reality--the military does not build weapons that it does not intend to use (it only started doing that *after* our atomic bombs exploded). This led some of the scientists involved in the project to say, "We have sinned."

After the war, the public's perception of science changed in a dramatic way, and suddenly science was seen to be something more akin to Pandora's Box--full of wondrous delights but also a source of extensive unforeseen troubles or problems. Out of nowhere, new threats like nuclear radiation in the atmosphere and milk appeared, and later, the politics of *mutually assured destruction* and scientific wonders like *nuclear winter*. More mundanely, Freon in our air conditioners seemed to be causing a potentially disastrous hole in the ozone layer. Almost overnight, the perception of modern science went from savior to destroyer.

Now, at the dawn of the twenty-first century, we have to add global warming to our list of "unintended scientific consequences." An equally dangerous build-up of nitrogen in soil and water because of modern agricultural practices has led to predictions of new disasters (algae blooms, dead lakes, permanently fallowed land, crop failures)-- which could cause major disruptions in food and drinking water supplies worldwide. The same carbon dioxide that is building up in our atmosphere is also accumulating in our oceans where it turns to carbonic acid that destroys fish habitats. The frozen tundra releases methane gas as

it defrosts; methane is a far more potent greenhouse gas than carbon dioxide so the process of global warming may accelerate.

We trust science to deflect an incoming asteroid if necessary (a nice deterministic science), but we do not trust it to attempt to reverse the effects of global warming because we do not trust its ability to manipulate the weather (that it can't successfully predict)--not that scientists won't want to try. At best, we are willing to try to reduce the production of carbon dioxide in an attempt to forestall what seems to be inevitable. When global warming strikes, we are as likely to blame science as turn to it to save us.

Scientists will tell us that what we need to combat global warming is the equivalent of a new Manhattan Project (the project that developed the atomic bomb). The problem with this analogy is that, as amazing as an atomic bomb is, the reason that it works is that it functions on highly deterministic principles. The Apollo moon program was based on deterministic science too, but even deterministic science is no guarantee of success. Both super-conductivity and hot fusion power plants are deterministic sciences with immense promise that we have spent billions of dollars pursuing without success. Scientists like to use the phrase "Manhattan Project" because the Manhattan Project was a success, but not all Manhattan Projects have been a success--not by any means.

The key question to ask any scientist who wants money for a new Manhattan Project is whether or not the science behind it is deterministic or non-deterministic. We have had Manhattan Projects for many non-deterministic phenomena--mostly diseases. How did they do? Actually, they were bombs, but at least they weren't the atomic kind. Scientists spent ten years and billions of dollars seeking a "cancer virus" in the 1970s as part of Nixon's War on Cancer (we don't call them "Manhattan Projects" anymore; we call them "Wars" now). No cancer virus was ever found. Untold billions have been spent to combat the HIV virus (The War on AIDS), but the basic science hasn't progressed much in over a quarter of a century, and even with electron microscopes, scientists still can't find the live virus in people who are dying of the disease (these are the same scientists that managed to find quarks inside atoms). Ask yourself, have we cured ANY disease? Mention this to scientists, and they'll talk about the importance of negative results in science--science, actually, is *mostly* negative results. Fair enough.

Visionary scientists today want to conduct a Manhattan Project for aging. These scientists have formed biotech companies to conquer aging (you guessed it, it's The War on Aging) even though there is currently no scientific definition or consensus of what aging is, let alone what causes it (except time, of course) or how to prevent it. The salesmen of the War on Aging claim that they have increased the life spans of worms and laboratory mice numerous times using a variety of techniques. Perhaps they need to be reminded that scientists have often cured cancer in laboratory mice too--without curing cancer in humans. The upcoming "we-have-to-support-the-hippies" generation:

GEN-BUSTMYBALLS!

probably doesn't have to worry that it will be forever.

The best example of science on the ropes is the impassioned debate that takes place between theoretically objective scientists and religious fundamentalists over Darwin's theory of evolution. It is a uniquely American controversy, and its most noticeable features are its strident volume and antagonistic tone. Europeans are baffled that it takes place at all. It's easy to suspect that the scientists involved are motivated more by their memories of Galileo forced to stand trial before the Inquisition and publicly recant his belief in

Copernicus' theory than over any need to refute arguments that few believe need refuting. A huge amount of time, money and energy is spent on a debate that seems as intractable and irresolvable as the Israeli-Palestinian conflict. You have to wonder how the scientists got themselves into such a fix.

A skeptical person might suspect that this emphasis on creationism is a red herring to get us to focus on something that is not important so that we will miss what really is. What is it that scientists might be hiding? It turns out that the answer is something far more radical than Darwin's theory. It would be easier to convince a fundamentalist that angels evolved from orangutans than to convince society of the dirty little secret that science has uncovered about humankind in the second half of the twentieth century. It's easy to understand why the debate has been shifted to something cultural. Attacking religion is easier than admitting the scientific truth.

Science's dirty little secret is that--drum roll please--all conscious action is an illusion.¹ Everything that a person does, says, eats, drinks, writes, spits, whatever is a result of unconscious activity. There's some consolation for alcoholics, drug addicts, and those who can't stay on their diets here. Actually, if you think about it, there's some consolation for absolutely everybody here although, admittedly, the information is somewhat disconcerting. Just to be clear--everything means absolutely everything. We are not the actors in our own life drama that we think we are, although we delude ourselves into believing that we are (scientists now understand many of the technical details of how this delusion functions). We are not the puppeteers of our own lives--we are the puppets! We might seem crazy for believing that we are responsible for things over which we have no conscious control, but since we will be held responsible for those activities whether we are responsible for them or not, perhaps we aren't crazy at all.

Still, whether we are digesting lunch or voting, our conscious mind is not involved in the process. This isn't an argument about free will (although it does raise some interesting questions about the subject); it is a description of who pulls the lever on a voting machine (or on a slot machine, if you prefer). Surprisingly enough, it isn't you or me. It's him or her. But who is "he" if not "me"? Apparently, "he" is everything that I am except for my I-consciousness--and "he" is the only actor in my human drama. "He" is Not-I.

Science has, quite literally, solved the age-old conundrum: How can a conscious thought--a completely ethereal thing--*cause* a physical action? How can a mere idea in my head cause me to do something? The answer is blissfully simple. It can't! All actions are caused by Not-I--no conscious thoughts necessary (more on Not-I later).

Since consciousness cannot act--contrary to common sense and our personal perception of our own experience--scientists are baffled to say exactly what role consciousness might play in our lives (other than getting us killed in western showdowns), although, in the great tradition of science, theories are abundant. Of course, the one thing consciousness *can* do is *think*. If you *think* about it, that's a really big deal, even if it can't act. Still, it's easy to understand why scientists aren't anxious to confront the public with this particular delusion. No one wants to break that kind of bad news to anyone--especially in public ("We're talking about *you* here! *You* just can't *handle* the truth!"). People might think that it's the scientists who are deluded, and they might decide not to fund all those expensive science projects.

It seems that science has provided us with a conundrum every bit as disturbing as existentialism--the philosophy of meaninglessness. It's one thing for us to have to accept the fact that life is meaningless, but quite another to accept that it's impossible to do

anything about it--except *think* about it--because we're incapable of doing absolutely anything. The response from the average listener to scientific "facts" like these is, essentially, "I don't frackin' think so!"

The result is an unspoken conspiracy of silence and an unplanned strategy to attack a non-existent enemy--science on the ropes.

¹ Daniel M. Wegner, *The Illusion of Conscious Will* (Bradford Books, Massachusetts Institute of Technology Press, Cambridge, 2002)

CHAPTER 7: NOBODY KNOWS GRAVITY

When scientists want to explain whether or not the theory of evolution is a fact, they often say that it is as much of a fact as gravity, which sounds convincing but might lead a person with a skeptical bent to wonder just how much of a fact gravity really is. Newton's law of gravity is probably the greatest single scientific achievement ever. For utility, nothing can touch it. It allows us to plot the trajectory of cannon balls and to thread a spaceship through the rings of Saturn. It explains everything from falling apples to how the universe works. It is easy to state: "Every particle in the universe attracts every other particle." There's a nifty formula that states the relationship, but the details don't really matter. Everything attracts everything else--that's the essence. It's an attractive universe. It's quite simple really. That it explains so much is astounding.

Newton almost didn't publish his work on gravity. He was certain that nobody would believe in a force that was supposed to act mysteriously across the vastness of space. How could gravity possibly accomplish this miraculous feat? Newton had no answer, and he simply fell back on the position that it worked even if he didn't know how. That was, of course, a long time ago. Certainly, we know how gravity works by now.

Actually, when it comes to theories about gravity, we have an overabundance. There's a quantum theory of gravity that involves subatomic particles called gravitons. Unfortunately, nobody has discovered a graviton; they are theoretical particles that haven't been found yet. Nothing new there--lots of theoretical particles had to wait around a long time to be found. We still might find gravitons.

Newton's gravity remains as a mysterious force that acts across empty space by means unknown. Einstein improved on Newton by explaining gravity as geometry. In Einstein's universe all particles follow nice straight lines, but they do so through curved space. The curvature of space is caused by the mass of the objects in it--the greater the mass, the greater the curvature. Gravity is space curved by mass--no gravitons or attractive forces necessary. Scientists consider Einstein "truer" than Newton ("truer" in the world of science means that one theory explains "more" than a competing theory). At least, Einstein provides a mechanism for gravity, even if geometry seems like a kind of "cheesy" evasion of the problem, but Newton gets the satisfaction of knowing that when scientists thread spaceships through the rings of Saturn that they do it with his equations and not Einstein's. Turns out that even Einstein couldn't solve Einstein's equations.

There's an even more modern theory of gravity called string theory. Sometimes it's called the Theory of Everything (it isn't) because scientists are just as capable of overstatement as politicians and corporate marketing departments. It explains gravity as the action of tightly bundled strings (as opposed to point particles) that are so small that they can never be seen. Currently, there are various string theories that require up to ten or

more dimensions (don't ask)--all but the four dimensions we experience thankfully manage to disappear. The reason that string theories are considered the hottest area for current research is simple--they explain gravity. Gravity falls out of their equations like apples fall from trees. The biggest problem that these theories have is that they are impossible to verify--that would take a particle accelerator the size of our solar system. The cost of this knowledge is that it cannot be confirmed by experiment--the bedrock of the scientific method. Bit of a "Drat!" there.

These are the "dominant" theories of gravity. The interesting point is that they are not compatible. They can't all be right. To add to the confusion, you'd be surprised at how many fringe theories there are as well. My personal favorite proposes that gravity does not exist at all and that its effects can be explained if you postulate that every particle in the universe is expanding at a fixed rate (the rate that apples fall, natch). The universe doesn't grow, but everything in it does, and gravity is the result.

So what is "the thing that really matters" about gravity? How it works--don't you think? Scientists aren't usually satisfied to know that something works without knowing how; that was Newton's resistance to publishing his theory of gravity in the first place. Scientists want to know how the Old Faithful geyser works, and they are not satisfied just to know that they can set their watches by it (you can't, actually). They only grudgingly accept not knowing the "how" of something when nature gives them no choice, as she does with quantum mechanics.

When you hear that evolution is a fact like gravity, you might want to ask: "Whose gravity--Newton's or Einstein's? Or maybe you mean quantum gravity or superstring gravity?" In the world of science, there's a whole lot of gravity going on. The reason is quite simple: In science, *all* theories are provisional. Any theory can be overthrown by a better theory at any time. *There are no exceptions.* Unlike religion, there is nothing sacred in science--except for evolution, of course. In spite of the fact that evolution is a historical theory that can never be proven, some scientists wish to elevate it above gravity and declare it an *absolute truth*. The reality is that there are no absolute truths in science.

If somebody tells you that everything in the universe is attracted to everything else, don't you want to know how? That's what Newton thought. That it works is interesting, but what we want to know is how it works. How does mass curve space? Anybody? We know a lot about the effects of gravity, but nobody knows the "how" of it--"the thing that really matters." And possibly, nobody ever will.

CHAPTER 8: NOBODY KNOWS THE UNIVERSE

As impressive as gravity is, it's just one element in the most ambitious scientific theory of all time--the birth of the universe in a primordial explosion called the big bang. As recently as the first Great Depression, astronomers thought that our Milky Way galaxy was the entire universe. Then some astronomers discovered that many of the so-called "stars" in our galaxy were actually themselves incredibly distant galaxies. *We are not alone.* Other astronomers discovered that all the galaxies in the universe seemed to be "running away from" all of the other galaxies, as if they had all originated in a giant explosion together. Eventually, this data generated what came to be known as the big bang theory that the entire universe began...well...in a big bang!

If you were to ask astronomers how this was possible, they would have to defer to the particle physicists. The astronomers understood what was happening but not how it had

happened. To find that out, the particle physicists had to fire up their high-energy particle accelerators (a.k.a. super-colliders). A super-collider is a giant machine (the largest ever built) that slams atomic particles (atoms and their constituent components) into each other at higher and higher energy levels to duplicate the conditions, to as great a degree as possible, which were present at the origin of the universe (in search of the “God Particle”). Heady stuff!

The result of all this effort was the Standard Model--a virtual zoo of ninety-six particles and anti-particles that, along with the (hopefully) soon-to-be-discovered Higgs boson (the aforementioned “God Particle”), should explain how the universe that we see today originally started as a fluctuation in a quantum vacuum a long, long time ago (more or less, 13.7 billion years, give or take a few lost weekends). The Standard Model explains almost everything. The astute¹ reader might already have guessed that the one thing that the Standard Model cannot explain is--drum roll please--gravity.

Gravity aside, what scientists do is run the clock backwards on the universe, like watching a motion picture in reverse, with all the galaxies getting closer and closer to each other until they are all converging violently on the same point in space. At that time, matter as we know it did not yet exist, and the zoo of particles from the Standard Model filled empty space. Scientists play this simulation backwards to within a fraction of a second of the beginning--a fraction so infinitesimally small that it would have given Zeno a headache.

Then, just when we expect to see the creation of the universe, the story ends like the final episode of *The Sopranos* with a FLASH CUT TO STATIC--only in our big bang story, the laws of the universe inconveniently vanish just before we find out what happened. Oops! Without those laws, we have no idea what might have happened before, and we’re left to wonder whether Tony got whacked or not. We don’t find out “the thing that really matters”--how the universe began, where it came from, the important stuff. We’re talking about the origin of the universe here, and we really want to know, but the truth is that nobody knows the origin of the universe.

And nobody ever will.

¹ From the ancient Egyptian, “*As-Tut!*”

CHAPTER 9: NOBODY KNOWS LIFE

This is another story where scientists run the clock backwards to figure things out. As far as evolution is concerned, it is the fossil record that impresses. As you go farther and farther back in time, the animals get simpler and simpler. From a scientific perspective that kind of progression demands some sort of explanation. With our modern understanding of DNA, RNA, and genetic mutations, scientists have proposed that one single cell was the great-great-great-great-great-great...great-grandmother (actually, it was asexual) of us all. This amazing feat was accomplished one genetic mutation at a time through a process that is not yet completely understood, but is in the “stamp collecting” phase for the most part. Scientists would still like to understand how DNA manages to grow a complete animal from a single fertilized cell, but one imagines that they will eventually.

Which leaves us wondering about that “one single cell,” doesn’t it? Where on earth did that puppy come from? Some scientists have indicated that they think it arrived from outer space on a meteor or frozen comet as they cannot fathom how it might have developed on earth given the time available. Others insist that it managed to self-assemble itself here

somehow. It could not have “evolved” because “evolution,” as scientists use the term, depends on DNA and RNA. The single-cell question is: “Where did the DNA and/or RNA that made up that first single self-replicating cell come from?” After over a half a century of unsuccessful attempts to answer that question (“DNA world,” “RNA world,” “self-replicating clays,” “self-assembling amino acids”), scientists now say that it doesn’t matter (that is to say, perhaps they’ll never know). There was a single cell, and after that they can explain every living thing.

So the origin of life is not the same as the theory of evolution. Evolution explains changes in living things, but not how living things came to be in the first place. Unable to answer that question, scientists now consider that story irrelevant, which is just a clever way to say that they do not know--ANYTHING--about the origin of life. The origin of life and the origin of the universe seem to be equally inscrutable. They both start like the final episode of *The Sopranos* ended--in a confusion of static.

Someday, scientists might get matter to assemble itself into life in a test tube. I’m speaking metaphorically, of course. It wouldn’t actually be in a test tube, but they would demonstrate in a convincing manner that one can mix chemicals and get life (DNA, RNA, a primitive living cell of some kind, whatever). For the majority of people, that would settle the issue once and for all. For others, questions would persist. Personally, I would be impressed:

SOMEBODY KNOWS SOMETHING!

It could happen.

CHAPTER 10: NOBODY KNOWS CONSCIOUSNESS

Or maybe somebody does.

In 1976, Julian Jaynes of Princeton University proposed a novel theory about consciousness. You’ll notice that the really interesting scientific theories are often described as the dominant form of fiction--the novel. The big bang started out as a “novel theory” before it turned into the “evolution of astronomy” and got set in evolving stone. Jaynes’ theory was that three thousand years ago human beings did not possess I-consciousness. He believed that “it is perfectly possible that there could have been a race of men who spoke, judged, reasoned, solved problems, indeed did most of the things that we do, but who were not conscious at all.”¹

As I-consciousness is where we live (Descartes’ famous “I think, therefore I am” sums it up beautifully), the idea that human beings could have existed without it seems...well...strange, to say the least. Jaynes’ was convinced that, at the time of Homer’s *Iliad*, people did not possess I-consciousness. Instead, they thought that gods spoke directly to them, and they acted on the gods’ directives. Jaynes argued that as language developed that human beings started hearing voices in their heads talking to them that were really just their right brain talking to their left brain over a small nerve bridge called the anterior commissures--voices similar to those heard today by schizophrenics.

Jaynes thought that people interpreted the voices that they heard as “voices of the gods” telling them what to do. They listened to those voices and acted. The right brain spoke, the left brain listened, and the person followed orders. All of this occurred seamlessly; they were totally unaware that things were anything other than what they seemed. The Greek gods (the voices) represented human urges--sexuality, war, lust, jealousy, craftiness, ego,

wisdom, the unconscious (Neptune as the “King of the Underwater World”)--so people did “human things” listening to “godly voices.” The gods--also called demons--were, quite literally, humanity’s will personified.

According to Jaynes, the *Odyssey* represented the turning point in the history of consciousness. The hero Odysseus had to struggle with his own unconscious urges (Sirens and other temptations)--at great cost, as all those who traveled with him perished--before he returned home to successfully fulfill the gods’ commands (the gods triumph over budding consciousness). Around 1000 B.C., Jaynes argued that one can see the beginnings of consciousness in Greek, Indian, Chinese, and Egyptian civilizations, and that by 500 B.C. consciousness was well established in the civilized world. Jaynes claimed that the *Old Testament* contains the best textual description of the origin of consciousness--from the disappearance of the gods to the taking over of the mind by I-consciousness. As the many gods who spoke to people in the past evolved into I-consciousness, the polytheism of the past inevitably gave way to monotheism. One consciousness (the “I”) could only mean one God telling us what to do.

Fleshing out Jayne’s theory, others have suggested that I-consciousness can be lost at times, and that, when it is, people revert to acting out the gods’ wishes. The historian Morris Berman has argued that the Christian world lost I-consciousness around 500 A.D. and did not regain it until 1100 A.D.² This was a period when the newly established Catholic Church was remarkably free of heresy and that people did not distinguish between themselves and God’s commands; they *were* God’s commands. They existed only to fulfill God’s wishes. In this view, what we call the Dark Ages were really a different kind of consciousness inspired by Christ’s teachings. Berman also argued that during the Nazi era the Germans reverted to a state where they were listening to their Aryan gods instead of their I-consciousness--with disastrous results--initiating what could easily be called a modern “Dark Age.”³

The idea that a person could act (write, speak, play a musical instrument) without I-consciousness might be easier to understand if you think about the difference between learning to drive a car and driving a car. Learning to drive is a conscious experience --a terrible trial-and-error experience with mistake building upon mistake until you finally get a feel for things. Everything you do is wrong at first. Once the conscious phase of learning to drive is past, however, you drive more or less unconsciously, only needing your conscious mind to remind yourself which off-ramp to take on the freeway. We drive while we think about other things--practically no consciousness necessary. I’ve seen people reading with the newspaper covering the steering wheel while driving in congested traffic, and women seem to find the driver’s sun-visor mirror better than any illuminated vanity mirror when it comes to applying lip gloss and eyeliner. A lot can be accomplished without consciousness.

As with any historical theory--like the big bang, like the origin of life--the story of the origin of consciousness can be seductive and is backed up with evidence. Is it true?

Nobody knows, and nobody ever will.

¹ Julian Jaynes, *The Origin of Consciousness in the Breakdown of the Bicameral Mind* (First Mariner Books edition, New York, 2000, page 47)

² Morris Berman, *Coming to Our Senses: Body and Spirit in the Hidden History of the West* (Bantam New Age Books, New York, 1990, pp. 178ff)

³ *Ibid.*, pp. 154-155 and 290-293

CHAPTER 11: WHY ASK WHY?

Kids drive their parents crazy with one question endlessly repeated--“Why?”

“Why is grass green?”

“Why do cats wash themselves, but dogs don’t?”

“Why don’t women have beards?”

“Why is the sun yellow, but the moon, which reflects sunlight, is white?”

“Why? Why? Why?”

After a few half-hearted attempts at answers that don’t sound very convincing, are too complex to be understood, or are just plain wrong, the frustrated parent will finally turn to the universal parental response, “Just because!” Of course, “Just because!” doesn’t explain anything, and children know this.

I’m sure that a frustrated parent dreamed up the old beer advertising campaign, “Why ask why?” From a parental point of view, this phrase eliminates the need to say, “Just because!” Try it on your kids one day; it drives them crazy. Just keep at it no matter what “why” question they ask, you reply, “Why ask why?”

The “why” of things will always remain inaccessible to science. As I mentioned in the chapter “Science on the Ropes,” the price that science pays for its knowledge of matter in motion is understanding itself. Science can tell us the “how” of things but is incapable of answering “why” questions. Try it:

Why does the universe exist?

Why does matter exist?

Why does energy exist?

Why do fields exist?

Why does life exist?

Why does a universe-generating quantum vacuum pervade empty space?

Why is light of a certain wavelength green?

Like a parent pestered by a small child, science remains dumbfounded in the face of such questions. The most scientifically correct answer they can muster is our parents’ plaintive, “Just because!” Science can answer “how” questions but not “why” questions.

Well, *sometimes* science can answer “how” questions, but nobody knows the “why” of things.

CHAPTER 12: THE GIFT OF HAPPINESS

To be fair to science, Pandora’s Box is full of all sorts of wonderful things as well as its nefarious unintended consequences. During the past century, the life span of a person living in the United States has increased from approximately fifty to seventy-five years (largely a result of antibiotics, vaccines, and better hygiene and diet). The average person now lives a quarter of a century longer than their counterparts did just one hundred years ago. It’s like having a life and a half.

The really interesting detail in all this is that scientists have determined that people aren’t really happy with their lives until they are in their sixties. Surprisingly, they start to lose weight at about the same age although that isn’t thought to be the reason for their

happiness. Personally, I think they're selling the importance of weight loss to modern Americans short.

Still, since people living a hundred years ago rarely lived to be sixty, at some level it seems reasonable to say that they were denied their shot at happiness. Modern science has come to the rescue of human happiness like a knight in shining armor. We should all be grateful. At the very least, we should be happy about it.

CHAPTER 13: TRUTH AND CLARITY

The language of science is mathematics; the language of scientists is English (throughout the world, actually)--and there's the rub. The average reader need only glance at a science text full of complicated graphs and equations to know that it is *not* the book for them. Unless the equations happen to be in your scientific specialty, even other scientists are baffled by them. Fortunately, scientists speak English when talking about science, which resolves one problem but creates another. The new problem is that between mathematics and English, there must be a translation. The equations of mathematics cannot be described in words, because when you state mathematics in words, it comes out as gibberish. "The Hamiltonian affects the potential..." contains no explanatory power whatsoever in the English language. It only makes sense in the language of mathematics.

This problem was highlighted by Neils Bohr who was asked to explain the concept of complementarity in quantum mechanics (the Copenhagen Interpretation) in layman's terms. Complementarity is an explanation of how light can act like both a wave and a particle, as if, when in the ocean, it's a wave, but, when on the beach, it's a grain of sand. Neat trick. Bohr claimed that wave-particle duality was similar to the relationship between truth and clarity in science, which he explained something like this:

If you try to say something scientific in as true a manner as possible, you will speak with equations and in such exotic verbal language that no one--except, hopefully, your colleagues--will understand you. You will have opted for truth over clarity. On the other hand, if you try to explain something in plain English and as clearly as possible, you will discover that your explanation contains a very low level of truth, if any at all. To explain gravity to a layperson if you were to say, "What goes up must come down," your explanation is not true (once something goes up high enough, it will *never* come down), but it is quite clear. You have opted for clarity over truth. The truth, "What goes up *usually* comes down," would not explain much--that pesky "usually" will lead to all kinds of childish "why" questions. What you will need are a lot more explanations that will all be plagued by similar problems.

An explanation is like a thermostat. It can be "truer" or "clearer" depending on how you turn the dial--but as you get more of one you get less of the other. The result is that it is impossible for an explanation to be both true and clear simultaneously. You have to emphasize one to the detriment of the other.

When scientists speak (except to each other about their specialty), their interest is in clarity. They want to present science, not as it really is, but in a clear (if ideal) manner. The ultimate motivation for this is to attract recruits and/or funding. Students seduced to become scientists will spend on the average ten years learning the equations and techniques of their specialty, but nobody could ever convince them to spend that time by talking to them in the language of those equations, which they are not yet capable of understanding.

So scientists tell a story about science that is not really true, but that tries not to be overly false either. What the students are told is a simplified, clarified version of science that only bears a passing relationship to the truth (we're in the realm of "what goes up must come down" here). Science students forgive these lesser truths after they learn the equations, but those who do not become scientists (the vast majority of us) are sometimes left feeling a bit deceived if we ever happen to stumble across the truth one day on our own. Or as Jefferson Airplane once put it so poetically, "When the truth is found to be lies, and all the joy within you dies."¹

It's not that nobody knows the truth in science. It's that nobody can say it in a language that non-scientists--or even scientists in another field--can understand. Those who know can't talk. Bit of a "Drat!" there.

¹ "Somebody to Love" lyrics by Jefferson Airplane

CHAPTER 14: RENDER UNTO CAESAR

Anyone who would trust in government obviously has no idea how government functions. The basic function of government is to rob Peter to pay Paul. For example, Peter (a citizen) pays federal income tax, and the government gives the money to Paul (Lockheed or McDonnell Douglas) to build a new defense system. Of course, it can be the big corporation that is paying the tax in which case Lockheed or McDonnell Douglas is Peter, and the government gives the money to a poor family on food stamps--the Paulettes.

The basic conflict in government is between the individual's rights and justice versus the needs of the many (society). Government, naturally, represents society and acknowledges the individual's rights and justice as long as they do not conflict with the needs of the many--which seems to be less and less frequently these days. When the conflict is between an individual's rights and government, the balance of power is always loaded in favor of government. Government can pass laws to do whatever they want as long as they do not violate the constitution. That is a hell of a lot of power. In recent years, we have learned that the government can even violate the law and the constitution in the name of national security. There seems to be no limit to government's power when it wants to trample the rights of the individual and justice--for our collective good!

At election time, politicians try to arrange it so that fifty-one percent of the people feel that they are "more Paul" and "less Peter." When they aren't voting out of fear or against someone, people essentially vote to be on the Paul side of the Peter-Paul equation in some way. What politicians don't tell us (but we are learning painfully fast) is that the ultimate "Paul" is government itself.

The government is a self-sustaining entity, whose self-interest is its own self-protection, self-aggrandization, and self-perpetuation (protect the government genome). The most interesting fact about the United States Congress is that it often exempts itself from the laws that it passes! Members of the US Congress have a healthcare plan and a retirement package far superior to Social Security or most private retirement plans (unless we're talking about Wall Street employees). Luther's number one complaint against the Church was over the sale of indulgences--you could literally *buy* your way into heaven--a precursor of modern capitalism. When members of Congress get to the Pearly Gates, you can be sure they'll have the cash to get in, just like the overstuffed medieval bishops that they seem to have replaced. They'll have all that lobbyist money. You'll notice that the one thing the

Church still has left (despite the Reformation) is the money. Of course, if they don't do something about their pedophile priests, even that'll be gone before long. Lawyers are a lot like yachts.

When preparing for nuclear catastrophe, the government's primary concern is to ensure...well...the survival of government in bunkers buried deep inside the womb of Mother Earth. None of this is unreasonable from the perspective of government--and we certainly cannot live without government--but anyone who would trust in such a system must possess an almost Christ-like serenity about "rendering unto Caesar."

CHAPTER 15: SCHOOLS AND OTHER PRISONS

Why should one group of people in a society be able to make laws to control the behavior of another group of people by locking them up in prisons? Certainly, for our common protection. The problem is that our "common protection" can seemingly be extended to pass a law to do almost anything that you want to do to control the behavior of others. In the United States especially, we seem to have a passion for behavior control--or maybe it's an instinct, which might explain why we don't seem to be able to control it. Still, there is no greater power in a society than to decide who goes to the dungeon!

Currently, the US houses twenty-five percent of the world's prison population. Yes, you read that correctly. We keep one quarter (two million three hundred thousand) of all the prisoners in the world (nine million or so) behind bars. A million and a half of them have long-term accommodations in state or federal prisons. While we represent approximately five percent of the world population, we house twenty-five percent of its criminals. We are the prison-building champs. We must be a very dangerous people.

This surfeit of prisoners is a direct result of the success of our legal system. Each year Congress, state legislatures, and local municipalities pass more laws, which criminalize the behavior of more and more people. Laws are almost never repealed so that, like diamonds, they are forever. It's actually illegal to hang your laundry out to dry in many parts of the United States. Once you enter the arena of law, you quickly learn that the normally contradictory words--"reasonable" and "ridiculous"--exist quite comfortably side-by-side. "Reasonable ridiculous" laws are passed all the time. Ridiculous turns out to be very much in the eye of the beholder.

Given enough time (think evolutionary time spans here), eventually everything will be illegal and everyone (except for the "ruling class"--jailers, the military, police, politicians, and bureaucrats) will be in prison. The only way to stay out of prison would be to move to another country--or to join the ruling class. With everyone in prison, we will all be as safe as possible (except, perhaps, when showering).

As laws accumulate, lawbreakers accumulate. With more laws on the books than can possibly be enforced, it is up to the president, governors, local municipalities, chiefs of police, sheriffs, and local constituencies to decide which laws to enforce because they have limited law-enforcement resources--which grants them a great deal of "social engineering" leeway. As long as we choose to fill our jails and prisons with prostitutes and drug addicts, we will continue to be number one in prison-building as the supply is never-ending.

Since prisons are so expensive (minimal accommodations usually start around \$30,000 a year), many states have decided that they need to charge the inmates to help recoup costs. They charge a variety of "fees" like prison and jail fees, postage fees, judgment fees, drug-testing fees, DNA-testing fees, prison construction fees (why not just charge rent?), and--

my personal favorite--a fee for the cost of collecting all the other fees. Since most prisons offer little in the way of job training, what they are really doing is creating a situation where you will end up back in prison because you cannot pay your fees--the modern equivalent of "debtor prisons for former inmates." They lock you up at a cost of \$2500 per month because you can't make a \$60 monthly payment to see your parole officer. Is it any wonder that we're the prison-building champs?

On the plus side, people in prison have lots of time to read; you might say they're our "Captive Audience." We had numerous inputs from prisoners in our "Advance Praise" section. We're hoping for excellent sales for *Goldman's Bulldog* behind bars. With so many innocent people locked up, skepticism must be rampant. There's even a rumor that there's a *Nobody Knows Prisons!* in the works. We started that. It can only help sales in jail. Nobody would buy a book about prisons.

The prison formula is simple: More Laws = More Criminals = More Prisons. The "less-laws" solution seems obvious, but nobody will implement it. It's not politically feasible ("You want to let people out of jail?!?). Prisons, apparently, are our destiny.

The problem has been well understood for millennia. In the *Tao Te Ching*, Lao Tzu (the founder of Taoism) wrote:

"The more laws there are,
The greater the number of scoundrels."

"Where the government is dull and sleepy,
People are wholesome and good.
When the government is sharp and exacting,
People are cunning and mean."

There was a time, not that long ago really, when an education *meant* something. Children went to school until they could not complete the curriculum. If you graduated from the eighth grade but failed in the ninth, then you had an "eighth-grade education." This was useful for employers who understood the skill sets that were acquired with each passing year. Everyone understood the simple reality that all people are *not* created equal--except in the sense of deserving equal justice. People have different abilities, different capabilities. Not everyone can graduate from high school. If they could, it would be meaningless. It would be impossible to differentiate amongst the students to find the ones that have the abilities that you need.

That is, of course, where we are today. We consider it "equal justice" for all students to graduate from high school, even if the unintended consequence of this justice is that many of them can't read or write. Some claim that the real high school dropout rate in the United States is approaching twenty-five percent (rather than the reported twelve percent) because we've made it the self-interest of school principals to lie about it (we passed a law to control their behavior). Rather than involve ourselves in a debate over numbers, let's just say that it seems that an awful lot of our children are voluntarily abandoning the basic education that they need to get by in the world. The sad footnote to their story is that a significant percentage of them will be joining our one quarter of the world's prisoners soon.

At some level, statistics like these scream out for an explanation. What's going on? At least part of the answer may lie in understanding what society wants from its members--and what its members want--and to understand that we need to begin with what society doesn't want. Society doesn't want to hear anything about shit, piss, burps, farts, copulation,

diarrhea, mucous, sweat, enemas, body odor, body hair, body piercings, body...anything really. Society wants us to forget the fact that we are human animals. Society wants disciplined human beings, not animals. Capitalist society needs disciplined workers.

Society sees its job as preparing its children for their future as disciplined workers. In reality, schools are Compulsory Education Indoctrination Centers. You can see the power that one possesses by naming something. "Schools" sound so innocuous, but when you describe what they actually are--Compulsory Education Indoctrination Centers--it's another story. Of course, the children understand exactly what they are, which is the problem. The purpose of schools is to give our children the general skill sets that they will need to function in our modern industrialized world. The means to achieve this end is to deny other aspects of their being.

The problem is that children are intuitively smart, and they notice that they are being denied reality as human beings and turned into industrial commodities--workers--and they resist with every fiber of their being. They want to play but have to learn to read and write. They want to burp out the National Anthem but have to add, subtract, multiply, and divide instead. It's the fact that the one is played off against the other that is the problem. "To be a worker--a productive member of society--I have to deny my human self." Children, in large numbers, "Just say no!" to a seemingly nonsensical denial of their own being. They fart in class. Eventually, they drop out.

Our children are trained not to be angry. They are denied their anger so that they can become model citizens. Anyone who understands how the suppression of human emotions works will understand the predictable result--children who cannot understand or control their anger against their world. If their personality is such that they cannot direct their anger at the world, then they direct it at their parents or, more often, at themselves. It isn't our parents' fault that society forces us to raise our children like commodities--they have no more control over the process than we do--but we blame them. We want to know why they can't protect us.

It turns out (one of life's pesky contradictions) that the places where we have maximum control over our fellow human beings are also the places where we have the least control--schools and prisons. They built an entire Supermax Prison in Australia just to house thirty-four of the country's most dangerous criminals. You read that correctly--one entire prison for just thirty-four inmates, out of a total prison population of twenty-four thousand. The convicts joke that it's harder to get *into* that prison than out of it. Do you know how much it costs to build a prison like that? Imagine the facilities! Of course, nobody can get in to check them out, which is what has aroused suspicions. Except for the thirty-four inmates and the guards who all arrive in black, armored Mercedes Benz limos that were originally designed for politicians visiting Iraq, nobody has ever been inside the prison.

If you think about it, Supermax prisons provide the perfect opportunity for the guards and inmates to live it up like the guards and inmates in the movie *Goodfellows*. Think of their budget. Supermax! The best part is that the inmates spread these horror stories about what it's like to be on the inside, which keeps the inspectors from visiting as they figure the guards are doing a good job, and they wouldn't want to discover a problem that they might have to do something about.

There are stories that the guards smuggle the inmates out in the trunks of their limos for weekends at beach resorts with hookers. (Anybody see the movie where the Fonz operated a brothel out of a city morgue with movie Batman #1? I think the babe from Cheers was in it too.) The inmates wear embroidered (craft class) "Only one way to get out, my ass!"

polo shirts--and nothing else. They get the hookers into the prison the same way. I'm sure there's nothing to the stories. Whoever heard of a mini-bar in the trunk of a limo? The rumors couldn't possibly be true.

Teachers have come to live in fear of students in the same way that guards live in fear of inmates. Students live in fear of other students in the same way that inmates live in fear of other inmates. There aren't any illegal substances that you can't get in a school or prison--except, perhaps, plutonium. Why do students hate schools? They hate schools because they are hateful places that deny their humanity.

Once again, we must turn to Bohr for an explanation. When asked to explain complementarity to the Copenhagen PTA, he said that it was like trying to love and discipline a child simultaneously. When your child has done something that merits punishment, it is impossible to love your child *as you deliver the punishment*. You can punish your child or you can love your child, but you cannot punish and love your child *at the same time*. Parents, of course, deny this vehemently. "I'm doing this for your own good. I'm doing this *because* I love you." They often make these claims with tears in their eyes. Children *know* that Bohr is right.

We understand that our education system no longer works, and every few years we conduct a study and then an experimental project. We try something for a while, and it seems to work, and then it starts to fail somehow. In the end, nothing works. We pour more money onto the problem while watching it slowly deteriorate (similar to the situation with medical care). We try teacher accountability. We try student accountability. We try school accountability. If we could hold the politicians accountable, we would, but the only way to do that is by voting, and--as we shall see--even that doesn't work. Actually, we'll try anything. The problem is that nothing works.

We need schools, but nobody knows how to educate our children.

CHAPTER 16: DART-THROWING CHIMPS (EXPERTS GONE WILD!)

“What does that *mean*?”

State any fact that you like, and the operative question immediately becomes, “and what does that mean?” Facts are nothing without meaning. Science--contrary to popular perception--is an endless debate about the meaning of facts. Unfortunately, when one enters the world of meaning, one also enters the world of opinion. Things can mean more than one thing. They usually do. Worse, things can mean contradictory things. They often do.

Never have so many known so much about so little while simultaneously remaining keenly aware that we know so little about so much. We live in an age of information, and we live in an age of ignorance. The problem? The more we know, the more we realize how much we don't know. Oops! Knowledge was supposed to beget clarity, not ignorance. What went wrong? The answer is simple:

We live in the Age of Experts!

The first question for any expert ought to be: “Do you know ‘the thing that really matters about’ your subject?” If (when) the answer is “No,” then doesn't the term “expert” seem misplaced? Wouldn't “knowledgeable individual” be more appropriate, or “trained

professional?" But, then, who would want to consult with a knowledgeable individual or a trained anything when you could consult with an expert?

Much of what passes for science is educated opinion, not that there is anything wrong with educated opinion, but in a world where everyone is an expert, the value of the word is diluted to the point that it is almost meaningless. Anyone can claim to be an expert. There are no standards--no clearly stated qualifications. What seems to matter most in the world of experts is that one is really loud. Quiet experts seem significantly less knowledgeable. It also seems that we seek out experts to tell us what we already believe, as if we were really just verifying our better instincts. Celebrities, amazingly, seem to be de facto experts--as if notoriety is all the expertise they need. Scientists recognize this phenomenon as having originated in our chimp relatives. Apparently, chimps will "pay" (in the chimp world, fruit juice substitutes for money) to "watch" the dominant members of the troop (the Celebrity Monkeys). Our own "Cult of Celebrity" has apparently evolved from the "Cult of Celebrity Monkeys."

There is no simple rational response to any of the problems that face us, and there is no shortage of responses. The reason that we live in the Age of Experts is because there is no answer to any of the questions that we really want to answer. There is only opinion and diversity of opinion. Naturally, this provides a completely open playing field for experts.

Another human tendency that experts prey on is the human need to do something even when it might be better to do nothing at all. There's a great line from a Vince Gill song that captures this contradiction perfectly: "Let's do something--even if it's wrong."¹ The hardest thing in the world for a human being is to do nothing in the face of a problem or crisis. Instead we'll do something, anything really, rather than nothing. It's an irresistible human urge.

How many stock market crashes have we had in the last few years--savings and loans, internet tech bubble, subprime mortgage crisis? All three were the fruits of financial experts--the highest paid financial experts in the history of the known universe. The run-up in the price of oil from \$40 to \$135 in just four years left all the experts baffled (none predicted it), and created a bumper crop of new experts to explain it (we surely needed them as the current crop was a bust). Did anyone predict the current financial meltdown until the week before it occurred (that's about as accurate as weather forecasting)? In the case of Lehman Brothers, it was the week *after*. One day they told us that they couldn't save every big bank; the next they told us that they have to--and we're supposed to *trust* these people?

Is there anyone who doesn't think that there ought to be a law against all financial predictions as utterly meaningless in the current situation? Do you think it would stop them? What we want to know is what no one will tell us--what the banks are really worth and what they're doing with our money. In his play *Rhinoceros*, the existential playwright Ionesco wrote, "You can only predict things after they have happened." Or as Yogi Berra (famous for his Yogi-isms) put it, "It's tough to make predictions, especially about the future." Experts aren't the solution; they are the problem. Reliance on experts has taught us not to think for ourselves. Our lives are our problem. Experts are noise!

University of California psychologist Philip Tetlock conducted an investigation into the value of expert opinions. He had professional economic and political forecasters answer questions that had only three possible outcomes. The pundits picked the correct answer only one-third of the time. Jonah Lehrer wrote of this experiment in his book *How We Decide*:

“In other words, a dart-throwing chimp would have beaten the vast majority of the professionals.”²

In explaining his results, Tetlock found that *the most famous pundits* tended to be the *least* accurate. Those with doctorates were no better than those with only undergraduate degrees. Journalists were just as accurate as professors. Tetlock concluded that the problem with these experts was their *certainty*. *They disregarded evidence that contradicted their world view*--and these are the “experts” we listen to.

Look at the weight loss industry--“experts, experts, everywhere, and not a pound to lose.” What the experts don’t tell you is that while it’s relatively easy to lose weight, evolution works against you in the long run, and you tend to gain it all back--and then some. When you stop to think about it, this makes perfect sense. When you’re on a diet, your body thinks that there is either a food shortage or, depending on the severity of the diet, looming starvation. In either case, when the food shortage ends, your body has an evolutionary need to put the pounds back on (to get you back to your fighting weight) plus a few extra pounds since you are obviously living in hard times, and you may need to go without food again soon. Your body is smarter than any weight-loss expert in existence.

Nowhere are experts more prevalent than in politics. Nowhere are they more meaningless either. It is hard to think of politics as anything but noise these days. The words that come out of politicians’ mouths are obvious lies to anyone with ears. The words that come out of political experts’ mouths are obvious nonsense. Yet we cannot tear ourselves away. We are compelled to listen and to add to the cacophony. We are truly a “parliament of birds” chattering at the top of our lungs and making just about as much sense.

In our headlong rush to read today’s books, we quickly forget yesterday’s books and whatever wisdom they may have contained. Expertise has become just another commodity in the modern marketplace. What matters most is turnover. Yesterday’s experts are yesterday’s news. We need tomorrow’s experts for tomorrow’s world. Don’t worry; they’re gathering in the wings. Remember all those experts in the motion picture industry that caused Goldman to realize that **NOBODY KNOWS ANYTHING** in the first place?

The modern definition of an expert might be “a person who has made three consecutive correct guesses,” and in a world where **NOBODY KNOWS ANYTHING**, there’s an expert under every rock. What’s missing in the world is morality--something science, religion, and even morality experts cannot seem to supply. The best way to think about experts is as “dart-throwing chimps.” We can only hope that the War on Experts will start soon.

¹“Let’s Do Something” lyrics by Vince Gill

² Jonah Lehrer, *How We Decide* (Houghton Mifflin Harcourt Publishing Company, New York, 2009, p. 208)

CHAPTER 17: MONEY FOR NOTHING!

The government currently lends money to banks essentially for free (effectively, for 0% interest). Imagine if loan sharks had access to money for free (“All you can borrow at 0% interest”) and still got to charge 10% interest per week. Who knows? They might even knock it down to 5% per week. Money has become the only commodity in the history of capitalism that is freely given away--everything costs in the real world, *except for money loaned to banks!* Imagine what you would do if water or electricity were provided to you for free. Would you conserve precious resources or party like there was no tomorrow

because they're free? People in New York City who live in apartments where electricity is included in the rent (because they don't have individual meters for each apartment) often leave their heater/air conditioner on 24/7/365, whether they are home, at work, or on vacation. Who doesn't like to come home after a hot day--or a couple of weeks at the beach--to a nice cool apartment? Do we really trust bankers more than we trust ourselves?

If you think about it, banks were intimately involved in creating the fiscal crisis that we are currently mired in (like saber-toothed tigers in the La Brea Tar Pits). And what is their punishment? "Money for nothing!"¹ You gotta admire those guys. Tony Soprano couldn't have done it better.

"And the chicks for free?"² In your wet dreams! They're bankers! The chicks cost upwards of a thousand dollars an hour!

¹ "Money for Nothing" lyrics by Mark Knopfler and Sting (performed by Dire Straits with Sting)

² Ibid.

CHAPTER 18: THE TALKING MONKEYS OF ETHIOPIA

Government needs ever-increasing quantities of cash to enforce all those laws and build all those prisons that it can't seem to live without. As a result, government has become increasingly entwined with the financial system (as the #1 BORROWER) much to the chagrin of its citizens who understand that they now serve two masters, which has led to citizen protests around the world. As any slave will tell you, one master is more than enough.

The people in Ethiopia believe that the monkeys there can talk. They say that the reason that the monkeys don't talk is that they are afraid that people will put them to work. If true, one might argue that the monkeys of Ethiopia are a good deal smarter than human beings. They have solved their economic problems.

It's interesting that we have chosen a system of government--capitalism--that is, at its core, untrustworthy. The motto of the business world is, "Let the buyer beware!" At every stage of every business transaction, the buyer is warned to remain skeptical (something that Bernard Madoff's investors forgot). When faced with a business offer that you just "can't refuse," it's always best to ask two questions before closing the deal: 1) "What's wrong with this deal?" and 2) "What's bad about it for me?" If the answer is "nothing" and "absolutely nothing," you can bet you're being fleeced by a pro.

The repeated financial crises of modern times are examples of the need to remember the "Prime Business Directive" that someone is probably trying to cheat you somehow even if you can't figure out how. How many people were tricked into buying adjustable rate home mortgages with extremely low monthly payments without understanding the underlying risks of such loans? Even the head of the Federal Reserve Board publicly encouraged people to gobble up these loan time bombs that helped bring down the financial system. The business world does not operate through fairness and fair dealing, unless it is forced to. The business world is a dog-eat-dog world (apologies to dogs everywhere).

In capitalism, the conflict is between the needs of governments to protect their local economies and the needs of capitalists to have open unprotected markets. Free markets must compete with tariff protections and government subsidies. It's a constant battle with new tariffs and subsidies popping up to replace those that have been successfully dismantled by free markets. It's surprising that the capitalists don't call it the War on

Tariffs and Subsidies, which is what it really is. Like all of the other “wars” that we are fighting, it is a perpetual war with no end in sight. Tariffs and subsidies are the “drugs” of modern governments, at least as far as capitalists are concerned.

The French mathematician and social scientist the Marquis de Condorcet first identified what would come to be called “voter paradoxes” in 1785. Voter paradoxes, as it turns out, mathematically explain why the old adage is so often true that:

In a monarchy, one person gets his way;
In an aristocracy, several people get their way;
But in a democracy, nobody gets their way.

What the Marquis demonstrated was that, while individuals are motivated by their inclinations and tastes, that society does not have an inclination or taste of its own. There is no such thing as a social consensus. Society is all about conflicting inclinations and tastes. It turns out that rather than voting for someone, individuals are much more likely to vote against someone else (hence, the politics of negative campaigning).

Voter paradoxes demonstrate mathematically why, when many conflicting opinions are competing, a minority opinion will often be favored over a majority opinion. Without explaining the math, you can see the math working in our inability to solve any of the major political problems that face us today--Social Security, Medicare, Immigration, Financial Regulation, Water Policy, Global Warming, Abortion, Environmental Protection, you name it. The majority would like to see them resolved, but the minority (represented by our elected representatives) insists that we can't--it's “not politically feasible.” In spite of record high unemployment in recent years, we are learning that since the two political parties (“You take Mary, I'll take Sue, Ain't no difference 'twixt the two.”) can't agree on a solution that they will simply do nothing--doing something about unemployment has become “not politically feasible.” Bit of a “Drat!” there. One might speculate that some of the more than half the people in the US who do not vote do not do so because the changes that they are interested in are “not politically feasible.”

Counter-intuitively, the tyranny of democracy is that these minority constituencies rule. Nixon's famous “silent majority” has turned out to be a very vocal minority--actually a whole bunch of vocal minorities each competing for recognition. Since voting is the very essence of democracy, we obviously can't do anything about this without losing democracy itself. Even if everybody voted on every policy decision, it wouldn't make any difference--the problem is with voting, not with representative democracy. It doesn't matter if some people vote or if all of the people vote; the problem remains the same. In California, citizens can use the initiative process to take a popular vote on any issue that they deem important. The result, as we have all learned, is political chaos where nobody gets what they want.

We have recently learned that the bedrock slogan of democracy that “Every Vote Counts” is a lie. If an election were held where we chose the president by the popular vote and a candidate won by just one vote, we now know that we would *never* know the result of that election. Every time we counted the votes, we would come up with a vastly different number (probably never again as close as just one vote). Even if we came up with the same number twice, there would be no way to know with certainty that that wasn't just a coincidence. There is simply no way to count that many votes with absolute precision. At least, now we all know the truth. We are human; we have limitations. Dirty Harry got it

right: "A man's got to know his limitations!" The same is true of societies. We can't always get what we want, no matter how laudable the goal.

The paradoxes of democratic voting ensure that there is no satisfactory way to make social decisions in a democracy. Democracy cannot reliably satisfy the majority of its members, so that "the will of the people" is doomed to flop around like a fish on a boat deck (perhaps science's old fishing boat) until some random fluctuation (unexpected event) decides its fate. As you look at politics in the United States today, you can see, almost intuitively, that this is the case.

The fuel that drives the motor of capitalism is growth not oil. The definition of a recession is simply several months of no growth or negative growth--a prolonged recession can bring a country to its economic knees. In capitalism, the rallying cry could easily be, "Grow, or die!" The problem is that everywhere we look we seem to be pushing against the limits of growth. The world population continues to grow, but it cannot grow forever. We have limited resources. Even more than oil, fresh water will limit our ability to grow. In many places, that process has already begun. We are running out of resources (commodities to Wall Street), and the results of shortages are sharp spikes in prices.

Even food is merely a commodity now, and price spikes can cause starvation amongst the world's poorest people. Paradoxically, whenever a country raises its economic level and creates a class that can afford more things, the first thing that that class will do is buy more and better food, which drives up the prices and provokes starvation amongst its poorest members. What is happening today is nothing new, except in its global scale. Combating global warming and growth may soon become (if they aren't already) complimentary--you can have one or the other, but not *both at the same time* (like "truth" and "clarity").

So we have placed our faith in an economic system that both we and our governments depend on for our very survival but that promises to try to deceive us and cannot cope with the coming realities of no growth or negative growth. How will capitalism respond to a permanent state of economic stagnation? Nobody knows. What will the world be like when no growth is the norm and growth the occasional disruptive bubble? Ask an expert--an Ethiopian monkey--if you can get one to talk to you.

¹ "Cocaine Blues 3" song lyrics by Luke Jordan (For many, political parties seem to have become the "drugs" of the 21st century--we keep taking them in spite of the fact that things keep getting worse.)

² The well-worn slogan of many non-voters remains: "Democrats don't care about you *before* you are born, and Republicans don't care about you *after!*" (To the best of my knowledge, this slogan was coined by Santa Monica, California resident Paul Goldman--no relation to our hero, William.)

CHAPTER 19: THE BANDWIDTH OF CONSCIOUSNESS

A lot of people these days know what bits (or bytes) are. For those who don't, they are units of information that reside inside your computer. The more bits you have, the more computer processing power you have. Scientists have worked out how many bits of information the human brain-body system can process.¹ It turns out to be quite a few. They measured it various ways, and it turned out to be around ten million bits per second. That's impressive computing power. Not surprisingly, the bulk of it (70%) processes visual information.

Scientists have also worked out the maximum number of bits per second that our conscious mind can process. That number turned out to be less than one hundred bits per

second--substantially less, more like seventy-five. Then, to their surprise, they discovered that, as a general rule, we process a good deal less than even those seventy-five bits--or fifty, or twenty-five, for that matter. In fact, our conscious mind normally processes only about ten to twenty bits per second unless we push it. Apparently, consciousness is the ultimate slacker, but in spite of its small bandwidth, consciousness is remarkably loud as it manages to talk seemingly nonstop. Actually, it's impossible to be aware when one is not conscious. Who would notice if "I'm" not around? Certainly, not "me."

So it seems that unconscious processing accounts for about 99.99999% of our human processing power while conscious processing accounts for about 0.00001%. The story of bandwidth tells us that we are far more deeply unconscious than even Freud ever suspected. If the human conscious/unconscious system were an iceberg, more than 99.99999% of it (the unconscious part) would be under water. Our inner Titanic--the ego-I--would not be able to even see the iceberg before it ran into it. Our inner Neptune runs deep.

¹ Tor Nørretranders, *The User Illusion: Cutting Consciousness Down to Size* (Penguin Books, USA, 1999, chapter titled "The Bandwidth of Consciousness," pp. 124-156)

CHAPTER 20: THE WHIPPING BOY

Nobody can touch the king without his permission, and what is true of the king is true of the prince as well, which creates something of a child-rearing problem, if you catch my drift. People in the Middle Ages were remarkably practical about many things, and the problem of disciplining the prince was one of them. If the prince misbehaved, somebody needed to be punished. Enter the whipping boy.

The whipping boy was raised alongside the prince. They were playmates. He got the same education as the king (an incredible opportunity). The only time the whipping boy fulfilled his royal function was when the prince did something that merited punishment. Since the prince could not be punished, the whipping boy took the beating for him, while the prince was forced to watch the painful consequences of his own misbehavior. Hopefully, the prince will feel responsible for the whipping boy's suffering and will suffer himself as if he were the one being beaten--guilt rather than pain as punishment.

From the point of view of the whipping boy, he was held responsible for whatever the prince did, even though he had absolutely nothing to do with it. After a time, he might have started to "feel" responsible for the prince's behavior. Maybe while they played together he tried to influence the prince not to do the things that got him punished. He might even have had some success. The prince might not have been a bad guy. The reasonable response of the whipping boy to a highly unreasonable situation might be to take responsibility for that which he was not responsible--even believing himself that he was responsible--while using his influence to get the prince to behave as best he could.

By way of analogy, the whipping boy is I-consciousness. The prince is our deep inner being--the 99.99999% of the human iceberg that is hidden underwater but that thinks and speaks and acts but is not I-consciousness. Our deep inner being is Not-I. It is all that we are *except* for I-consciousness. I-consciousness only knows what Not-I says and does and is held responsible for everything that Not-I says and does. The very most that I-consciousness can hope for is to have some degree of influence over Not-I, but I-consciousness can never know if its influence has had an effect, as the only thing that I-consciousness is aware of is what Not-I says and does, not why (the astute reader will

realize that this is the same relationship that science has to its understanding of the world—science can understand the *what* but not the *why* of things).

No direct two-way communication is possible between I-consciousness and Not-I, but there is abundant evidence for conscious influence, as well as for its lack. For example, the person who goes on a diet is “I.” “I” shop and buy all the right foods; “I” clear the cupboards of all the wrong foods. “I” get my way for a couple of days while “I” stick to “my” diet. Then, one afternoon, “I” find myself (Not-I) pigging out at Ben & Jerry’s. “I” proposes; “I” has influence; Not-I disposes. This seems to be the quandary of consciousness as understood by modern science.

There is a literary model for this new vision of human consciousness that is as old as Descartes’ “matter in motion.” It can be found in what some think is the earliest modern novel, *Don Quixote*. To strip human consciousness naked, Cervantes split it in two. Don Quixote and Sancho Panza were not two people; in reality, they were one. Don Quixote was the madman who spoke and acted, while Sancho was the innocent squire who took responsibility for Don Quixote’s mad words and deeds. Sancho was I-consciousness, the hapless responsible with no control; Don Quixote was Not-I, the unseen ocean of mad mysterious unconsciousness. Together, they were one conscious human being displayed naked to the world in a work of artistic genius.¹ They were the Titanic looking for an iceberg--and regularly finding it!

And nobody knew.

¹ I hear that *Don Quixote* is one of William Goldman’s favorite books--the man doesn’t miss a trick.

CHAPTER 21: THE MARRIAGE OF SCIENCE AND MYSTICISM

I bet you think this is going to be hard.

If you think about it, the goals of a particle physicist and a Zen master are really the same. The particle physicist wants to know the mind of the universe (its laws); the Zen master wants to know the mind of God. If there’s a gnat’s difference between the two, it’s just a gnat’s difference. The main difference is one of technique not goals--hence the antagonism between them. In a sense, they’re like competing religions.

Buddhism has Zen, Judaism the Kabbala, Christianity the Gnostics, and Islam the Sufis--and these are just the tip of the mystical iceberg. Many religions have a small subset of members that feel the need for something more than prayer and attendance at religious ceremonies. Even the non-religious often find mysticism attractive--the sundry New Agers. Mysticism emphasizes direct experience of the godhead, God, cosmic consciousness, the infinite.

In the *Tao Te Ching*, Lao Tzu wrote: “Those who know don’t talk. Those who talk don’t know.” The reason that “those who know don’t talk” is not that they are keeping something secret; the reason is that they cannot put their experience into words, which is also why “those who talk don’t know.” The fault is not with them; the fault is with language. Some things cannot be spoken--they are ineffable.

The task of mysticism is to explore the ineffable. Throughout history there have been saints, mystics, gurus, and masters who claimed to have successfully accessed the ineffable. This puts us in the remarkable situation where there may well be people who “know” something, but they “can’t say” what they know in words, which might lead one to ask, “What good is the ineffable, if you can’t explain it to me?”

The answer has to do with the bandwidth of consciousness. While you can't explain the ineffable, you can *experience* it. At least, in part, it is our Not-I. We know this because we know that we can sense but cannot explain our Not-I as we have no direct communication with it, which is the very definition of the ineffable.

The technique of mysticism is meditation. The interesting thing about meditation is that its stated goal is to silence I-consciousness. In some systems, that might amount to trying to "stop the internal dialogue" (sounds easy; isn't). In others, a word or phrase might be repeated endlessly in an effort to shut down the flow of "talking to oneself"--the "internal dialogue" again. In others, geometric figures or colors or music or dancing might be used to accomplish a similar goal. In many systems, the stated goal is to eliminate or conquer the self or the ego--that is, I-consciousness.

It would seem reasonable to think that the purpose of shutting down I-consciousness might be to access our Not-I. Now that we understand that 99.99999% of the information that we process is processed in our Not-I--which we do not have conscious access to--we can see that "cosmic consciousness" might be, at least in part, access to this vast unconscious ocean of information that is actually not just ours, but *us*. According to modern genetics, the ocean of our Not-I can be traced to a single primal cell almost four billion years ago. Our Not-I runs deep; very deep; *very, very deep*.

The problem with mysticism is that it cannot be taught. Its techniques can be taught, but mysticism itself cannot. Science is similar. Its techniques can be taught, but then you have to go out and do science yourself, and that science cannot be taught--it can only be won through experience. Science and mysticism are also similar in that nobody can guarantee success. One can live a lifetime without ever achieving the goal of enlightenment (a deep intuitive practical understanding of reality) or a scientific breakthrough (like "The God Particle," the Holy Grail of particle physics). You can see, once again, the power of naming things. When physicists needed to name their ultimate goal, they named it after God. And you thought this was going to be hard.

Both mysticism and science are subject to similar public criticisms--the egos of practitioners, the lust for cash (THEROOTOFALLEVIL), competition, empire building, and the uncertainties of success. Both are subject to fraud and manipulation, sometimes on a grand scale. Science and mysticism are processes, not things. There is no House of Science or Mysticism. There is no one in charge, except locally (a system that is *always* prone to--local--abuse).

So, in mysticism--as in science--we end up having to trust the skill and good intentions of its practitioners. In the mystical world, it can be difficult to tell a genuine teacher from a quack or a true system from a cult. Mystics say that only a master can correctly identify another master, which makes it tough for the rest of us. Scientists have documented a strong tendency amongst people to associate long white hair and flowing white robes with wisdom. Charlatans know this.

There's an old adage that highlights the problem of master identification:

Nothing disturbs a bishop quite so much as the presence of a saint in the parish.

"Those who talk don't know. Those who know don't talk." The bishop has no way of knowing if the saint is a saint; he has to take the saint's--or worse others'--word for it, or insist on the public performance of a miracle, which sets a pretty high bar. That's a tough position to be in since he's the one who's supposed to know. Doubt is the reasonable

fallback position. The result is predictable--bishops and saints nervously eyeing each other, each hoping that the other will just go away.

So the conflict between science and mysticism really boils down to one of technique. They both seek the same goal, but one seeks it through matter in motion while the other seeks it within the vast ocean of consciousness and being.

“I now pronounce you man and wife.”

I’m sure they’ll argue forever over who gets to be on top.

CHAPTER 22: PLACEBOS-R-US!

If a doctor gives a sugar pill to a patient and says that it’s a remarkable new drug that will cure their illness, it will often relieve them of whatever symptoms they have. Doctors don’t understand exactly how this mechanism works, but they assume that it is predominately psychological. As is often the case when scientists do not understand something, they give it a nice descriptive name--in this case, the placebo effect.

Since all drugs have side effects that one would like to avoid, you would think that the sugar pill would be our doctors’ “pill of first choice.” “Give them the sugar pill first every time. If that doesn’t work, we’ll try something stronger.” Think again. Drugs are the “pill of first choice,” not placebos.

If you go to the drug store to buy some sugar pills, you will discover the most amazing fact of all; they don’t sell them. If you want to give some to your hypochondriac kids who always seem to have their aches and pains at bedtime, you’re out of luck. Apparently, nobody sells placebos. Maybe if you had a prescription? Doctors can prescribe them, can’t they? It turns out that doctors have moral qualms about lying to their patients even for their own good. Imagine the malpractice suits from placebos that don’t work--and they don’t always work. Actually, the laws are written in such a way that a doctor can be convicted of malpractice even if the treatment is successful. Lying is lying--even if it’s for your own good (obviously, while this law applies to doctors, it does *not* apply to politicians).

The big pharmaceutical companies are the major producers and consumers of placebos. They use them all the time in those double-blind clinical trials where a drug is tested against a placebo (manufactured to look just like the drug being tested). Since they understand better than anyone how powerful placebos can be, you would think that they would want to get into the placebo market. Since the effects are psychological then one placebo may not be exactly like another. Perhaps color and shape might have an influence. A nice triangular shape with a cool pastel color might work better than one of those giant white horse pills that are hard to swallow (“*The Gucci Effect*”). Designer placebos that cost more might be found to have a better effect than cheap generic placebos (“*The L’Oreal Effect*”--“*I’m Worth It!*”). If the pharmaceutical companies can claim that name-brand drugs are better than generics, why not claim that their placebo is better than their competitors? “*FOR PURITY! FOR SECURITY!*”

The most remarkable fact that has been uncovered by modern researchers is that placebos can be effective even if you tell the patient that they are taking a placebo. Apparently, you don’t need to lie for them to work. It’s hard to imagine that somebody won’t market a simple sugar pill soon under the generic name “*PLACEBO*,” claiming that, “It works even if you *know* that it won’t.”

Ultimately, since we don’t know how placebos work (we often don’t know how drugs work either), since they are not predictable in their effects (drugs are not predictable in their

effects either), and since they involve deception and the possibility of lawsuits (as if pharmaceutical companies were not being sued all the time for the drugs they produce), drugs remain the prescription of choice.

Arguments that no money can be made by marketing sugar pills seem to fail to understand how the capitalist system works. The entire civilized world is drinking expensive water in plastic bottles that litter the environment while the same water often flows from our taps, and we could fill our own bottles for free. Anything can be sold. Is it that hard to imagine a “*PLACEBO FIRST*” ad campaign? “For minor aches and pains, why not try the *PLACEBO FIRST*?” All they need is the right name. “*NEPENTHE! Forget you ever had pain!*”

It is possible that a placebo industry already exists right under everybody’s noses, and nobody knows it. I am referring, of course, to homeopathy. American medical scientists largely reject homeopathy as a form of pseudo-science, and yet homeopathy has a great deal of respectability in the rest of the world and is a major industry even in the US. In Europe, homeopathic medicines are sold in pharmacies.

The beauty to all this is that if the scientists are correct and homeopathy is essentially nothing more than a “sugar pill”--actually a virtual cornucopia of sugar pills for a virtual cornucopia of ailments--then they could be just the placebos that we need. Because “homeopathic medicines” would be recommended by “medical professionals,” they would have the necessary authority to work as a placebo. The fact that they don’t do anything--which is considered a bad thing for a drug and the big complaint that medical professionals have against homeopathy--is a big *plus* for a placebo. Think about it. The medical profession could draw homeopathy into the fold as the “medical placebos of choice”-- “*SAFE, PROVEN AND INEFFECTIVE!*”

In the final analysis, it may be fear of the unknown that keeps doctors from using placebos. The “devil that you know” (drugs) may just seem more reliable than the “devil that you don’t know” (placebos), and the simple reality is that nobody knows how sugar pills work.

CHAPTER 23: THE SHOWER CULT

Ecstasy, not the drug, although it’s certainly a sign of the times that I must mention this, is a lot like sex--it must be experienced to be understood. Ecstasy has many definitions, but the most general is “the subjective experience of total involvement of the subject with an object of his or her awareness”--again, a lot like sex, only sex adds the physical experience to the subjective, complicating matters (but relevant to the discussion at hand). I have read that the Whirling Dervishes (a Sufi sect) whirl to achieve a state of ecstasy with God. That’s *not* the kind of ecstasy that I’m talking about.

I have had a regular experience of ecstasy for many years, kind of like a recurring dream. My “definition of ecstasy” in this case is nothing more than “my experience of ecstasy,” and my experience belongs more in the sex-class than the spiritual-class of ecstasy because it has a definite physical (although non-sexual) component. While I can’t say that “I know ecstasy,” I can say that “I have experienced ecstasy.” There is a vast gulf between experience and knowledge.

My experience of ecstasy generally occurs in the shower. I must say that I am surprised at the location since the shower scene in *Psycho* was the scariest thing I have ever experienced in my life. I’ve had several “there I was thought I was going to die” moments

in my life, but none compared to *Psycho*. I slept with the light on for weeks after seeing it, and I took baths instead of showers for months while pestering my parents for a clear-plastic see-through shower curtain (I never got it). I kept my baseball bat in the bathroom propped up against the toilet. I seriously questioned my parents' "parenting skills" at taking their children to see such a movie. I didn't know at the time that they were as shocked--and almost as scared--as I was.

My experience of ecstasy is not ineffable--I can put it into words because I experience it, at least in part, in words. I first experienced it on a cold morning in winter. The thermostat in our house is turned down at night and comes on in the morning just before we get up, but it takes a while for the house to heat up when the weather is cold. On cold winter mornings, the first thing I do is take a hot shower. I'm certain that I'm not the only person to associate a hot shower on a cold morning with ecstasy, but my experience is a bit more detailed.

When the hot water hits my body, my first sensation is a feeling of pure joy, but almost immediately I find myself reflecting on the remarkable circumstances that I am experiencing. The feeling is, "How amazing that I'm here" and it's in words (not at all ineffable). I realize that in the five billion years that the planet has evolved, the hundreds of millions of years that animals have evolved, and the few hundred thousand years since modern man first appeared on the scene that only in the past seventy-five years or so has anyone experienced the wonders of a modern bathroom--a hot shower, a toilet that flushes, and purified tap water. Alexander the Great, Genghis Khan, and Napoleon never experienced anything like it--nor did the greatest kings and emperors who ever lived. Keats' Ozymandias never saw such luxuries. A modern shower in a tract house in the suburbs may seem like an odd venue to experience bliss, but it has no historical precedence.

The essence of my shower ecstasy (and this is the only part that might relate in some way to the Whirling Dervishes) is the sense that I have always been here, that I will always be here, but that for some reason at this exact moment in time, I am being granted the absolutely amazing luxury of a hot shower on a cold morning. Sheer ecstasy! Thank you, God!

Since the experience of pleasure in a hot shower is a common one, I could probably start a shower cult:

NOBODY KNOWS SHOWERS!

Imagine thousands of devoted followers gathering to shower together to experience group ecstasy....How do you spell FEETOFCLAY?

CHAPTER 24: THE SEARCH FOR MEANING

Existential playwright Samuel Beckett's philosophy of ignorance and despair can be summed up in a single sentence:

We have nothing to say except that we have nothing to say.

The reason that we have nothing to say is, of course, because "nobody knows the thing that really matters about anything." Beckett deserves a "tip of the hat" ("only steal from masters") for the "We know nothing..." quote used as a frontispiece for this book because he and other modern existential writers like Sartre, Camus and de Beauvoir (along with Nietzsche and Kierkegaard a century earlier) created the concept that NOBODY KNOWS

ANYTHING long before Goldman coined the phrase. For them it was the lament of the modern soul. Science has given humanity everything--except “the thing that really matters.”

Science’s inability to tell people the “why” of things has left humanity rudderless. The reason that religion often trumps science is because religion is all about the “why” and the meaning of things. Science dethroned God without replacing Him, leaving a void (the existential void) in the modern soul from which we have never recovered. Science robbed us of the thing that was most important to us--meaning.

Nobody knows why we cannot live without meaning, but the fact remains. In the mid-twentieth century, the psychiatrist Victor Frankl created a branch of psychotherapy called logotherapy, which is based on our deep-set need for meaning. He wrote a popular book on the subject called *Man’s Search for Meaning*.¹ His story was particularly poignant because Frankl managed to find meaning in the most unlikely of settings--a Nazi concentration camp.

Because of his medical background, Frankl was able to escape execution in the concentration camps by working as a doctor. He quickly discovered that he had a strong inner drive to survive. He also noted that when people in the camp lost that drive that they ate what little food they had hidden away, went to sleep, and died.

Frankl developed his logotherapy around a single central question that he asked his patients who were unhappy with their lives: “Why don’t you commit suicide?”

The answer to that question:

“For my husband’s sake.”

“For my children.”

“It’s a sin.”

“I’m a coward.”

would provide Frankl with the direction for their therapy because he would know “the thing that really matters” in their life. It would tell him what had meaning for them.

Frankl insisted that one should not search for an abstract meaning to life. Everyone has their own specific vocation or mission to carry out. We are all here to find out *why* we are here (the question that science *can't* answer for us). We are here to solve the puzzle of our own lives. No one can be replaced (evolution proves that we are all special--that every single human being is genetically unique). No life can be repeated. Each person’s task is as unique as is their specific opportunity to implement it. Everyone has to find the meaning in their own life. Nobody can do it for them.

¹ Victor Frankl, *Man’s Search for Meaning* (Beacon Press, Boston, 2006)

CHAPTER 25: NOBODY KNOWS THE TROUBLES I’VE SEEN¹

The problem of the world is suffering. For all we know, the planet earth may be the only place in the universe where the problem exists. The rest of the universe may not have the problem at all.

Not all living things suffer. Bacteria almost certainly don’t. Insects? We think not. Fish? Reptiles? Birds? Probably. Mammals? Definitely, although there is a species of naked mole that is impervious to pain (necessary for survival in carbon-dioxide-rich environments under ground). Humans? Most definitely.

Humans suffer not just from physical pain but from their thoughts and fears as well. Humans suffer with both barrels--not only do we suffer for ourselves, we suffer watching others suffer (remember the prince and the whipping boy). We may be the only being in the universe that can suffer just *thinking* about a scratch in the paint of our new car.

An interesting feature about suffering is its history as the primary tool for extracting meaning from life. People are actually best at extracting meaning from life when they are confronted with a hopeless situation. Human beings have an ability to transform a personal tragedy into a triumph--to turn an individual's predicament into a human achievement. Isn't that the climax of most Hollywood movies?

If you think about it, our story is the same as the Cowardly Lion's story in Oz (not the prison). The "courage" that we need to discover that we already have is the "courage" to endure our own suffering and that of others. There is no greater courage. The Cowardly Lion discovered that he had courage when he discovered that his life had meaning--he found friends, they had successes together, they had a goal ("We're off to see the Wizard").

The most interesting feature about suffering is that people are perfectly willing to endure it--as long as their suffering has a meaning. Parents willingly suffer to provide their children with opportunities. Soldiers suffer to protect their loved ones and country. Athletes suffer to better themselves and triumph. Employees suffer to gain a competitive advantage in the rat race. The way that we learn to endure our suffering is by giving it meaning (or finding its meaning).

Victor Frankl wrote of the suffering in Nazi concentration camps:

"The question which beset me was, 'Has all this suffering, this dying around us, a meaning? For, if not, then ultimately there is no meaning to survival; for a life whose meaning depends on such happenstance--as whether one escapes or not--ultimately would not be worth living at all.'"²

¹ "Nobody Knows the Troubles I've Seen" lyrics by Louis Armstrong

² Victor Frankl, *Man's Search for Meaning* (Beacon Press, Boston, 2006, p. 138)

CHAPTER 26: WHAT'S LOVE GOT TO DO WITH IT?

It's Tina Turner versus The Beatles--the uncrowned queen of rock up against, perhaps, the greatest rock-and-roll band of the 20th century. The Rolling Stones are another "perhaps"--plus, you gotta love their magazine; they gave us a great review! If you don't like those choices, please don't write; just fill in your favorite band name here

_____ . The Beatles take the romantic--almost the mystical--view:

"All you need is love (altogether now)
All you need is love (everybody)
All you need is love, love, love is all you need.
Love is all you need, love is all you need,
She loves you, yeah, yeah, yeah.
She loves you, yeah, yeah, yeah.
Love is all you need, love is all you need.
Love is all you need, love is all you need."¹

When they wrote "All You Need Is Love," they didn't want anyone to miss the point--so they just repeated it over and over and over again. Human love is the only way that we

have to access the innermost core of another's personality. It is the strongest link between human beings. Words pale in comparison. Love is as primary a phenomenon as sex, maybe more primary. Sex is really only sanctioned by society in the context of love.

A human being in love can see the essential features and traits of the beloved person. More than that, one sees the potential in the other--that which has not yet been actualized. By making one's beloved aware of that which they cannot see in themselves, they help them to realize their true potential. The old adage that "behind every successful man there is a woman" may be true in this sense.

All the great religions claim love as the ultimate spiritual tool. They say, "God is Love!" which prompted Samuel Butler's famous seventeenth-century rejoinder, "I daresay! But what a mischievous devil Love is!"

Science, on the other hand, tells us that love is nothing more than an instinct to pass on our genetic heritage. Scientists come down on the Tina Turner side of the debate with the Beatles.

"What's love got to do with it?"²

"Nothing," the scientists tell us. "It's just 'a second-hand emotion'³ that assists in gene preservation."

Scientists insist that love only evolved to protect our genes. Love is an evolutionary tool, not a spiritual tool. This position is reasonable from a scientific perspective because science is incapable of evaluating love as a spiritual tool except to say that the spiritual tool must have evolved to preserve our genes somehow (science's answer to all biological questions).

"Who needs a heart when a heart can be broken?"⁴

"Nobody!"

Tina wins! Beatles down for the count!

Turning away from science for a moment and looking at the question from a strictly human--if (again) somewhat romantic--perspective, I just can't help feeling that Morgan, Stock, and Cavanaugh got it right when they wrote:

"You're nobody 'till somebody loves you."⁵

¹"All You Need Is Love" lyrics by John Lennon and Paul McCartney

²"What's Love Got to Do with It?" lyrics by Tina Turner

³Ibid.

⁴Ibid.

⁵"You're Nobody 'till Somebody Loves You" lyrics by Russ Morgan, Larry Stock, and James Cavanaugh

CHAPTER 27: WHAT'S IT ALL ABOUT, ALFIE?¹

Tough question. A big-picture question. "What's it all about?" Alfie didn't have a clue, not much help there. The trouble is that as much as we'd like to answer the question, we can't. The problem lies in where we stand.

Let's try what scientists call a "thought experiment." Einstein used thought experiments to figure out both special and general relativity so we know that, when properly applied, they can be helpful. Imagine our universe in a clear crystalline sphere suspended in a physics lab on a planet in another universe somewhere--else. Perhaps their scientists cooked it up in one of their super-collider experiments. Or maybe it was one of those dreaded super-collider accidents everyone seems to be concerned about these days.

Wherever it came from, there it is--a miniature universe in a jar, so to speak--the Miniverse. Remember, this is only a thought experiment.

Once you have a Miniverse, all the problem questions that we have about our universe disappear, just like magic. Why? Because we are no longer *in* the picture. We are standing *outside* the picture looking *at* the picture. From that perspective, we can see the picture--the Big Picture.² We can answer all the questions that we couldn't before (except pesky quantum questions and where the black holes go) because we are on the outside looking in. Of course, it's technically no longer *our* universe as we are no longer in it, which is why it's impossible to achieve this perspective. We are always *in* the universe.

A person living inside the crystal sphere on a planet called earth can never know that anything exists outside the sphere because of the limits of vision within the sphere. Outside, there is knowledge; inside, there is ignorance. Unfortunately, we live inside. But wherever we live, there is an outside.

But nobody will ever know what it's all about, not just Alfie.

¹ "What's It All About, Alfie?" lyrics by Dionne Warwick

² William Goldman, *The Big Picture: Who Killed Hollywood? and Other Essays* (Applause Books, New York, 2000) Once again, William Goldman shows his remarkable prescience (notice that the word "prescience"--the ability to foresee the future--is actually "pre-science")--not only does Goldman understand the importance of *The Big Picture*, he chose to tell its story in the form of a murder mystery! [Historical sidebar: Goldman donated 100% of the royalties from this book to the Motion Picture and Television Fund. It's been rumored that he now has a lifetime pass to their retirement home. "Ho! Ho! Ho!"]

CHAPTER 28: THE TRUTH ABOUT THE TRUTH

The word "truth" has a wide variety of meanings that, paradoxically, allow almost anyone to obfuscate the truth when talking about it. It's as if a lie is built into the truth somehow, like a built-in contradiction.

"Truth in advertising" is a perfect example of how the truth can become a gray gooey swamp. The essence of "truth in advertising" is that the truth can function as a lie. Many years ago, a company came out with a product to wax your car that they claimed was a "new miracle polymer," which was much harder and would last longer than traditional waxes. They came up with a great way to demonstrate how powerful and long-lasting its protection was. In dramatic late-night TV commercials, an actor poured lighter fluid onto the newly "polymerized" hood of a car and set it on fire, like Jerry Lee Lewis setting his piano on fire on-stage after playing "Great Balls of Fire!" When the fire burned down and the surface was wiped clean, the paint was perfect--just like new. They sold a lot of that "new miracle polymer." I think I may have bought some.

What I learned later is that you can pour lighter fluid onto the surface of a normally waxed car, and when it has burned down, you can wipe it off and the paint will be perfect (please, don't try this at home; remember the law of unintended consequences, which includes the possibility that I might be wrong). Apparently, lighter fluid is not a particularly hot-burning liquid--at least not hot enough to damage a car's waxed finish. Any wax will protect your car's paint from burning lighter fluid. The advertising is completely true, but its intention is clearly to deceive. "Truth in advertising" often turns out to be a lie based on the truth. These are frequently "lies of omission," like our "new miracle polymer." Cheating husbands and wives can tell you all you need to know about "lies of omission" and the "art of the truth."

If you think about reason from an evolutionary perspective, you might ask the question: “What should a society do when reason tells it to do something that amounts to acting against its own best (self) interests?” While there are many theoretical answers, the real-world answer is that “Society will act in its own best interests because that is what societies do.” This turns out to also be true from the perspective of an individual (societal traits often “evolve” from individual traits). In the beginning, it seems, reason evolved to help individuals win arguments.¹ If you think about it, this makes a lot of sense. As people began to reason, they adapted it to get what they really wanted--to get their way. This helps explain why people who believe in a certain line of reasoning *will almost never change their minds*, no matter how much contradictory evidence is presented.² We like to think that creationists are crazy because they can't see what is obviously true, but it turns out that the same is true for the rest of us as well. They've even given it one of those fancy scientific names--confirmational bias. You don't ever need to use that term, however, you can just say that “people believe what they believe regardless of the evidence.” You live in the real world. You knew that!

It's easy to understand why they don't teach the conclusions reached by the mathematician and philosopher Kurt Godel in high school. Godel proved a number of propositions mathematically, for which he is both famous and infamous. He proved that the premises of mathematics (and therefore science) can never be proven. You can understand why those responsible for the indoctrination of our children don't want the kids to know this. Essentially, Godel drove a stake through the heart of both mathematics and science. He was “Buffy the Vampire Slayer”--only the vampire that he slew was our certainty about the tools we use to investigate the world.

Not satisfied, he then, inconveniently, proved that “There are truths about the world that we cannot prove, but we can know that they are true.” Godel's famous example to demonstrate this counter-intuitive fact was the statement “I cannot be proven.” The statement “I cannot be proven” cannot be false because that would mean that I can be proven, which we know is not true. So, the statement is true (simple deduction; if it isn't false, it must be true). More importantly, we know that the statement is true. We know that “I cannot be proven” is a true statement even though we cannot prove it. So, there are true statements that we can make about the world that cannot be proven (a modern candidate for such status is the statement that “all life evolved from a single cell”). Since true statements exist that cannot be proved, is it any wonder that we live in a world of “Experts gone wild?”

Try this "reason twister" in a box:

Whatever lies inside this box is a lie

As you can see, the boxed statement (“Whatever lies inside this box is a lie”) is only true if it's a lie and is only a lie if it's true. The problem is that the statement refers to itself (it's a self-referential statement)--and in the human world, what doesn't refer to itself?

So, what does this all *mean*?

When trying to make sense of Godel's work, the mathematician and logician John Myhill came to the logical deduction (and it's a beaut): “No non-poetic account of reality can be complete.”³ In his “Defense of Poetry,” the English Romantic poet Percy Bysshe

Shelley contended that one of the sacred tasks of the artist is “to absorb the new knowledge of the sciences and assimilate it to human needs, color it with human passions, transform it into the blood and bone of human nature.”⁴ So when it comes to truth, we’re either in the hands of experts or poets. Is it any wonder we’re in the fix we’re in?

AND THE BEST LIE EVER TOLD?

“BASED ON A TRUE STORY!”

If nothing can be proven, then the truth will always elude science. We can think that we know the truth, but how can we be certain? Even if we discover the truth, we won't be able to prove it. The simple reality is that, thanks to Godel, we can in principle know the truth, but we can never prove it.

¹ Hugo Mercier and Dan Sperber, *Why Do Humans Reason? Arguments for an Argumentative Theory* (Behavioral and Brain Sciences, Vol. 34, No. 2, 2011, pp. 55-74)

² Massimo Piattelli-Palmarini, *Inevitable Illusions: How Mistakes of Reason Rule our Minds* (John Wiley and Sons, New York, 1994) and Marilyn Vos Savant, *The Power of Logical Thinking: Easy Lessons in the Art of Reasoning...and Hard Facts About Its Absence in our Lives* (St. Martin's Press, New York, 1996)

³ John D. Barrow, *Impossibility: The Limits of Science and the Science of Limits* (Oxford University Press paperback edition, New York, 1999, p. 215)

⁴ Leon Lederman with Dick Teresi, *The God Particle: If the Universe is the Answer What is the Question?* (Delta Trade Paperbacks, New York, 1994, p. 382); I reference Lederman's/Teresi's book here because it is where I found this quote, which is quite marvelous. Unfortunately, I was unable to find the quote anywhere in Shelley's "Defense of Poetry." Repeated internet searches only led to various people quoting the exact same words used by Lederman/Teresi and attributing them to Shelley's "Defense of Poetry." I even went so far as to check with Lederman by email; nobody seems to know where this quote really comes from. Still, you gotta admit, it's a pip of a quote.

CHAPTER 29: DAMNED WITH FAINT PRAISE!

In the world of science, there was more than one Buffy, although there was only one vampire (scientific certainty) to be slain. In addition to Godel, there was Popper (just to be clear, not that universe-generating popcorn popper--dark energy).

Modern scientists for the most part seem to hate philosophers of science. “Philosophy of science isn't science, it's philosophy.” We can draw a line in the sand between the time when scientists did not hate philosophy and the modern era--the Roaring Twenties (the time when Bohr and his students were inventing quantum mechanics). Einstein, Bohr, Schrodinger, Heisenberg, de Broglie, Jeans, Planck and Pauli were all philosophers as well as scientists.¹

Then, the storm clouds formed. During the 1930s, the mathematician Godel published his incompleteness theorems, which we encountered in the previous chapter--driving a stake through the heart of mathematical certainty. Worse, he went on to prove that there were truths that could be known but not proven.

It was also during the thirties that the philosopher of science Karl Popper published his book *Logic of Scientific Discovery*--the first of a series of books he wrote that would permanently pull the rug out from under scientific certainty. Scientists and philosophers of science have been locked in mortal combat ever since--perhaps another symptom of science on the ropes. So what did this Popper character have to say? He is most famous for the simple observation that while nothing in science can be proven to be true that things can be proven to be false. His doctrine was called “falsifiability”--things can be proven false, but

not true. Any theory imaginable must always fear the threat that one day it might be proven wrong. There are no exceptions. No wonder so many scientists wanted to drive a stake through the heart of this Popper fellow.

Even worse, Popper insisted on applying his irritating philosophy to such sacred cows as Darwinism. One of the reasons that scientists may have decided to concentrate on attacking creationists is that they were like shooting ducks in a barrel compared to taking on Popper. Let's let his words speak for themselves:

“Darwinism is not a testable scientific theory, but a metaphysical research program.”²

“When speaking here of Darwinism, I shall speak always of today's theory--that is Darwin's own theory of natural selection supported by the Mendelian theory of heredity, by the theory of the mutation and recombination of genes in a gene pool, and by the decoded genetic code. This is an immensely impressive and powerful theory. The claim that it completely explains evolution is of course a bold claim, and very far from being established. All scientific theories are conjectures, even those that have successfully passed many severe and varied tests. The Mendelian underpinning of modern Darwinism has been well tested, and so has the theory of evolution which says that all terrestrial life has evolved from a few primitive unicellular organisms, possibly even from one single organism.”³

Scientists would call this being “damned with faint praise!”⁴ Popper's most irritating claim is that scientific theories are abstract and can only be tested indirectly. Science is “useful” in Popper's universe, but not “true”--that is, when it isn't “false” Ouch! While he accepts Darwinism, he insists that we cannot know that it is true. When he says that natural selection is *not* a tautology, he does so by insisting that it does not *always* work. If natural selection does not always work then it is *not* a tautology, but if it does not always work then how do we know when it does? Oops again! By instilling doubt about the underpinnings of science, Popper angers scientists even as he defends their theories.

Is it any surprise that scientists have abandoned philosophy? That's where Buffy lives!

¹ Ken Wilbur (Editor), *Quantum Questions: Mystical Writings of the World's Great Physicists* (Shambhala, Boston, 2001)

² Karl Popper, *Unended Quest: An Intellectual Autobiography* (Routledge Classics, New York, 2002, p. 196)

³ Karl Popper, (Author) and David W. Miller (Editor) *Popper Selections* (Princeton University Press, 1985, p. 241)

⁴ Alexander Pope, “Epistle to Dr. Arbuthnot” (Recommended Prisoner Reading List: “The Rape of the Lock”)

CHAPTER 30: THE TRUTH IS HISTORY

There is a very limited sense in which we can reasonably (although not absolutely) talk about a truth that we can prove. There is a good reason that crime fiction is now, and perhaps always will be, one of our favorite forms of fiction. In a sense, one of the things that we *can* know about the world is that a certain person did or did not murder someone. We can say with a reasonable degree of certainty that Jack Ruby murdered Lee Harvey Oswald in a Texas jail in 1963. We may not know “why” he killed him, but we can say that it is “true” that he did. The truth can be known about history--at least, to as great a degree as the truth can be known. Science cannot be true, but history can. Go figure.

CHAPTER 31: IN DEFENSE OF CREATIONISTS (BUT NOT OF CREATIONISM)

I'm going to save the issue of what should be taught in schools for later so that I can concentrate on the central issue of whether or not it is reasonable for a person to believe that the earth, our solar system, the universe, and all life in it were created six thousand years ago by God during one highly productive six-day work week. That same God may have planted fossils and other evidence of a much older earth to test the faith of the people after having them commit to memory the six-day story and promise to believe it. This is a particularly egregious definition of creationism (which exists in many forms), but since I'm going to defend its adherents, I thought I'd make it as unpalatable as possible. To be clear, I am not defending the doctrine--only its believers.

I suppose a lot depends on your definition of "reasonable." I'm going to use a scientific (specifically, an evolutionary) definition--reasonable is that which aids in our survival individually (individual genome preservation) and/or as a group (group genome preservation). From this perspective, the survival of a remote indigenous people deep in the Amazon jungle who have never had contact with the "civilized" world would not be effected by ideas about the age of the earth or the evolution of species. It would be perfectly "reasonable" for them not to believe in evolution--or simply not to think about it at all (which, I am certain, is exactly what they are doing right now). In a modern industrial society, an understanding of evolution is of great utility. The knowledge is used routinely to develop new drugs as viruses and bacteria "evolve" and become resistant to the old drugs. "Reasonable there" may be "unreasonable here."

So, what is reasonable in a modern industrial society? We would seem to be compelled to believe in evolution, don't you think? Scientists argue this point constantly. How can one claim to be a member of a modern society and not believe in evolution? It's just so medieval--so "Flat-Earther!"--but, who should be compelled? Scientists, certainly, but is there a reason for the rest of us to be so compelled? An educated person can know about the scientific theory of evolution (having learned it in school) and choose not to believe in it for any of a number of reasons. Actually, quite a number of scientists have balked at the theory since it was first proposed, but that's another story. To be a member of a modern society does not mean blindly following what is taught in school. Wasn't that the medieval complaint about Aristotle? Nobody could learn anything new because the curriculum was overcrowded with Aristotelian certainties.

The reality of the world is that people believe what they want to believe no matter what scientists say:

Astrology? "Nonsense!"

Homeopathy? "Quackery!"

Miracles at Lourdes? "The placebo effect!"

Scientists get their say; then people believe what they will. Astrology and homeopathy are huge industries. Does any modern newspaper *not* publish astrological horoscopes? The long lines at Lourdes always include scientists. Somebody once asked Niels Bohr why he kept a horseshoe hanging over the door of his office. He didn't believe in such nonsense as good luck, did he? "Of course not," he replied, "but I hear that it works whether you believe in it or not."

The chapter “The Search for Meaning” applies here. Individually and collectively, people have a need to find or create meaning in their lives. The purpose of a human life is, quite literally, to discover its meaning. The existentialists have driven home the point that, having abandoned our faith in God (a problem that creationists don’t have), there is no knowable, objective meaning to explain the universe we live in, and that, therefore, we must supply our own meaning--scientific or otherwise--and then commit to it, unequivocally.

The problem is that millions of individual meanings do not generate a group meaning, but a group meaning can attempt to generate millions of individual meanings. Enter religion, politics, and science--our ultimate arbiters of meaning--the creators and purveyors of group meaning. In reality, we are inundated with meaning, and competing messages of meaning. “Do it for God!” “Do it for country!” “Do it for Darwin!” They often like to combine the first two--“Do it for God *and* country!”--ignoring the inherent contradiction. If you could do it for God *and* country, you could teach creationism in school, couldn’t you?

We have so many meanings thrust at us that we don’t know where to begin when trying to sort them out, but since the meanings offered are not our individual meanings (which are all different), they do not satisfy. They may be all society has to offer, but we end up leaving the table hungry every time. Eventually, that hunger gets to us. Religious meaning (or political or scientific meaning) *only* has meaning if you make it your individual meaning. That’s why I’m defending creationists (individuals) and not creationism (group meaning that “fails to satisfy” until an individual “owns” it).

We realize that the only thing that will alleviate our hunger for meaning is to commit to something. When it comes to human creation, science pulls us in the Darwin direction while creationism pulls us in the God direction. The creationists are caught between a rock and very hard place. They seem faced with an impossible choice--deny God or deny science. Scientists, of course, believe that it is impossible to deny science. Science is undeniable.

Creationists have no problem with this conflict. Their belief in God is a matter of faith, not facts. To deny God is the impossibility. They’re happy to believe in science to the point that they have to deny God, which is where they draw a line in the sand. If the facts seem to contradict their faith, then they stand by their faith. When in doubt, they trust their instincts--don’t you? (Fortunately, they don’t have to defend their views before a judge as do parents who deny their children medical care for their faith--which is a real problem that society must address as society is the de facto stand-in advocate for children when the decisions of their parents may cause them harm.) *Nor should they have to.* Nobody knows where the universe and the life in it came from. Feel free to believe what you want.

There are an infinite number of ways to fool ourselves and not one way to know the truth with certainty (except for those gray gooey truths you can “know but not prove”--which is what “God” *is* for many people). The belief in God has always existed in all human societies, even in those remote indigenous people deep in the Amazon jungle that we know absolutely nothing about (one of those truths you can “know but not prove”). If someone tells you that what you believe is nonsense, you just tell them that people believe all sorts of nonsense.

Then, tell them about Bohr’s horseshoe.

CHAPTER 32: WE ALL WANT TO SAVE THE WORLD

“You say you want a revolution, well, you know, we all want to change the world.”¹ A lot has changed in the forty years since the Beatles sang “Revolution.” Today, instead of wanting to change the world, we all want to *save* the world--and with good reason. The world needs to be saved--from us, unfortunately.

The simple reality is that the major countries of the world have become far too complex to govern. The idea that a president can govern a country like the United States is absurd. The country governs itself; it's on autopilot--for better and for worse. Everyone is along for the ride, and nobody knows where the ride is going. All that the president can do--and this is not nothing, by any means--is “tune the thermostat” a bit.

Bureaucracy--in the sixties, the word was hurled as an epithet--is what government really is. You can't stand it, and you can't imagine life without it. Corruption is the grease of bureaucracy. “A permit like that usually takes years.” Government grinds on inexorably while politicians come and go.

They even have special prisons for financial and political miscreants. They went so far as to invent a special name for their crimes (remember the importance of naming things)--“white-collar crime.” It sounds so clean and hygienic that it almost makes you want to commit it, doesn't it? Stealing the pension funds from a thousand widows can be considered a less serious crime than stealing the purse from one. Isn't it great to make the laws? Remember the Mafia hoods eating steak and lobster in a private prison wing in *Goodfellows*?

Until we can successfully govern countries, the idea of a world government would seem to be a pipe dream. The only point at which a world government makes sense is in a *Star Trek* universe where there are lots of other planets with inhabitants, space travel, and governments. At that level, world governments become inevitable.

The pressures to create a world government come from two sources. The first we have already seen--capitalism with its multi-national corporations. The recent near collapse of the world financial system will probably put the kibosh on that idea, at least for the time being.

The other pressure will be from the forces that want to combat global warming. They have our best interests at heart. If that doesn't scare you, it should. Remember when your parents used to tell you that they had your best interests at heart? Was it ever anything good? Nothing is scarier than someone who wants to save you from a future that no one can accurately predict.

When it comes to saving the world, the biggest surprise is how many of us think that we know how to accomplish this remarkable goal, generating an endless supply of Rube Goldberg plans. We all want to save the world. God help us when we try. A revolution would probably be safer. Nobody knows how to save the world.

¹“Revolution” lyrics by John Lennon and Paul McCartney

CHAPTER 33: THE REENCHANTMENT OF THE WORLD

Meaning, as it turns out, is not just important for individuals; meaning is important for civilizations as well. According to the historian Morris Berman,¹ the loss of meaning of modern times (existentialism) can be traced to a split between fact and value that took place during the scientific revolution of the sixteenth and seventeenth centuries. Prior to this

revolution, the view of nature that predominated was that the world was enchanted. Rocks, rivers, trees, meadows, ponds, fields, brooks, clouds, trolls, sprites, fairies, nymphs (ah, nymphs) were all seen as wondrous and alive, and human beings felt at home in--as an integral part of--this environment. They belonged.

The “mechanical philosophy”--“matter in motion”--changed all that. Scientific consciousness is alienated consciousness. The logical end of its world view is a feeling of total objectification--everything is an object, alien, not-me. Ultimately, I, too, am an object (a “productive worker,” a “good citizen”). The ecstatic merger with nature is gone, replaced by a sense of total separation. We can’t even say that we are alienated. What we are is bought off. We all sold out a long time ago and now identify so completely with a “mechanical society” that we recognize ourselves, and everyone else, as commodities.

What to do? If people have become disenchanting with the world, wouldn’t the solution be for them to become reenchanted with it? Now, there’s a thought. Weren’t the hippies up to something like that in the sixties? If nothing else, the hippie vision was of a reenchanted world--a love-in of flower children, peace, a commune on a farm instead of “a hot job in the city.” The hippies were the Troubadours of the twentieth century--singing “Songs of Love.” For a couple of years there, it almost seemed like they might be able to pull it off. What happened? Many say it was drugs that took them out. Nonsense! Casualties of war! Like everyone else, they were bought off.

Isn’t that what the Gixxers (Gen-X) accuse their boomer parents of--selling out--and who should know better than their children? They didn’t stick to their guns. They weren’t real heroes. Weren’t the financial experts behind three decades of banking and Wall Street debacles once flower children themselves?

The hippies didn’t realize how thoroughly indoctrinated into the scientific world view they really were. They thought that they could break out of the mold by breaking the mold. They successfully broke the mold--and then promptly failed. In the end, they discovered that they *were* the mold they had broken. They were indistinguishable from their scientific world view, no matter how many “Songs of Love” they sang.

Alfred North Whitehead once remarked that with the formulation of the mechanical philosophy of the Scientific Revolution, the Western world found itself in the grip of an idea it could neither live with nor without. We are gored on both horns of the dilemma--we cannot go back to our pre-scientific enchanted world view (the hippies tried it and failed) nor can we live with our scientific view, which fragments our society at every level and drives us towards mass suicide (drugs, alcohol, depression, juvenile delinquency, domestic violence, gang violence, child abuse, suicide, rape, hate crimes, road rage, political rage, rage rage--choose your poison).

How will the necessary rechantment of the world finally take place?

Nobody knows, but it can’t be soon enough.

¹ Morris Berman, *The Reenchantment of the World* (Cornell Paperbacks, Ithaca, 1981)

CHAPTER 34: THE NATURAL SELECTION OF SCIENCE

It’s interesting to apply Darwinian Theory to the processes of science. Basically, Darwinian Theory says that if enough new biological innovations are tried (and, given enough time, all possible innovations will be tried repeatedly) that some will ultimately prove useful and be selected by a process that Darwin called natural selection. The process

of science is that lots of scientists (in any given field of science) will propose lots of theories (or hypotheses), then conduct lots of tests and report the results. In time, some of those theories will prove more useful than others and will be selected by natural scientific selection. Over time, mistakes will be corrected--eliminated by natural scientific selection.

Somewhat paradoxically, science excludes the scientist from its picture of the world. Unless one is reading a book about the history of science or is concerned with credit or priority, there is absolutely no need to say anything about scientists to talk about science. Open a science textbook; there are no scientists inside. You don't need to mention Newton to talk about the Law of Gravity (Newton's Law of Gravity, that is). The reason for this has to do with science's image. Science likes to advertise its objectivity--a level of objectivity that even scientists admit is impossible. Still, while it may not be perfect, science considers that its level of objectivity is greater than in all other human endeavors, and that, therefore, science deserves special consideration. Maybe science isn't perfect, but there's no question that science is the best tool we have available.

You might notice that this is the same argument that politicians use when they want us to ignore their failings. They remind us that our political system may not be perfect, but that it's the best in the world. And who says that it's the best? Well, the politicians who want you to ignore their failings say that it's the best--and, by implication, that they are the best too. And who's going to counter-argue that American democracy isn't the best? Long-haired, hippie, communist types that nobody in their right minds would believe.

The same argument works in science but with a very significant modification. In the political process, politicians admit that the process is imperfect to excuse the fact that the politicians' products (laws)--while quite literally innumerable--are imperfect. In science, this argument is turned on its head. Scientists claim that while the process may not be perfect, that the product paradoxically is. The processes of science (repeatable experiments, the competition of alternate hypotheses, the scrutiny of one's peers, etc.) allow scientists to create a perfect product (the product that's in the textbooks) out of imperfect processes. Amazingly, this is the same claim that scientists make for evolution which, they tell us, creates near-perfect living things from a process of random genetic mistakes.

Then, if you point out to scientists that their imperfect processes have often produced imperfect products, they will claim that, yes, it has happened repeatedly, but that, finally, the mistake was found and corrected. If you ask them about all the mistakes that have not been found and corrected, they will smile like the Cheshire cat and say, "any mistakes that have not yet been found and corrected will eventually be found and corrected." Ultimately, the process will perfect itself through the process of scientific scrutiny. Nothing escapes scientific scrutiny in the long run. Who can argue with logic like that?

Inconveniently, like politics and banking, the bulk of science takes place behind closed doors so that this process of scientific scrutiny is not subject to much external scrutiny. In theory, any scientific theory can be replaced by a better theory at any time. While scientists know that this is true, admitting it is something of a public relations disaster. So, instead, they have invented the idea of scientific consensus. Scientific consensus is where science and politics merge (I know; it makes me nervous too). All scientists can never be expected to agree on any scientific theory (and why is this if science is objective?). We are told that, as in a democracy, we need to put our trust in the "best" scientists and/or in "scientific consensus," which leaves us to wonder how exactly this thing called "scientific consensus" works.

The leaders in any scientific field are generally felt to have the best judgment (“When Einstein talks...”). In these cases, other scientists often play “follow the leader.” In other cases, when there is dissent, scientists vote (the scientist who is considered to have the best judgment effectively gets “extra votes” as a result of his/her stature--i.e., their vote is worth more than one vote; how much more depends on their stature). While there is no official scientific polling place, they informally poll the scientists who are considered experts in the area under question, and then go with the consensus of opinion. If the vote is close, they may admit that there is no current consensus, but if the issue is important, a consensus is inevitable as people think that something must be done. You can see that, at every level, individual scientists have a great deal to do with the outcome, but the story will be told in such a way that we never suspect this.

By eliminating the scientists--and all of their foibles--from the process, science is able to create an illusion. The essence of the illusion is that, because it does not need to say anything about the personalities and processes that led to its results, those personalities and processes are not significant. They cannot be questioned because--for all practical purposes--they do not exist. All that is left is the final product, which you can trust in, even though they will not tell you the actual story of how they arrived at it (isn't this what bankers are telling us about how they are using our money these days?). The true story has been eliminated from the textbooks of science--except in those cases where the story might add to the glory of science, which leads to the illusion that the “true story” is always glorious. Unfortunately, it isn't always.

The very essence of science is the idea that experiments are repeated to verify that the original results were correct. In reality, this is far from the case. The physicist Richard Feynman (who brought NASA to its knees by dipping the rubber O-ring gasket material from the space shuttle into a glass of ice water in front of the US Congress to demonstrate that it became brittle when cold--and that was probably the reason that the space shuttle Challenger tragically exploded) made this observation at a university commencement address he gave a long, long time ago.¹ Feynman pointed out the obvious--that it cost money to duplicate experiments. The more complex the experiment, the more money it costs (that was then; think of how much more it costs today). If you read scientific articles in newspapers or magazines, you will encounter this argument frequently. Why waste money to prove what we already know? Budgets aren't unlimited. Since we're funding science, we're happy to go along. The problem with this argument, of course, is that it subverts the very essence of the scientific process--repeatable experiments.

An excellent example of an experiment that was not repeated for many decades (allowing decades of scientific delusion) was the experiment that determined that normal human cells grown in Petri dishes were “immortal.” Early in the 20th century, an experiment by an acclaimed scientist² ran for several decades and received a great deal of publicity throughout the long life of the experiment. The experiment concluded that normal human cells cultured in laboratories flasks were “immortal.” Because of the prestige of the reporting scientist, this result quickly became scientific gospel. The fact that the experimental result was contradicted daily in labs around the world because human cell lines *always* died was ignored. Everyone assumed that their cell lines died because the scientists were careless (note that the blame is on scientist error, not on the original deduction of the unrepeatable experiment). Until the 1960s, scientists accepted as gospel that cultured cell lines that always died were somehow...still...immortal.

Then, a scientist³ came along with an experiment that proved that *it just ain't so*. Nobody wanted to hear it. The scientist ended up sending out cell lines to other scientists with a prediction of exactly when the cells would all die based on how long they had been replicating--challenging them to keep them alive longer. His predictions ultimately proved to be accurate. In the face of incontrovertible evidence, the "consensus of scientific opinion" capitulated (the original experiment was determined to have probably been contaminated--in spite of enormous precautions against contamination).

When scientists actually *do* repeat an experiment, you would think it would be easy for them to publish their results (remember that publishing is the *only* form of communication in science). Wrong. Scientific journals consider publishing experiments that repeat published experiments old news--even if the new results *contradict* the original results. Yes, you read that correctly. Even if an experiment *contradicts* the original experiment it often isn't considered *worthy* of publication, allowing the original (that is to say, the "incorrect") results to stand. It's enough to make a scientist like Feynman harden in ice water, don't you think?

Many scientific experiments are never repeated--and many that are repeated are never reported--to the great detriment of science.

¹ Richard P. Feynman, "*Surely You're Joking, Mr. Feynman*": *Adventures of a Curious Character* (Norton paperback. New York, 1997, pp. 338-346); The chapter referenced--"Cargo Cult Science"--was adapted from a commencement address that Feynman gave at Caltech in 1974.

² Alexis Carrel

³ Leonard Hayflick (Those who think that the "War on Aging" is worth fighting ought to read Hayflick's book, *How and Why We Age*.)

CHAPTER 35: FLAT-EARTHERS!

Science's greatest modern sin (the torture of helpless animals has been going on far too long to call it a "modern" sin, although it continues as one) has been its growing tendency to stifle scientific debate. While this might seem like the very antithesis of the scientific process, scientists justify it for a number of practical reasons.

"Science is expensive; we can't waste money once an issue has been settled."

"We can't let *just anyone* publish *just anything* in our scientific journals."

"What would happen if the public thought that we weren't sure and didn't take their medicine? People might die."

The first reason controls the purse strings and denies funding to people whose opinion swims against the scientific tide. The second denies them access to publication, which is the *only* form of communication in science. The third tars them as dangerous to society and makes them pariahs within the scientific community. Once scientists feel something is decided, they circle the wagons. Taken as a whole, the process of stifling debate has a tendency to turn science into pseudo-science. The easiest way to deal with one's enemies (aside from killing them) is to banish them. While seemingly reasonable, the process cannot be trusted to produce its most important product--good science.

Which brings us to the flat earth. It's the ultimate scientific put-down--"They're just a bunch of 'Flat-Earthers!'" You know what they mean--"They're so ignorant of modern science that they still believe the earth is flat." The big surprise is that scientists don't apply this term to ignorant laypeople (except the despised creationists) as one might surmise. Instead, they use the term as a weapon against other scientists who know perfectly

well that the earth isn't flat. As it turns out, "Flat-Earthers!" are scientists who don't agree with them on some scientific topic. When you hear scientists calling other scientists "Flat-Earthers!" you can be sure that they are eating their own.

Surprisingly, there are a small number of (once) prominent virologists who do not believe that the HIV virus causes AIDS. In the community of AIDS scientists, they are referred to as "Flat-Earthers!" There are a small number of (once) respected climate scientists who do not believe that the current global warming trend is being caused by the accumulation of manmade greenhouse gasses in the atmosphere. "Flat-Earthers!" There are a small number of (once) respected scientists who challenge the idea that genetic mutations in DNA are sufficient to explain the diversity of life that has evolved. "Flat-Earthers! One and all!"

Almost twenty years after cold fusion was publicly debunked because scientists failed to be able to quickly repeat (while TV news cameras waited) a highly complex and difficult experiment, respected physicists (who continue to investigate the phenomenon and report both excess heat and the transmutation of elements in their experiments) are referred to as "Flat-Earthers!" by the physics community and the world at large. The US Patent Office denies all requests for cold-fusion patents on the basis that it is pseudo-science--no matter what evidence is presented. Once scientists feel that something has been decided (although there is no deciding body; no place where the decision is made; no votes we can count), anyone who does not accept the "consensus of opinion" is subject to tarring with the "Flat-Earther!" label. "Flat-Earther!" is the battle cry of the modern Scientific Inquisition. More than one scientist so-tarred has commented that when science needs to rely on consensus--a vote of some kind--then it really isn't science, is it? It's politics.

Surprisingly enough, the story of Columbus and the flat earth is a myth--a very modern myth.¹ At the time that Columbus sailed on his first voyage to the New World, nobody believed the earth was flat, certainly not Columbus or his crew. Actually, the Greeks had demonstrated that the world was a sphere in 4 B.C., and from then on that was pretty much the consensus of opinion. You would have to travel back to the time of the Egyptian pharaohs to find someone who believed in the flat earth. As it turns out, the flat earth is a remarkably modern invention.

The idea that people believed in a flat earth during medieval times--which is what scientists mean when they call someone a "Flat-Earther!"--is an invention of literary fiction, only a peculiarly confusing kind of fiction. Historical fiction is really an oxymoron--a form of "non-fiction fiction." History is supposed to be non-fiction; fiction about history is...well...confusing. You sort of expect that the history in the fiction should be true, but the fiction label clearly indicates that this isn't necessarily the case--how could it be? If it were all true, it wouldn't be fiction; it would be history. Still, there is a tendency for some readers of historical fiction to believe what they read (always risky; history, especially, should always be read with a skeptical eye as it is written by the victors--or by the survivors). As it turns out, even historians can succumb to the temptation to believe a well-told tale.

In 1828, the novelist Washington Irving wrote a book called *The Life and Voyages of Christopher Columbus* in which he invented a scene where Columbus confronts members of the Inquisition at Salamanca who are claiming that the earth is as flat as a plate. A good story gets endlessly repeated and can become even truer than the truth in the sense that if everyone believes something, then, for all practical purposes, that thing *is* true for them--and far *truer* than most things, which are not supported by universal belief. Throughout the

nineteenth century, the term “Flat-Earthers!” was used to tar the medieval Catholic Church for ignorant beliefs that they never possessed. Many who used it may well have believed it. Still, its intent was clear. From the beginning, it was used to attack science’s purported enemies--it was a tool of the Scientific Inquisition.

In the twentieth century, the story migrated from the fiction shelves to the history section of the library. Variations of:

The superstitious sailors of Columbus’ crew grew ever more frightened and mutinous; the most gullible feared that they would sail off the end of the world.

appeared in the works of respected historians.² The image of the edge of the watery world terminating in Niagara Falls with fully manned boats plunging over it, as if in a scene from Dante’s *Inferno*, was vivid enough to seduce historians who were not quite as skeptical as they ought to have been of a highly dramatic story.

So anytime you hear a scientist call someone a “Flat-Earther!” you should ask them what they *mean*. The flat earth isn’t a mistake made in history; it’s a mistake made by historians. And who are historians?

Experts!

¹ Jeffrey Burton Russell, *Inventing the Flat Earth: Columbus and Modern Historians* (Praeger Publishers, New York, 1997)

² No useful purpose would be served by indicting individual historians so I have “generalized” the error.

CHAPTER 36: A DOG’S LIFE

Because animals are non-verbal, we know that they do not have I-consciousness. A dog may sit around all day thinking about itself--I’m certain that mine does--but if it does, it does not do so in words. By way of analogy, a human being is to a dog what I-consciousness is to Not-I. Most dog owners don’t learn to train their animals, but all dog owners learn the universal dog command. It isn’t “come,” “stay,” “sit,” or “heel,” or any of that complicated technical jargon. It’s the command nobody has to be taught.

“NO!”

The dog starts to step into the street. “NO!” The dog (hopefully) stops dead in its tracks (actually, if you think about it, either way it’ll be “dead in its tracks”). The dog with muddy paws is about to jump up on your mother’s new dress. “NO!” Dog licking your face? “NO!” Dog licking its...well, you get the point.

If you think about it, you are having a tremendous impact on your dog’s behavior by doing just one thing--restricting its behavior consistently. In time, your dog can learn a whole host of things from this one word. Your dog becomes domesticated by this word. It doesn’t like the word, but it accepts that it has a function in its life. There is no life without restrictions. “NO!” is certainly better than having to face predators in the wild or forage for food in dumpsters. It seems a small price to pay for domestication (civilization).

By saying “NO!” you are provoking an instinctive reaction in your dog, so you get a “quick-draw” response. You can also teach your dog to understand commands that you do not pursue to the point that you provoke an instinctive reaction. You will notice that it normally takes your dog much longer to respond if it has to think (more than twice as long at least). I have a small hound, which are the hardest dogs to train, and it seems to take him a full five seconds (somebody left the decimal point off his instruction set) to respond to any verbal command. Talk about a consciousness lag.

The idea of a human “conscience” is often depicted as a kind of miniature person who looks just like you (technically, a homunculus) perched on your shoulder telling you that you should not do what you are about to do (“NO!”). The interesting thing is that “I” am the homunculus, and I have no idea if the person I am trying to influence (Not-I) is listening. I don’t find out until he acts, no matter what I say in advance.

This homunculus, of course, is exactly like “NO!”-training your dog. The only way to judge whether or not the dog is listening is by its behavior--and then you can’t know if its behavior is “sincere” (instinctive/well-trained) or is just to “mollify you” (ends when you turn your back). You cannot know its non-verbal thoughts. A dog actually represents its own unique detour on the road of evolution, and its inner Neptune runs just as deep as ours, only in different directions.

You have to imagine that Not-I must really hate I-consciousness--nobody likes to be told what to do, especially by a pushy know-it-all who talks all the time. After all, Not-I isn’t a pet. My Not-I seems to ignore my input most of the time, but it’s really impossible to know. Sometimes I wonder if Not-I ever tries to influence me. I know that my dog does, even though he can’t speak. But if Not-I can speak and Not-I can write, why doesn’t Not-I talk to me or at least leave me the occasional Post-It note on the frig?

CHAPTER 37: WHY AN AGNOSTIC TALKS TO GOD

I used the “God”-word. It was back in the chapter titled “The Shower Cult.” You noticed, didn’t you? I said, “Thank you, God.” Very suspicious, didn’t you think? Any mention of God in a book about science (even a book of science humor) is likely to bring the wrath of “Darwin’s Rottweiler” down on me. As a preemptive clarification, I would like to insist that I do not suffer from what Richard Dawkins so eloquently calls *The God Delusion*. I’m an agnostic--I don’t *know* whether or not God exists. I do suffer from what could be described as *The Evolution Delusion*.

[Historical sidebar: I was raised a Catholic but had a crisis of faith when I learned that dogs could not get into heaven. Apparently, God didn’t want them jumping up on the furniture. I think it was Mark Twain who said that he wanted to go to the heaven that dogs go to. Now, there’s an odd thought. Who would want to spend eternity in a place where humans can’t sit on the furniture? As I couldn’t resolve the sofa dilemma, as it is referred to in religious circles, agnosticism seemed the best choice. In agnostic heaven, nobody knows who gets to sit on the furniture.]

I believe that billions of years of evolution have conspired to watch over me as my guardian angel--just like Gabriel. Every human being can trace their evolutionary heritage back almost four billion years to the first cell that we are all descended from. I understand that evolution has done this for me one extremely rare genetic mutation at a time (for which I am eternally grateful), but the sheer volume of stored knowledge in my DNA and mitochondria (we’re talking billions of years here), when properly accessed, can protect me from practically anything (except “the slings and arrows of outrageous fortune,” a.k.a. “natural selection”). My evolutionary angel Gabriel doesn’t mind if you tell him that he evolved from orangutans. “You have a problem with orangutans?”

So where does God fit in? After a number of years with Gabe, I started to wonder why I was doing talking to a guardian angel when I could be talking to “The Man.” I realized that I had set my evolutionary “sights” too low. I asked Gabe to introduce me. He dicked

around for as long as he could, but he finally agreed. I couldn't blame him for stalling; he knew he would be out of a job.

What is the difference between saying that "God" created the universe and saying that "Nothing" created the universe and everything just evolved? Somehow, the perplexing world/universe that we find ourselves in--and it's most perplexing features, life and consciousness--managed to get created. The end result is a creation as extravagant as it is absolutely stunning and, at the same time--deeply, perversely unknowable. Anyone who doesn't believe that four billion years of evolution are deeply, perversely unknowable obviously doesn't know anything about evolution.

In science writing if you substituted the word "God" for "Evolution," in many cases you would not change the meaning of anything. Books on evolution (and practically everything else) are full of "evolution does this" and "evolution does that," as if evolution were a thing (like God) that could do anything. Evolution is the description of a process, not an actor on the stage of life. Evolution is an attempt to analyze things that have happened, not things that have been done. Evolution cannot do--or cause--anything. It is an account of what was done and caused by other things that were obviously not "evolution." Evolution is history not war. Genes are not "selfish;" they are selected by natural selection, although it is admittedly more interesting to write books about selfish genes than the tedious process of natural selection, which remains hidden from view--and mostly unknown--even to scientists. Scientists are human too (don't go there).

Scientists like to accuse laypeople of anthropomorphizing animals (makes them sharpen their analytical knives), like thinking your dog has a personality. "It's just a meat machine," they insist, "a bundle of instincts." For centuries, scientists castigated anyone as "unscientific" if they thought that animals felt pain just because they screamed out during vivisection. They publicly ridiculed people for this as the screaming vivisections were conducted outdoors for the education of the masses. ("Only an uneducated bumpkin would think this animal is actually suffering.") Millions of animals have been tortured as a result of that particular scientific fallacy. When scientists un-anthropomorphize things, the results can be horrific, but if I think that my dog has a personality, what harm is done? If everybody in the known universe who owns a dog thinks it has a personality, what harm is done? Anybody remember social Darwinism and the horrors of eugenics? Wouldn't you rather live in an enchanted world of pets with personalities than one that science has un-enchanted?

Yet scientists are just as guilty as creationists when they try to describe evolution. Saying that "evolution did something" is really little different than saying that "God did it." From the point of view of truth and clarity, both statements contain no truth (nothing that can be demonstrated or proven--try it for either) while both are equally clear (or unclear, if you like). The only way that scientists can claim that evolution does things is by claiming that it does everything, but if evolution does everything, how is it different than God?

There is a word for something that does everything--a tautology. Saying that "everything evolves" is a tautology. It tells us nothing about evolution except that it is a process that affects all living things. It tells us nothing about the "who, what, where or when" of evolution (we know by now that we can never access the "why" of anything by the techniques of science). Scientists say that the "how" of evolution is genetic mutation, but the specifics of the "how" are unclear. As an explanation, genetic mutation, like evolution, is a tautology. It explains everything without explaining anything specific. It is

sooooo true as to be practically meaningless. On the meaning explanatory scale, “evolution” and “genetic mutation” are only one step above “Just because!”

Perhaps the best example of a truly modern tautology is the statement: “You can find it on the internet.” The statement is completely true. There is nothing that you cannot find on the internet. At the same time, the statement tells you absolutely nothing except for the information contained in the words: You...can...find...it...on...the...internet. What you will find, whether you will find it useful--or true--is unknown. In reality, anyone who answers your question with the statement, “You can find it on the internet,” isn’t answering your question at all. They’re just mouthing a meaningless tautology.

I talk to God all the time. Why? Because God listens. More, because He *helps*. Maybe in the world of the unbroken mold, he has a lot of time on his hands and is looking for something to do. He’s a lot like Magnum’s “little voice” on the old *Magnum P.I.* TV series, only far more powerful. With God by my side, I feel that I can do anything. Would I have had the eggs to write this book if God wasn’t on the N-Team? [Editor’s Note: *Don Nadie* said that “eggs” has a different meaning in Spanish.] How can you lose if you think that God is in your corner? I’ve tried talking to DNA, Natural Selection, and even Evolution itself (The Big Cheese), but it just wasn’t the same--try it--so I talk to God. Maybe God is nothing more than my Not-I--how can the poor witness know? Perhaps God is my placebo. All that matters to me is that God *works*.

If you ask me why I don’t *believe* in God, I would have to say, “I wish.” I would if I could. I’ve asked God about it. He told me that faith was a gift from God, and that--obviously--I hadn’t received it. “You live in the age of the unbroken mold,” He said, and then He added, “Get over it.”

CHAPTER 38: WHY DO WE SEE THE SAME WORLD?

Erwin Schrodinger, the inventor of quantum wave mechanics (the wave half of wave-particle duality), thought a great deal about what it means that scientists are not a part of the picture of science--that they are excluded from the descriptions of science. Like Bohr and many other scientists early in the twentieth century, Schrodinger was a philosopher as well as a scientist. Schrodinger claimed that the reason why our sentient, perceiving, thinking ego is met nowhere in the scientific world picture can be stated in just seven words: “because it is itself that world picture.”¹ He continued:

“It is identical with the whole and therefore cannot be contained in it as a part of it. But, of course, here we knock up against the arithmetical paradox; there appears to be a great multitude of these conscious egos, the world however is only one.”²

Schrodinger’s question was ingenious: How do *many* consciousnesses all see the *same* world? Or to ask the question as if we were computers (a favorite--but false--scientific analogy): Who writes the software that sees the same world from the stream of incoming pixels? Schrodinger claimed that there were only two possible answers to this question--both seemingly crazy from the perspective of modern science.

One way out was the multiplication of worlds in Leibniz’s fearful doctrine of monads. “Monad” means “one;” “monads” is an oxymoron--“many one.” Each consciousness in Leibniz’s world is a monad--a world unto itself--and no communication was possible between monads (that’s how you can have many). That they all “see the same world” was

explained as a result of “pre-established harmony”--another great example of naming something that you can’t explain.

Yuck! Is it any wonder Leibniz has never been as popular as Newton?

The only alternative, according to Schrodinger, is to unify the apparent multiplicity of consciousnesses into one, and then the problem goes away. In truth, there is only One Mind--one consciousness. We all see the same world *because we are all the same consciousness.*

“Erwin, my man,” I hear my reader exclaim, “why, then, don’t I know what you’re thinking?”

By now, I hope we all know the answer to this objection, don’t we? What we are thinking--I-consciousness--amounts to 0.00001% of what is going on within us. It has little effect, except a possible inhibitory effect, on our behavior. Truly, deeply, we are the 99.99999% of the iceberg that lies below the water level. If you think about it, one-tenthousandth of one percent is nothing--less than nothing. It’s the fact that consciousness is so incessantly loud that we award it its privileged position. For all we know, if we could experience the 99.99999% that is below the water line, we might realize that we actually *are* all the same consciousness. Isn’t that what the mystics have been saying for millennia? Perhaps they were onto something. It’s just that pesky I-consciousness that obscures the fact with its endless chatter. We might all be one. It might be one of those truths we can “know but not prove.”

I know; that’s the “Yuck!” part.

¹ Erwin Schrodinger, “*What is Life?*” with “*Mind and Matter*” and “*Autobiographical Sketches*” (Cambridge University Press Canto edition, Cambridge, 1992, from *Mind and Matter*, p. 128)

² Ibid.

CHAPTER 39: TEACH YOUR CHILDREN WELL

The battleground of the conflict between scientists and creationists is over what we teach in our schools. Scientists grant creationists the right to believe what they want as long as they don’t want to teach it in our public schools. Creationists, on the other hand, want their point of view represented, regardless of the separation of church and state. For them, the separation of church and state has become a yoke that the scientists use to corral them away from the rest of society, and they balk at it. They bristle at the idea that God needs to be segregated from our children. They think that a lot of the moral problems in our country are exasperated by this separation, and that their rights as a group have been trampled on. Unfortunately, while God may be on their side, the pesky constitution has proved to be a problem. We are back firmly into “render unto Caesar” territory--with predictable results.

The scientists insist that we must teach our children the scientific truth as best we understand it and without corrupting influences (irrelevancies like religion) interfering. The problem with this position is that we do not teach the scientific truth in science classes, nor do we teach historical truth in history classes, for that matter, or political truth in civics classes. What we teach is scientific clarity, the history that we want them to believe, and a view of government written by government employees. We do not explain gravity as “drawing a line of attraction from the center of mass of every atom in the universe to the center of mass of every other atom,” as this explanation explains nothing to the mind of a child (and little to the mind of a scientist, for that matter). We don’t explain it as light

following straight lines through curved space/time either. Instead, we tell children, “What goes up must come down” or something similar.

We are caught like Tom Cruise and Jack Nicholson in the climactic scene from *A Few Good Men*:

“I want the truth.” (Our hero Tom, representing the children)

“You can’t handle the truth.” (The evil Jack, stating the obvious about the children’s ability to understand.) “Our schools are about *clarity* not *truth*,” Jack screams, only now he is being taken away in chains.

Remember, the real power in society is in deciding who goes to the dungeon. Since our children can’t handle the truth, what is important is that we state clearly what we consider important for them to know to become productive members of our society (does this arouse anyone else’s suspicions, or is it just me?). How can anyone be expected to work in our modern world if they do not believe in evolution? This has always struck me as a remarkably simplistic--and wrong--argument.

Can you work for a biotech company without believing in evolution? Obviously, you can. What difference does it make what you believe if you’re running a gene sequencing machine? What matters is that you understand how the machine functions and what you are supposed to be doing with it (as in all jobs).

For whatever reason, scientists have become obsessed with what people believe in spite of the fact that the essence of science is to believe nothing and to “prove the unprovable truth”--the scientific equivalent of “dreaming the impossible dream”.

CHAPTER 40: THE CONTRADICTION AT THE CENTER OF THE UNIVERSE

Why is the road to hell paved with good intentions? Why does each person kill the thing that they love? Who let Murphy make the law? Who passed the law of unintended consequences--and why? Why is fame something you want when you don’t have it but don’t want when you do? Why do many lottery winners lose all their money soon after they win? Why is life full of paradoxes and contradictions?

The first time that I had the insight that if one knew the secret at the center of the universe it would turn out to be a contradiction, was when I was a teenager. It’s not a particularly original or “insightful” insight. Human beings have no problem with ambiguity. Human life is full of contradictions. Why should the universe be any different? It spawned human beings. At least, that was my feeling on the subject.

It’s kind of like asking if the universe is conscious. How could it not be? As Ratso Descartes put it, “I’m thinking here!” and if “I’m thinking here!” what on earth is the universe doing? I can’t be thinking *without* the universe. Remember all those straight lines connecting atoms? What do you think they’re doing--playing backgammon? So it would seem to follow that the universe and I are thinking together. How else could it possibly be? I couldn’t do it on my own. Without the universe, I wouldn’t be here.

It certainly seems true (perhaps one of those truths that we can “know but not prove”) that we find contradictions all the time at the core of things--contradictions that no one can explain. Good intentions often lead to horrible results--remember Pandora’s Box. (Helpful Hint: You should be able to find any statement made in this book contradicted somewhere

else in this book.) In the nineteenth century, dogs were used to draw small carts for a variety of vendors, as they had been for centuries. For many people, horse or donkey ownership wasn't an option for financial and other practical reasons. It's a lot easier to keep a dog in the house than a donkey. Dogs can live on table scraps, which people have, and do not need hay, which they don't. They can be trained to do their business outside as well.

Well-intentioned Victorian England decided that it was far too civilized for such practices. Individual instances of cart owners who mercilessly abused their animals were publicized to motivate Parliament to pass a law to ban all dog carts to save them from such abuses. This is standard operating procedure regarding laws, which are often nothing more than the emotional outbursts of the body politic to something that some people especially don't like; it is the *intensity* of their dislike that really matters. Parliament decided that the law needed some teeth so they decided to tax any dog that was kept, thinking that only people who really loved their dogs would pay the tax. *They were right.*

The dogs faced a double whammy. They could no longer be used for work, and now they were an expense. The result was predictable--except to those who passed the law to save the dogs from abuse--thousands of dogs were slaughtered and thousands more were inhumanely turned out into the streets to die of exposure, abuse and starvation. Several city councils were forced to pay for mass burials as the dead dogs accumulated in the streets.

If this strikes you as a quaint problem from the past, today horse-drawn cabs in New York's Central Park (a fixture since the 1930s) face similar laws to protect the horses from similar abuse (the logic is the same; drawing a cart is, by definition, animal abuse). Exposures of stables that abuse their animals fuel the fires. Rather than pass laws to protect the animals from abuse (trouble for legislators as they require long-term enforcement vigilance that costs money), it's simply easier to ban the practice (the fast-and-dirty solution--society's favorite). You wonder what the legislators imagine is going to happen to all those horses currently working (casualties of war).

It's not that we don't *want* to do the right thing; it just seems that we don't know *how*. It's easy to fix a house; impossible to fix a city. Contradictions everywhere.

Another huge paradox lies in the vast ocean of space that so often exists between what we think we ought to do and what we actually do. Scientists conducted an experiment on doctors to see if they would report their colleagues if they caught them making a mistake or doing something wrong. The vast majority of the doctors said that they would absolutely do so. When provided with an opportunity to do just that, however, the majority of the doctors *failed* to report them. Contradictions, contradictions everywhere--and not a drop to drink.

Reason leads to paradoxes and contradictions; hence we have come to suspect even reason as a tool. Perhaps--as the mathematician John Myhill suggested--if we want to understand the contradiction at the center of the universe, we need a poet and not a scientist:

“Do I contradict myself?
Very well then I contradict myself.
(I am large, I contain multitudes.)”

Walt Whitman
“Song of Myself”
Leaves of Grass

Why is there a contradiction at the center of the universe?
Nobody knows.

CHAPTER 41: THE ROLLS-ROYCE OF UNIVERSES!

This is the story of Boltzmann's Brain. The science Columbo is about to solve the Bohr student murders. You are about to learn why evolution evolved six billion individual consciousnesses that seem to have no other function than to get us killed. More correctly, you're about to learn why it didn't. Let's all retire to the library for brandy. You're going to need it.

Comfortable? If you thought that my Miniverse in a crystal sphere was a strange idea, wait until you hear about the Multiverse. In spite of the fact that it's impossible to see the big picture because we're in it, science thinks that it has. Science has never been troubled by its inability to see things. We wouldn't have great things like positrons, neutrinos, anti-quarks, anti-matter and the Higgs boson if it did.

Before the creationists got their hands on Intelligent Design, it was a perfectly good scientific theory (which the poor scientists have since had to disavow as part of their plan to save us from the creationists). The basic question behind the original Intelligent Design theory was: "Why are the parameters of the universe set in just such a way that our universe happens to support DNA-based life?" The sarcastic scientific answer was that if our universe didn't support DNA-based life then nobody would be asking the question. The unscientific answer was that our universe was special (this opened the door for the creationists). Scientists didn't like the "special universe" answer, but they had a hard time getting around it. The universe had to be special, or nobody would be asking the question (the sarcastic scientific answer worked better as sarcasm than as an answer). The reason that scientists quit worrying about Intelligent Design was that they came up with an answer to the question that fell out of their string equations (as gravity does) like apples fall from trees. The answer eliminated the need for a "special universe."

The reason that the parameters of the universe are set in just such a way as to support DNA-based life--big drum roll here--is that our universe is only one of a gazillion universes (the number "gazillion" is actually not nearly large enough, but we'll go with it for clarity's sake). Out of these gazillion universes, it is not at all surprising that one of them might have the parameters set perfectly so that it would support DNA-based life. If you toss enough coins, eventually one will land on its edge.

Like the unpopular "many-universes" explanation of quantum mechanics (where a universe pops into existence every time a measurement--which nobody can define--is made), the Multiverse makes up for whatever it may lack in sense with "an overabundance of universes." [Historical sidebar: To get around the problem of not being able to define what a "measurement" was, Bohr (the most practical scientist since Newton) simply said that "while we may not know what a measurement is, we sure as hell know how to make one." So they measured things and invented quantum mechanics. Only God knows how many universes they may have created doing it.]

Like the "give evolution enough time, and it can do anything" theory, the "give us enough universes, and we can explain anything" theory is a true peach amongst fallen apples. What it does that scientists like is eliminate the need for an Intelligent Designer. Take that, you pesky creationists. We have enough universes now to send you to the lockers.

The problem with this explanation--and scientists don't even like to think about this--is that it makes the laws of the universe, and by extension, science, so...*not special*. The laws of the universe that they have so painstakingly unravelled are only the laws of *our* universe. *They're not universal laws*. Heavy sigh. Go to another universe and all that hard-gained scientific knowledge is useless. Another universe means other laws. Science is just a local phenomenon. A scientist could spend a gazillion lifetimes and never learn all the laws of all the universes. This seems to have made scientists a bit peckish, if not downright puckish.

So what does all this have to do with Boltzmann's Brain, you ask? Ludwig Boltzmann was the nineteenth-century scientist who came up with the idea that a fluctuation could occur in a gas--or in a universe, for that matter--which eventually evolved into the idea that a "fluctuation in a quantum vacuum" could cause a universe to pop out of nothing (scientific nothing isn't like our ordinary everyday nothing, but you were beginning to suspect that by now, weren't you?).

All this has been exasperated by a mysterious force called "dark energy" that is accelerating the expansion of the universe and nullifying the effects of "the gravity we don't understand"--except with string theory, which also gives us all these wonderful universes. It turns out that accelerated expansion of the universe caused by dark energy has an unusual side effect--it makes universes pop out of quantum fluctuations like popcorn out of a hot-air popcorn popper.

All these universes (however they may be generated) create a problem for scientists. Do you remember the law of unexpected consequences, a.k.a. Pandora's Box? Amazingly, this problem is not considered as serious as the problem that creationists pose to society as they have decided that they can live with it--but not with the creationists.

Wanna know what it is?

Once you have a gazillion, gazillion, gazillion universes, the scientific problem becomes this: Our universe has created a brain in an extremely roundabout manner. The process began with single cells without nuclei, then a billion years later single cells with nuclei, then a billion years later simple multi-celled creatures, then plants, then fish, then insects, then reptiles, then birds, then mammals, and then, finally, man with a brain. (If I got anything out of order, please don't write, just hand correct your copy.) Four billion years just to come up with the first thought. It hardly seems efficient, does it? Well, as Lieutenant Columbo liked to say, "And that's the problem."

If there are untold gazillions of universes, doesn't it seem probable that most that will evolve a brain would come up with a much simpler way to do so? For every universe like ours--I am not making this up--there must be literally millions of simpler universes that are nothing more really than a "brain in a jar" although, technically, a "brain in a universe." The entire universe would consist of just one thinking brain. This is considered the economy car of universes. For some reason, we're driving a Rolls-Royce.

If you ask how it is possible that we ended up in The Rolls-Royce of Universes! rather than in a Rambler American, you might realize that this is the same question we started with: Why are the parameters of the universe set just right for human life? The truly amazing scientific answer--and there aren't enough drums in all those gazillions of universes to roll for this one (and there are universes that consist of nothing but drums playing Gene Krupa on themselves)--is that we don't live in The Rolls-Royce of Universes!

We just think we do!

The need to banish creationism seems to have driven scientists insane. Just to be clear--and, yes, this really is a scientific theory--we do not live in the universe that we think we live in. Where do we live, you ask? We are a "brain in a universe" that thinks that it is living in The Rolls-Royce of Universes! Remember Schrodinger's theory that only One Mind exists and that we all share it? Scientists have finally given that mind a name. In memory of the Darwin of fluctuations, they refer to it as "Boltzman's Brain."

Science has finally arrived at the mystical solution to the mystery of conscious life. The universe that we think we inhabit is an illusion, but there is a real reality behind it that remains hidden from us--and always will be.

Now, what idiot said that science *doesn't* have a sense of humor?

CHAPTER 42: THE TALE OF THE BOOK

On the first Saturday night of every month, the rock-breakers at the Four Corners Minimum Security Prison and Country Club put on a talent show. "Rock-breakers" is something of an in-joke, as the majority of the inmates are enrolled in various arts and craft classes or internet correspondence courses when not watching cable or educational adult videos (the Masters and Johnson prison series) in their cells. Meals are prepared by seasoned inmates who are enrolled in cable gourmet-cooking classes. The inmates often praise the cooking saying, "It's Bam! not Spam!"

On this particular Saturday night, a new prisoner filed into the air-conditioned auditorium along with the hardened (the gym facility is to die for) criminals. Don't be cruel. Do you have any idea how hot it gets in Four Corners in the summertime? Once everyone had settled into their reclining seats with refrigerated cup holders, the first convict got up on stage, waited dramatically for many long seconds, then leaned into the microphone and said:

"Thirty-nine!" as if he were announcing that the food they had just eaten had been poisoned.

Everyone in the audience burst into laughter.

Our new convict looked around at the rest of the convicts who acted as if this was the funniest thing they had ever heard. After a few seconds, he started to laugh along with the others, but he had to admit to himself that he really didn't get the joke.

Then, another convict approached the microphone as if it were an electric eel, raised himself up on tiptoes, and whispered hoarsely into it:

"Siiixxx!" as if he had just seen a rat with the plague. Inmates fell to the floor in uncontrollable fits of laughter. Our convict chuckled along with rest, but more nervously now.

This went on for almost an hour with one convict after another calling out numbers like train station announcers--to the delight of all. When the show was over, the convicts filed out exhausted from laughing so hard. Our convict began to suspect that he had ended up somehow in a plush prison for the criminally insane. Had he gone mad and forgotten? And if he was crazy, why didn't he get the jokes?

Our convict puzzled over what he had seen for several days and finally got up the nerve to ask one of the other convicts what was going on. That convict told him the following story:

“There is only one book in the prison library with any jokes at all in it. In that book, all the jokes are numbered, and the convicts have read the book so many times, and they know all the jokes so well, that all a convict on stage needs to do to get a belly laugh is to mention the number of the joke.”

Our convict thought that this sounded simple enough, so he got the book and read it. He picked out several jokes that he found particularly funny and prepared for his stage debut.

When he finally got his turn on stage, he went up to the microphone, paused dramatically, and then said with a chipper lilt, as if he were calling numbers in bingo:

“Fifty-four!”

Nobody laughed. He stared out at the crowd that stared back in stony silence. He decided to press on.

“Thirty-six!”

Nothing. He started to sweat. That was his best material.

“Fifty?”

Some convicts booed; others filed out.

Finally, he tried one last joke, but his heart was no longer in it.

“F-f-fifty-eight?” he said weakly, almost pleadingly, but by then they had resorted to throwing fruits and vegetables, and he was forced to flee the stage in disgrace.

Later, he asked the convict who had told him about the joke book what had gone wrong.

“It’s not just the joke,” the convict told him. “It’s the way that you tell it!”

CHAPTER 43: I’M NOBODY!

In a very real sense, I owe my literary existence to Emily Dickenson, who gave Nobodies everywhere a good name.

I’m Nobody! Who are you?
Are you--Nobody--Too?
Then there’s a pair of us?
Don’t tell! they’d advertise--you know!
How dreary--to be--Somebody!
How public--like a Frog--
To tell one’s name--the livelong June--
To an admiring Bog!¹

I can assure you that I am not a Somebody! hiding behind a pseudonym (“a Somebody! in Nobody!’s clothing,” so to speak). I have no credentials. Like my average reader, I am a genuine “Nobody!”, although admittedly male and no longer young. If you’re looking for an expert, I’m not one. I’m an artist--you might say a con artist. Artists want to know stuff too. I read too much. I thought that I could find the answers to my questions in books. Who knew? Turns out, it’s only true about this one.

I couldn’t help but enjoy the play on words inherent in having the title contain the author’s pseudonym, as if I were claiming that while NOBODY KNOWS ANYTHING that since I’m Nobody! that I do. Don’t be deceived. I don’t.

What’s this pseudonym nonsense? What am I hiding from?

Nothing (except from fame--that “fickle Slut”--and the process servers), but for the rest of my life, I’ll be able to say “I’m Nobody!” and *mean* it.

¹ Emily Dickenson, *Selected Poems* (Barnes & Noble Books, New York, 2002, p. 16)

CHAPTER 44: ONLY STEAL FROM MASTERS

I thought I'd treat you to another great Goldman quote from *Adventures in the Screen Trade*:

“If you're going to steal, and nothing comes from nothing, only steal from masters.”¹

You gotta love the “nothing comes from nothing” part. I hear a hint of Lucretius’ “nothing can be created out of nothing” in it, don't you? I suppose that's the “only steal from masters” part of the quote. That Goldman is one clever guy. I read somewhere that Goldman turned down a chance to write the screenplay for *The Godfather* because he didn't want to glorify the Mafia--something in that guy you just gotta admire, don't you think? Of course, with that attitude we probably won't be seeing him in prison, not even on lobster night.

On the subject of theft, almost everything in this book was begged, borrowed, or stolen (hence the need to conceal my identity). I have tried to limit footnotes as much as possible (I know; I did a bad job) but I can assure you that my thievery runs deep.

¹ William Goldman, *Adventures in the Screen Trade* (New York, Warner Books, 1983, page 470)

CHAPTER 45: THE NON-FICTION NOVEL (OR NOVEL NON-FICTION)

Fiction science? Fiction non-fiction? Science humor? “Who *was* that masked man?”

My purpose as a non-scientist writing about science is to try to present the different sides of the issues involved “clearly” (as opposed to “truthfully”) and without representing any side--except skepticism, of course. My intention is to present the material in such a way that people will enjoy reading it. I have blended humor into the essays, in part so that people won't take them too seriously. Just to be crystal clear--I am *not* an expert. Why should you listen to me? You shouldn't, but, hopefully, you'll find the book fun. If you find yourself agreeing with anything, it's probably because you thought that way *before* you read the book.

I am fully responsible for all errors...yada, yada, yada (for Millennials, yada³)--wasn't that show about nothing too?

While I have tried to keep my facts straight, the essence of this book is opinion. I might have called my genre “Science Opinion,” but I thought that nobody would read the book if I did. “Science Opinion,” like science itself, is “based on facts” but isn't a fact. Maybe it's best to think of this book as a “non-fiction novel” or “novel non-fiction” in the style of Washington Irving's *The Life and Voyages of Christopher Columbus* and *Tales of the Alhambra*. By way of analogy, you might say that it bears the same kind of relationship to reality as historical fiction, which is to say that it has some “impossible to quantify” relationship to reality. I know, that's the “Yuck!” part.

While some early reviews by Nobodies indicate that this book is a work of meta-fiction, I prefer to think of it as a work of meta-*non*-fiction--one which I'm sure has Truman Capote turning over in his grave. He had his own opinion about how the true story of multiple murders ought to be told.¹

While I have used humor as a tool--some might say a hammer--I consider this to be a serious book. More than anything else, I believe in the power of story and the power of the greatest story in the known universe--*The Story of Science!*

¹ Truman Capote, *In Cold Blood* (Random House, New York, 1966)

CHAPTER 46: RECOMMENDED READING¹

I went to UCLA. (This is great; I can tell you things that I never would if you knew my real name. Just to be clear--they're all lies. Worse, they're self-referential lies, but at least now you know what that means. I have a lot to answer for on Oprah. I may need to be on every day for a week.) Anyway, my second year at UCLA I rented a house in the San Fernando Valley. I lived with a roommate, three or four other friends who seemed to live there in the sense that they slept there a lot, and a black long-haired dachshund named, appropriately, Emily.

To make a long story short, during the fall quarter of my second year ("a damp, drizzly November in my soul") we all signed up for one of those famous drug-related psychology experiments of the era--all perfectly legal and above board. (I don't think they have this kind of fun in school anymore--hence, the "Just say no to schools!" after-school programs popping up all over the country.) In this particular experiment, we were asked to--at our own pace--see how much 100% pure, government-grade LSD (ah, the sixties) we could consume in a three-month period, starting on the first day of classes and ending the last day of finals. Then, we were to report our grades. Sounded simple enough.

We pursued our objective with gusto, averaging two trips per week for twelve weeks. I know that doesn't sound like much, but we're talking twenty-four LSD trips here, with a maximum of four in one week. After that, I swear, I never touched the stuff again. Would you? This is all starting to make more sense now, isn't it?

In any event, I happened to be taking a "Great Books of World Literature" course that quarter. The problem with LSD is that if you take it at night (we all worked while going to school--Valley kids), sometime around 4 a.m. you desperately want to go to sleep because you have to go to class in the morning, but you can't sleep because the paint on the walls still crawls even when you close your eyes.

My friends had a simple solution--reds--the sleeping pill of choice at the time. I've never liked the idea of anything that would put me to sleep so instead of taking the pills I read the great books of the world for hour after hour until it was time to go to class, which my friends blissfully slept through. A couple of pep pills--whites--in the morning (the homeopathic placebo of choice in my case, of course), and I was off.

Wanna know what I read?

THE CANTERBURY TALES
GARGANTUA AND PANTAGRUEL
DON QUIXOTE
PARADISE LOST²
GULLIVER'S TRAVELS³
MOBY DICK
THE SOT-WEED FACTOR
PALE FIRE

Making more and more sense all the time, isn't it? The best part is that I got straight-As that quarter--the only time that I did in my entire college career and the only one in the psych experiment who did. My roommate and two of my friends flunked out that quarter, but they all got back in with notes from the experimenters. Emily disappeared about midway through the quarter; I think somebody else was feeding her.

The moral of this story is simple, but it's true--you are what you read!

That's my list. Enjoy.

¹ The books that are footnoted or mentioned in the text all bear the Nobody! "Stamp of Approval" and are highly recommended for Nobodies--and especially prisoners, who have plenty of time to read--everywhere.

² If you plan to read Paradise Lost while in prison, it's best to make a plain brown paper cover.

³ Recommended Prisoner Reading List: Swift's "A Tale of a Tub" as a companion piece to Pope's "Rape of the Lock."

CHAPTER 47: THE NOBODY! ROLLS

ROLLS-ROYCE DROPHEAD CONVERTIBLE

GUNMETAL GRAY PRIMER
NO PAINT—JUST FLAT CLEAR COAT IT
IT'LL NEVER SEE WAX!

SPECIAL CUSTOM
"NOBODY! KNOWS!"
LICENSE PLATES--FRONT AND REAR
MAKE THEM LIKE THE
JAMES BOND ASTON MARTIN
LICENSE PLATES
SO I CAN FLIP A SWITCH
AND MAKE THE LEGAL ONES APPEAR!

I THOUGHT WE COULD ADAPT THE
TRADITIONAL BLACK ROLLS-ROYCE LOGO



SO THAT PEOPLE WILL KNOW WHO OWNS THE ROAD
THE ROAD RUNNER!
THE RR WILL NEED TO BE IN RED
AS THE ROAD RUNNER IS STILL ALIVE



AND THE HORN?
"BEEP! BEEP!"

THANKS, *DON NADIE*

CHAPTER 48: SEVEN QUESTIONS FOR GEORGE CARLIN

“George, I have some questions about performing on TV. I know; it’s a little late.”
Don Nadie

1. Am I allowed to say “Drophead” as in “Rolls-Royce Drophead Convertible?” I can? Great! “Drop!” (long pause) “Head!” I can say that? “Drop!” (long pause) “Head!” (Nobody! listens, as if he can hear George talking.) “Oh, so, ‘It’s the way that you say it!’”
2. Can I say “frackin’,” as in “I can’t frackin’ believe that George is dead?”
3. Am I allowed to raise a joke from the dead, or will the Christian Cable Network feed me to the lions? Here goes anyway: “Dip-dip-dip! Dip-dip-dip! A’ Oprah-Oprah-Oprah-Oprah-Oprah-Oprah-Oprah-Oprah-Uma-Mow-Mow! A’ Oprah-Uma-Mow-Mow! A’ Oprah-Uma-Mow-Mow! A’ Oprah-Uma-Mow-Mow!” Or does Steve Martin hold the patent on that joke? (Play the surf music from *Pulp Fiction* now.) [Editor’s Note: *Don Nadie* said to send a dozen, dozen yellow roses each to Oprah and Uma.]
4. Can I say, “Shivs for the scientific point of view?” I’ll be on after midnight.
5. As an example of a self-referential paradox, can I stick my head up my own ass? (Nobody! listens, and then laughs.) George said to use Soap-on-a-Rope first.
6. How about “body-cavity inspection?” Can I say that? (Listens.) I can. Great! I know, Soap-on-a-Rope.
7. One last question--you can take your time on this one; God knows you have enough of it now. Am I allowed to say, “Nobody! *in* the Paris Hilton?” (Nobody! listens.) Really? Great! What? Ah! But not in the same sentence with “body-cavity inspection.” Got it.

God Bless. Say “Hi” to Gabe for me. Ask him if he’s still pissed? Tell him Mickey Spillane wrote that part--I don’t think he could’ve gotten in to deny it. He didn’t, did he? (Nobody! listens.) I can’t frackin’ believe it! You must be having a ball.

GEORGE’S FIRST AFTER-JOKE

1. “Nobody! rides the comedy horse until it is dead! Too bad I bought the horse!” “Ritz” Carlin *in* The Paris Hilton

George has decided to number them from now on.

I’ll bet The Nobody! Rolls that Joke #2 contains the words “body-cavity inspection.” If I’m wrong, George and Mickey will be stylin’ in Paradise.

CHAPTER 49: MY NAME IS NOBODY!

You may have seen the TV show about the guy who makes a list of everything that he has done wrong in his life, and then, like some modern Don Quixote (accompanied by his soda pop guzzling brother, “Sauncho Pauncho”), sets off into the world to “right the wrongs he done.” The idea is pretty nihilistic, as it relentlessly focuses on the negative, so they made the show into a comedy for balance. Think about it. How would you like to

face a list of everything you've done wrong in your life first thing every morning before coffee?

On the plus side, the guy that plays the guy got a really nice custom motorcycle--not one of those unrideable garish TV monstrosities--made to order with the money from the show. I saw it once--very tastefully done.

Still, I thought that the idea could be adapted to a more positive purpose. Instead of a list of everything I've done wrong, I thought to create a list of everything that I've done right. Then, I realized that I could reduce that list to just the *rewards* I expected to receive for everything I've done right (this saved a lot of words). Think of it as a Christmas list. "Ho! Ho! Ho!"

For your perusal, the N-list.

CHAPTER 50: THE N-LIST (A.K.A. THE LOOT)

"Booty is truth; truth booty,"--that is all
Ye know on earth, and all ye need to know.

John Keats' riff on "Ode on a Grecian Urn"

[Editor's Note: For new prisoners, these are *not* the jokes. Don't laugh. There have been *incidents!*]

1. Rolls-Royce Drophead Convertible (see order form): Did you know the two Rs in the Rolls-Royce logo were originally red? When Rolls (or was it Royce?) died, they made one of the Rs black. Then when Royce (or was it Rolls?) died, they made the other R black--hence, the all-black logo. Abstracts!
2. KTM Super Duke R: *Don Nadie* is learning to wheelie. Anyone heard 'SNorah Jones with "The Little Wheelies?" Autographed CD?
3. 100 Cases of Wild Turkey Bourbon
4. Complete set of *Road Runner* Cartoons
5. Complete set of *Pink Panther* Cartoons
6. All *The Lone Ranger* episodes--Radio, TV and Movies
7. Complete set of Simpson Cartoons, including the Tracey Ullman spots and the full-length feature film, *Bart's Weenie*
8. Everything Pixar ever made
9. Everything ACME ever made: The stuff works as long as you're not trying to hunt birds with it. I hear they sold Dick Cheney the shotgun--it wasn't his fault; he got Wile E. Coyoteed.
10. Autographed First Editions of the Jorge Luis Borges Books
11. Autographed First Editions of the Gabriel Garcia Marquez Books
12. Complete Set of J.K. Rowling's Cancelled Welfare Checks: They're already autographed on the back. Think about it; they must be worth a fortune.

13. Autographed Copies of the Bush-Cheney Buried Papers: I understand that the originals are priceless--more than even *Don Nadie* could expect to receive. The papers are interred somewhere on Bush's property in Crawford. You didn't really think he was clearing brush, did you? Of course, next year there'll be no need to clear the brush, and the land will already be tilled for planting. ("*Don Nadie a tu servicio, Senor Presidente.*")
14. 100 cases of Chocolate-Covered Mauna Loa Macadamia Nuts
15. 100 cases of Planters Dry-Roasted Peanuts
16. All the women in The Mickey Spillane Mike Hammer Collection
17. Lifetime supply of Parker pens: Nobody! Commerative Pens, of course. I'll need a case of that invisible ink, too.
18. Lifetime supply of BIC Nobody! pens: Can I get them filled with blood instead of ink? You never know when that might be the criteria for signing--and they can always be used for editing.
19. Lifetime supply of vanilla malts at the Five and Dime.
20. Lifetime supply of Reuben Sandwiches.
21. Lifetime supply of Ben & Jerry's Ice Cream.
22. One Sparkletts Water Cooler and a lifetime supply of Sparkletts Water
23. 12 gross of each size of Post-It. Did I forget to mention Velcro? It's always something.
24. Lifetime passes (like at Magic Mountain) for Oprah, *Saturday Night Live*, and--now-- Magic Mountain (Valley boy). What do you *mean* Oprah's not on any more? *Did I miss the Apocalypse?*
25. Does L'Oreal make anything for men's wrinkles?
26. What exactly *is* Gucci?
27. Autographed Photo of Emeril (One)
28. Autographed Photos of Buffy the Vampire Slayer (All)
29. One Great American Eraser: If you're not a cartoonist, what does one *do* with an eraser?
30. A baker's dozen Gasoline-Powered Pogo Sticks: No more than 15 horsepower; *Don Nadie* is just learning.
31. One hundred feet of Soap-on-a-Rope
32. *Popular Science* Magazine for life (ditto *Rolling Stones*, *Scientific American*, *Fiction Science*, and *Publisher's Weekly*--if they aren't still mad about the typo)
33. The Complete Columbo DVD Collection including the aging, fading-memory, grey-haired Columbo TV movies (*Don Nadie's* favorites)
34. The complete *Lost* TV series on DVD (Enditor's Note: Fortunately, the *Lost* writers learned from *The Sopranos*--just to be safe, they ended it twice. Too bad they didn't write

the story of “The Big Bang” and “The Origin of Life” but, no, we had to leave that to scientists--and look what we got as a result.)

35. The complete Masters and Johnson educational prison video series
36. The Gambler’s Banjo--The Gibson Black Jack, and since I talked about Earl’s show, you might as well throw in the Earl Scruggs Signature Model too.
37. Lifetime pass to The Comedy Club
38. 100 Cases of Budweiser Beer (WHYASKWHY?)
39. I used the word “gusto.” Do you think Schlitz will pony up 100 cases for their classic slogan from the sixties--“You only go around once in life so you might as well go for the all the *gusto* you can get?” I think they used to have them on the James Michener-inspired TV series *Adventures in Paradise* with Gardner McKay. (Boxed set if it ever comes out on DVD)
40. Oh, and I’d like to go on one of those Mystic Society Carnival Cruises out of New Orleans.
41. Enough Real Vanilla Extract to make a Vanilla Wafer the size of Mount Whitney (and now, I suppose, 100 cases of Vanilla Wafers)
42. Did I forget to mention the Lakers? Drat! Front-row season tickets (next to Jack) for a plug in *Nobody Knows Evolution!*
43. All the books currently published by Warner Books
44. All the books in a Barnes and Nobles Bookstore
45. Oh, and one copy of *The Diagnostic and Statistical Manual of Mental Disorders*--the new edition where they have finally eliminated Narcissistic Personality Disorder after years of intense lobbying by Nobodies everywhere.
46. The Penthouse Suite at the Paris Hilton for a year: *Don Nadie* sent a dozen, dozen yellow roses by way of apology. I hear they have a great sense of humor about the Americans in France. The Coneheads are still considered high art there.
47. The Penthouse Suite at the Ritz-Carlin in perpetuity: It’s where *Don Nadie* stays when he’s in the US. For those in jail for life without the possibility of parole, it’s “in ‘perp-etuity.’”
48. Autographed photo of William Goldman barefoot (ask Sly)
49. One Front Row Seat for the next Rambo premier
50. Tell the Earl guy that I don’t want his motorcycle. Just ask him to take me off his list. Because he was some big hotshot Hollywood star with a hick accent and a Snidely Whiplash moustache, he jumped the line and bumped my “Boop Guzzi Hispania” into the indefinite future (for those without a technical background, the “indefinite future” has a close personal relationship with “historical fiction”). Due to age-related memory loss, *Don Nadie* feels that it’s best not to hold a grudge he won’t remember in the morning.
51. Horse-drawn cab rides in Central Park in perp-etuity.
52. Autographed photo of Paris Hilton. Go ahead--seal it with a kiss.

53. Pick of the litter from Santino, our pin-up Cover Stud.
54. Weekend furloughs in the island prisons of *Don Nadie's* dreams. (I'll probably skip Devil's Island since Steve and Dustin no longer vacation there. I have a list of all the prisons in Hawaii because I heard that the prison where they filmed *The Longest Yard* was really in Hawaii in spite of what they claimed, and I want to see if I can find it based on my repeated viewings of the Bernadette Peters' scene in that movie. Or was that the Sally Struthers scene? No, that was in *The Getaway*. Two gross more yellow roses. The scene where Slim Pickens died--no, they just gave him money for his pickup in *The Getaway*. His great death scene was in *Pat Garrett and Billy the Kid*--now that was ecstasy. Speaking of ecstasy, do I owe Meg Ryan anything? Roses, just in case. Autographed photo? The one from Top Gun. "Goose, take me to bed or lose me forever!")
55. A baker's dozen Front Row Seats for *Godot! The Musical!*
56. Also, should The Stones decide to go on another tour...
57. Autographed photo of Steve Martin in *Waiting For Godot*. I hear that Steve's agent went ballistic when he heard that Steve was supposed to play the character Vladimir. He insisted that since Steve was such a big star that he ought to be the one who played Godot instead of Robin Williams. Their agents sorted things out in the end, but neither of them got the plum Godot part--which paid better and involved a lot less work.
58. Oh, and one of the old "Wild and Crazy Guy!" arrow-through-the-head banjo-playing photos. What can I say, I'm a classicist. I know; rhymes with narcissist.
59. Speaking of Steve. Did I mention *The Tao of Steve*? Double drat! It's just that he reduced "it all" to just six words (beating Schrodinger by one), but I can't remember what they were except that three of them were "be." "Be" this, "be" that, "be" the other thing. It was memorable. DVD autographed by Duncan North? "*Be generous?*"
60. We can talk about medical marijuana and age-associated memory loss (in case I'm ever called to testify in court) later.
61. Does Osley still make acid?
62. Oh, and one of those nice balance scales from the Bureau of Weights and Measures
63. A Jackson Pollock Numbered Painting--Number Forty-Two, of course!
64. Will somebody please tell the guy from the FBI Anti-Drug Task Force Special Investigations Unit that *Don Nadie* is currently living in the south of Spain? That's why the "NOBODY! KNOWS!" truck (see the next chapter) is parked in Steve Martin's driveway. Steve was nice enough to let him store it there until he gets back.
65. And please tell the process servers the same thing.

CHAPTER 51: SO SUE ME!

"I hear that William Goldman is suing!" Nobody at the American Bar Association

"I wish." I don't know what he was drinking at that American Bar, but the real Nobody! ("Genuine Nobody Parts!") dreams at night that William Goldman or Steve Martin will sue him. Imagine the headlines:

STEVE MARTIN SUES NOBODY!

WILLIAM GOLDMAN SUES NOBODY!

You can't *buy* that kind of publicity. So, I just gotta say, "Guys, please."

For the rest of you, Nobody! *knows* that he'll be sued--after all, this *is* America. He intends to drive up to the courthouse in the ACME semi-truck (factory instructions are "just don't drive anywhere *near* protected wetlands") loaded with all "the loot" (you can't miss it; it says "NOBODY! KNOWS!" in six-foot-high block letters on each side). Speaking of the Road Runner--did I mention the Pink Panther?--has anyone else noticed that all the best cartoon characters "know but don't talk?" Except for Homer, of course. Homer still has pre-I-consciousness; the gods talk directly to Homer (over that small nerve bridge called the anterior commissures). You do remember that I-consciousness didn't develop in human beings until *after* Homer, don't you?

Tell the complaining attorneys (remember the power of naming things) to come prepared to barter. They have the list. It's all on the table except for the Rolls (Carlin and Spillane got that), the KTM Super Duke R (you can have it, but it's already been laid down twice, once on each side, and is looking a bit ragged), and numbers 60 and 61 respectively, which, of course, are *under* the table.

I bet you're wondering about George's Joke #2:

2. "If Nobody! tells a joke in the forest, do the trees laugh? *Only if they've been drinking!*" "Ritz" Carlin *in* Seattle

Regarding the Rolls, don't be concerned; while I may have lost the car, we all get to keep the universe.

CHAPTER 52: DEDICATION

"FOR OUR MEN AND WOMEN BEHIND BARS"

EVERYTHING HAS A BEGINNING
WANNA KNOW WHAT THE ORIGINAL
TITLE WAS FOR THIS BOOK?

THE PRISONERS' JOKE BOOK!

MY PUBLISHERS
(THINK MINOR DEITIES
WITHOUT I-CONSCIOUSNESS)
WERE HORRIFIED AND
PROJECTED DISMAL SALES--
EXCEPT BEHIND BARS

"CAN'T YOU THINK OF ANYTHING ELSE?"
THEY PLEADED

THE REST, OF COURSE,
IS PUBLISHING HISTORY
(AND BY NOW YOU KNOW WHAT HISTORY IS)

TAKE IT SERIOUSLY! IT'S YOUR BOOK!
NO JOKE!

NOBODY!

(DON NADIE WOULDN'T SURVIVE
FIVE MINUTES BEHIND BARS)

CHAPTER 53: THE LAST WORD

“Nobody knows who invited him to the party, and nobody at the party seems to know who he is!” Nobody at the FBI Anti-Drug Task Force Special Investigations Unit Christmas Party

“HO!”

I know, George, you can't say that word on TV either.

[Note to Editor: A dozen, dozen yellow roses to all the women in The Rolls-Royce of Universes!]

Speaking of televis...

CHAPTER 54: ENDITOR'S NOTE

“This isn't *The Sopranos*. END IT, OR ELSE!” Nobody at the *Lost* Pre-Finale Writers' Meeting

I bet you didn't think that this was going to end the way the universe started--like the final episode of *The Sopranos*--did you? You know how sometimes you just don't want a book to end? Some idiot told *Don Nadie* this, and it became obvious that he was never going to stop writing. You must understand by now that the title of the last chapter is just another joke. “The Last Word?” Ask yourself; was “HO!” the last word? It could've been. Go back and look. It's a great ending. He could've put in just one “HO!” instead of “Ho! Ho! Ho!” again--now that would've been *vintage Don Nadie*--as if he ever listened to an editor. Editing pen filled with blood, my ass. Editor's blood! The man thinks I'm a frackin' florist. Roses have thorns, asshole. Man never saw an editing pen in his life. He never saw a parenthetical he didn't want to frack either. Write the words, “The End?” In your wet dreams. Carlin again and then God knows what. He just has to go on and on and on like the Beatles in “All We Need is Love” and love and more love. If I have to listen to anymore of that crap from the sixties, I'll go deaf. I know it sounds extreme, but I had to have both of *Don Nadie's* hands chopped off. Only one would never have worked. The ACME Chicken-Neck Chopper did the trick; it's only supposed to be used on dead chickens. I removed the identifying labels, invited him over for dinner, and then told him he had to slaughter the chickens. He's having his hands sewn back on somewhere in the south of Spain. There's a clinic there where Wile E. Coyote goes for reconstructive surgery. Nobody! says that the pigs there only eat acorns; God only knows what that *means?* Frackin' abstracts! He left the “NOBODY! KNOWS!” truck parked in Steve Martin's driveway but took all of Mike Hammer's women with him to help him lay his plans. He said that if Kipling were alive today that he would undoubtedly say, “The best-laid plans of mice and men are laid with Mike Hammer's women.” Hopefully, the above-mentioned roses will cover that indiscretion as well. The sturgeons say there won't be any scars. Ah, cartoons! Yada³. A page and a half of stream-of-consciousness and not one

frackin' parenthetical. For Twitter: NK(T3RMA) Anything! Let the millennial editing begin! The Enditor

THE FRACKIN' END

CHAPTER 55: APPENDIX--THE BOOP DUKE¹

BOOP DUKE PHOTOS



¹ Painted by Mick Cassidy, Hawthorne, California ("He's on the N-List Now" lyrics by Nobody!--sung to the tune of "He's in the Jailhouse Now")

AUTHOR'S PHOTO



To maintain his anonymity, Nobody! likes to pretend that he's Steve Martin ("to throw the paparazzi off the scent"). To be clear, Nobody! is NOT Steve Martin.

SOON TO BE A MAJOR MOTION PICTURE!

"We think Nobody! should make a movie!" Nobody at the American Institute of Corn Porn ("Pornography made entirely from corn--for when the ethanol subsidies end! Think creamed corn--and COBS!")

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