

A person in a light-colored jacket and dark pants stands on a rocky mountain peak, holding a trekking pole. They are looking out over a vast mountain range under a dramatic sky with orange and yellow clouds. The scene is backlit by the sun, creating a silhouette effect.

# TO THRIVE BEYOND BELIEF

DAVID CORTESI

PLUNDERING RELIGION  
TO BENEFIT THE 'NONES'

# To Thrive Beyond Belief

Plundering religion to benefit the “Nones”

David Cortesi

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# Introduction

We all want to lead a life of excellence: an honest life; a creative life; a generous life—a life that, when it is over, will leave a monument of good memories in the hearts of those who knew us.

For millenia, religions have claimed the role of gate-keeper on the path to that well-lived life. Do you want to know why you exist? How you should live? How you ought to behave? How to face death? The old answer was to read your scripture and to talk to your priest, rabbi, imam or pastor.

Today, that answer fails for all of us who practice no religion, the “Nones” as pollsters and sociologists call us.

It’s a fact that religious practice is fading in first-world countries and the trend is accelerating even among those who describe themselves as religious; while the numbers of people who tick the “None” box when asked to name their religious affiliation is growing rapidly<sup>1</sup>.



By the way, a numbered reference like this<sup>2</sup> refers to an end-note. Some notes just give a source reference to a paper, a book, or a URL—but others have anecdotes, side comments, pop culture references, and a few easter eggs. Either way, the notes aren’t essential to the text.

Are we losing anything useful, anything important, as organized religion fades from daily life? In this book I say: we needn’t lose a thing! This book is about plundering the lore of all religions to rescue the things they did well, for use by us “Nones”. My purpose is to show that in a secular life we can have everything we need to thrive—beyond belief.

## What's ahead in these chapters

When planning the first edition of this book, I listed the benefits that I thought the devout people I'd known had gained from their religious practices:

- The comforting assurance that we are not accidents, but intentional creations with a role to play in a great story.
- The social and material support of a congregation of like-minded people.
- Access to feelings of tranquility and peace through contemplative prayer and meditation.
- Comforting rituals to structure our days and deal with life's transitions.
- Constant challenge to be a better person, to transcend one's limits.
- The use of a predefined ethical system.
- Fearless awareness of death, and comfort in bereavement.

The aim of this book is to show *non-religious sources* for all these benefits.

As a skeptic by inclination and training, I have been selective in my search. I only describe things I have personally tried, or things that are documented in respected scientific journals, or things that, like the philosophy of Epicurus, are both satisfying to common sense and visibly harmless.

Here is what you'll find in the rest of the book.

- [Chapter 1](#) tells about my religious background, and expands on the benefits that I think believers get from religious practice.
- In [Chapter 2](#) we ask what it means to be a “mere accident”, and shows how *contingency* can turn into triumph.



- [Chapter 3](#) reviews the research that shows how crucial human contact is to your life and health, and suggests ways to get more.
- [Chapter 4](#) looks at meditation, contemplation, and prayer, and introduces simple meditation practices that have documented benefits.
- [Chapter 5](#) shows how important ritual is in everyone's life, and suggests ways to take control of ritual and use it for your own benefit.
- [Chapter 6](#) asks where we can find heroes and models, once we stop believing in saints.
- In [Chapter 7](#) we tackle the problem of defining and justifying a personal ethical code, drawing elements from many traditions.
- In [Chapter 8](#) we face death and bereavement, and look for ways to prepare for the first and deal with the second.
- Religions don't claim to make us happy; but in [Chapter 9](#) we find out that science can! Or at least, it knows what makes people happy, and that leads to strategies for becoming more happy.
- [Chapter 10](#) is about some techniques for making oneself more resilient in the face of disaster.

And [Chapter 11](#) wraps it up. In [the Bibliography](#) is a list of books that can take you deeper into any of the subjects I touch on.

# Chapter 1: What Are the Benefits of a Religious Practice?

Let's go back in time a few decades, to a warm July night more than 60 years ago.

*I am 10 years old. I lie wrapped in an old quilt in the bed of a blue 1940 Chevy pickup truck, looking up at stars. My younger relative Dennis is asleep in his own quilt. The truck is parked among a dozen other cars next to a white clapboard building beside a narrow highway in the lush countryside of Washington State.*

*This is the Benston Assembly of God Church<sup>3</sup>. Inside, my parents, along with other earnest members of the congregation, are attending the usual Tuesday evening Prayer Meeting. Rather than leave two boys at home unattended, my folks have made us put on our pajamas and bundled us into the back of the pickup to sleep while they attend the service.*

*Sleep doesn't come. I can hear the rhythm of the pastor's sermon and the congregation's occasional "Amen", but can't make out the words over the chorus of frogs croaking in a nearby pond. I watch the whirl of moths circling the porch light over the church steps. Maybe I drowse; but I wake when music starts: my mother's piano accompaniment and 20 voices singing "Power in the Blood", or perhaps "Only Believe". The closing hymn ends; there is more murmuring as the pastor says a final prayer. Then, the service over, the church door bangs open. I burrow down and pretend to be asleep, listening as people say good-night, car doors open and close, engines start, and gravel crunches under tires.*

*My mother leans over the side of the truck bed says softly, “Are you asleep?” I murmur “uh-huh” through the blanket, and she pats my back and tucks in the quilt before climbing into the cab beside my father. The mechanical noises of the old pickup truck have a special intensity when there is only a blanket between my ear and the metal floor of the bed. I feel the whine of first and second gears, the thrum of the tires on the pavement. Although my father drives slowly, I slide gently forward and back as the truck brakes for the turn at Johnson’s Corner, accelerates onto the main highway, slows again to turn into our road. When the truck shuts down in our front yard, my father leans over the side of the truck, scoops up Dennis, quilt and all, and carries him into the house. I follow, wrapped in my quilt, and make my way to bed.*



*Benston Assembly of God Church in 1979, years after I left home. (The building no longer exists.)*

That was how central religion was to my family. The week was built around services: Sunday morning service, with Sunday School for the kids while the grownups heard a sermon; then Sunday evening for another full service; then Tuesday evening prayer service. Later, in my teen years, Thursday night was young people’s service aimed

especially at the school crowd. Beyond all the formal meetings, the rest of my parent's social life was found in the church, too.

Much of my appreciation for the good (and bad) features of religion come from watching the lives of my parents and the rest of the congregation of the Benston Assembly of God. Later in life I acquired in-laws who, though they were Catholics instead of Protestant Fundamentalists, were fully as devout and just as deeply tied to their congregation. Those experiences, plus a little reading and study and reflection lead to the topics in this chapter.

## **What's the cost?**

Even a perfunctory religious practice takes time, energy, and money. Consider money: the Assemblies of God didn't push full tithing, and I don't think my parents contributed a full tenth of their income to the church, but tithing was the ideal; and they certainly gave as much as they could afford. Even a casual \$20 in the collection plate once a week adds up to a thousand dollars a year! Any family could find other uses for that money.

Then consider time and energy. Even if you and your family only go to church every Sunday, that still costs a few hours a week. A devout person's practice can dominate life with activities like prayer five times a day, or daily attendance at mass or temple. And it can fill the rest of your free time with voluntary activities like being a reader or a deacon.

To an unbeliever it can seem strange that people would invest so much in a baseless practice. In the early days of the internet, I read posts by new-hatched atheists speculating about religion as mental illness. That's rubbish! These people are not fools, nor deluded. Believers include plenty of sharp-minded, well-educated people (both my parents had college degrees). Most believers have plenty of common sense and a healthy regard for their own self-interest.

But—the non-believer asks—if they are sane and normal in every other way, why are they so willing to part with their precious time and money? To me, the simplest explanation is that a religious practice *repays* their investment with immediate, practical benefits. In truth, any religion, whatever else it may be, is a mutual-aid society, one that is set up and maintained by its community of believers to deliver social, psychological, and material benefits. The time and money believers spend on religious duties is simply the dues they pay for membership in that club!

Let's look in detail at what I think are the key benefits people realize from their investment in religious practice.

## Existential validity

*Existential validity* is the confident feeling that you have a reason for existing. It is the heart of what most people mean when they talk about “the meaning of life” or ask, “Why am I here?” Any Jewish, Christian, or Muslim believer has the comfort of an assured place in the scheme of things as a “child of God,” created by God intentionally for some purpose. The purpose may not be clear, but it can be sought. As a Hindu, you know that you're the current embodiment of a spark of life, an *atman*, that has existed for immeasurable time. As a Buddhist you can take comfort in knowing that your form and your birth situation were determined by *karma* accumulated in past lives, and that with effort in this life, you can improve the circumstances of your future lives and eventually escape the wheel of suffering entirely.

There is great benefit to not having to grope for answers to questions like that. According to a standard psychology text, the feeling that you have answers to the big existential questions “lowers anxiety and promotes resiliency, hope and peace.”<sup>4</sup>

In short, a religious belief allows folks to feel they are *noncontingent*, that is, not an accident. It means that your personality,

your features, your talents and shortcomings, your birthplace and parents—your whole inheritance—are not accidental either. God intended you to be born just so. In philosopher-speak, you have trust that your “nature is determined” by a supernatural plan.

The opposite view is that each of us is the result of a shuffle of the deck of human DNA, dropped at random into a vast world to fit as best we can into the crazy-quilt of human society. Then the only possible answer to “why am I here?” is, “You just are, OK?” That idea is usually presented as deeply scary. In [Chapter 2](#) I mean to pass through that fear and find clarity, and even joy, on the other side.

## **A role in the great war of good and evil**

Some doctrines offer the believer a role in a cosmic drama of good against evil. My parents thought this way! These believers think they are not only children of god but actors in a cosmic drama.

At the Benston Assembly of God, as in many Christian denominations, members were encouraged to think of themselves as “a peculiar people”<sup>5</sup>, set apart by their relationship to God, and different from ordinary people. Other faith groups stress a constant need to be vigilant against the wiles of Satan, to stand up against the infidel or the godless, to resist the lure of the material world. Some at Benston thought they were under daily assault by evil spirits sent by Satan. Here’s a recent example of this kind of thinking. After a deranged man shot up a prayer meeting in Fort Worth, Texas, one student at Southwestern Baptist Theological Seminary told the *New York Times*,

“It is the enemy, conducting spiritual warfare. It’s an attack on Christianity in general, on christians, and it’s Satan trying to stop God’s work on Earth. He’ll use whoever he wants, whoever he can. The guy who did this was obviously angry. Satan uses anger.”<sup>6</sup>

You might suppose that thinking this way would lead to fear, even paranoia. On the contrary! For my parents and the rest of their congregation, it added spice and drama to a drab life, and gave them frequent feelings of triumph. They enjoyed testifying about how they resisted the devil, and would say things like “I said, ‘Get thee behind me, Satan,’ and I just walked right out of there”<sup>7</sup>. Every little success is more proof of God’s personal care for them: “I just yelled ‘Jesus, help me’ and hung on to the wheel, and He helped me pull that car right out of that skid, praise His name.”

A belief like this is a gift to those who can hold it. No matter how humble or wretched your life might seem, you know that you have a vast unseen dimension: you can defy and outwit the very Antichrist and call upon God Almighty whenever you need him!

For this book I cannot offer an exact secular substitute, but a person who grasps the scientific world view is truly able to “bestride the narrow world like a Colossus”<sup>8</sup>. We’ll see that in [Chapter 2](#) also.

## Community

Denominations differ in the degree of community they create, but any time “two or three are gathered together” for worship<sup>9</sup>, a community is formed. In truth it is a powerful psychological benefit to be accepted as a member of *any* group of people.

### Community-building

Congregations are held together by the ritual of regular meetings. When they assemble on Friday, Saturday, or Sunday the members see each other, become familiar with each other’s faces, and keep up to date on each other’s events: new babies, children moved away or come home again, people ill or recovered. And they note each other’s needs. (“Poor old Johnson, he can hardly walk since that

stroke.” “Well, at least he’s on his feet again. I think I’ll stop by and see if his wife needs any help.”)

A nice feature of the modern Catholic mass is the “kiss of peace,” when everyone hugs or shakes hands with everyone else within reach. Some Protestant denominations emphasize and intensify the congregational spirit with an “us versus them” mindset, calling each other Brother and Sister, and labeling nonbelievers as “worldly” or “unsanctified.” Similarly, the Quran reminds believers they are “the best community” among mankind<sup>10</sup>.

## **A Professional advisor and arbiter on call**

Every church, mosque, and synagogue provides a full-time, trained counselor, arbiter, and personal advisor; that is, its pastor, priest, rabbi, imam, roshi, or whoever. Free access to a sympathetic, confidential advisor is a benefit that the congregation gives to itself.

## **Mutual aid**

The Latter-Day Saints have a particularly strong mutual aid organization. A Mormon in trouble anywhere in the USA can find willing help at any local Stake. But in all churches, membership is a link to a circle of people that can be called upon for help in time of trouble, for job contacts, or just for sympathy.

In many churches on Sunday morning there is a public announcement of members in need: “Let us pray for Brother Smith, who is in the hospital with heart trouble, and let us pray for Sister Jones, who has family problems.”

It has been well documented<sup>11</sup> that people who are active church members gain health benefits. For example, active church members have a significantly lower post-operative mortality rate than those who are not. The percentage of non-members who die in the days following a major operation is nearly double the percentage of



church-goers who die! We'll consider some of the possible reasons, and how we can tap similar benefits, in [Chapter 3](#).

## Like minds

There is comfort in being part of a group of people that you can trust to think the way you do about important things<sup>12</sup>. It's relaxing to be with people among whom you will not have to defend or justify your opinions. It is stressful to be among people who, however nice they are otherwise, might challenge your convictions if you voiced them.

Believers with children expect, rightly or wrongly, that other children in the church community are safe playmates and potential mates for their own kids. That's a great stress-reducer for a parent. Remembering well what hellions I and my peers at Thursday night Youth Services were, I would say this is a pathetic mirage! But true or false, the expectation itself reduces stress, and that's another benefit of being in a religious group.

## Contemplation and tranquility

Most religions encourage some form of contemplation. Imagine kneeling in the tranquil dimness of a Catholic church; fixing your gaze on the illuminated crucifix over the altar or on the twinkling votive candles; letting the rosary beads slip through your fingers as you murmur simple, patterned prayers. Whatever else it may be, this is meditation, which we talk about in [Chapter 4](#).

The believer comes to prayer with a list of worries: family problems, financial fears, work frustrations. In the quiet of the prayer, they can organize their worries, considering each one and putting it into an eternal, objective context. As a result, the believer who prays will likely get up with a clearer, more settled mind and a more positive attitude.

According to a Pew Research survey<sup>13</sup>, although Americans have become less religious in recent years by several measures, “at the same time, the share of people across a wide variety of religious identities who say they often feel a deep sense of spiritual peace and well-being as well as a deep sense of wonder about the universe has *risen*.” We’ll explore secular routes to contemplation, tranquility, and clarity in [Chapter 4](#).

## Ritual and pageantry

Rituals are comforting. They bring stability and structure to life. They help us process shock, trauma, and uncertainty. And, we can use rituals to program our own minds in positive or negative ways.

Every religion provides its followers with satisfying rites and celebrations for the major life transitions. Plus, church rituals are an esthetic experience. From the grandeur of a Papal mass to the gripping psychodrama of a revival meeting, churches “make show”<sup>14</sup> to the satisfaction of the congregation.

Philosopher and historian Isaiah Berlin said, “I am not religious, but I place high value on the religious experience of believers. I am moved by religious services—those of the synagogue, but also of churches and mosques. I think that those who do not understand what it is to be religious, do not understand what human beings live by.”<sup>15</sup>

In [Chapter 5](#) I urge you to examine the place of ritual in your secular life. Every person, every family develops rituals. But are yours healthy and supportive?

## Self-transcendence

Every religion urges its members to be better people, to rise above their mundane lives, to achieve more, to give more, to challenge

themselves to be more. A cynic might snap that most people manage to ignore that challenge! Just the same, some do take it up and transcend themselves in the religious context. Whether it's the alcoholic who stays sober through AA's semi-religious program, or the Buddhist who diligently practices compassion for all sentient beings, some challenges to self-transcendence *do* inspire people to become heroically better.

Outside of religion, inspirational models and heroes are said to be rare in American culture. In [Chapter 6](#) we consider where we can look for inspiration; how we might be an inspiration for others; and we end up considering the meaning of Quality.

## Ethical structure

Every religion has an asset that is the labor of many lifetimes: the careful work of its theologians in crafting an ethical system. Not just the Torah, but the labor of uncounted rabbinical scholars; not just the Bible but the work of generations of theologians; not merely the Quran, or *Science and Health*, or the Pali canon, or the Bhagavad Gita, but all the countless volumes of interpretation based on them.

Those hundreds of generations of scholars were not stupid! From an unbeliever's standpoint, some began their work from bizarre basic assumptions. As a result, the ethical systems they created can seem bizarre. For example, the aspect of the Islamic ethical system that sanctions the *fatwa*, or death sentence, on people like Salman Rushdie seems bizarre to non-Muslims. But within the context of each doctrine, these thinkers have created a self-consistent code that is available to every member without further effort.

In *The Brothers Karamazov*, Dostoevsky has Ivan Karamazov say "If God does not exist, everything is permitted"<sup>16</sup>. Ivan expresses an attitude that is still common today. Around the world, many believers hold that "it is necessary to believe in God to be a moral person"<sup>17</sup>. Pop philosopher Dennis Prager has said "if there is no

God, there is no good and evil—there are only opinions about good and evil.”<sup>18</sup>

Statements like these are catchy because they set up a frightening choice: you either accept a religious moral code, or else you get the whole burden of designing and justifying a moral code dumped on *you*. And how will poor little you select between differing “opinions about good and evil”?

Possibly by—oh, I don’t know—*thinking*? In [Chapter 7](#) I will try to show that thinking about ethics is not only possible but useful, satisfying, and even fun.

## Comfort facing death and loss

When someone you know dies, it tears a hole in your life. There’s a deep need to think that the missing person is somehow still here. The concept of “just gone” is really hard to accept. Here is Douglas Hofstadter, a rationalist if there ever was one, writing of his wife who, tragically, died young:

And these days, when I’m running that same old Bryan Park loop and I come to that same old spot, every once in a while I’ll still softly yell out, *ciao bella!*, half-hoping to catch that merry wink and to hear her echo my call. I don’t know why I do it. I just wish she could hear me. And—who knows?—maybe, dashing on in miniature, safely ensconced in the recesses of my faithful heart, she still can. *Magari*.<sup>19</sup>

Religions offer help to justify death, and to integrate it into life. The congregation offers emotional and practical support. But if it is hard to accept that a loved one is gone, it is just about impossible to imagine an end to your own sweet self! So religion makes a promise

of an afterlife. That may or may not make your own death easier to face.

The advantages here are not all on the side of religion! One downside to believing in an afterlife is that the dead are *never truly buried*. They hang around in your imagination, watching and criticizing your progress through life. But they cannot learn, adapt, or grow as your own life evolves. Their imaginary presence remains a dead hand of the past on life.

Also, that promise of an afterlife is conditional. Your afterlife is held as a hostage to your good behavior. This makes a believer's conscience an involuntary captive of the religious doctrine. It also makes the approach of death even more traumatic than it naturally would be. Not only are you going to die, but immediately afterward you are going to face some kind of judgment on the quality of your life—a judgment with dire consequences and no appeal.

There's another, less noble reason to believe in the afterlife: vengeance! For a powerless person it's comforting to believe that every unpunished scoundrel will eventually scream in agony and remorse.<sup>20</sup>

We who don't believe in a religion have to live without these comforts, as the late Carl Sagan knew:

I would love to believe that when I die I will live again, that some thinking, feeling, remembering part of me will continue. But as much as I want to believe that, and despite the ancient and worldwide cultural traditions that assert an afterlife, I know of nothing to suggest that it is more than wishful thinking.<sup>21</sup>

In [Chapter 8](#) we'll discuss how it is still possible to come to terms with death, use it as a motivator, and even learn to celebrate it.

## Summary

By the time I left home for college I was satisfied that my parent's religion had nothing to offer me<sup>22</sup>. Along with a lot of young people of the 1960's I became an early "None". But you don't easily forget a childhood in a "full-gospel" church. I watched with interest the progress of my parents as they aged and passed; and watched other devout believers. Those observations shaped the points I have listed in this chapter: that completely aside from the truth or value of its doctrines, a religion is a fraternity, a mutual aid society that dispenses strong psychological supports and valuable comforts to its members.

In the following chapters we will search for ways to claim the same benefits from secular sources.

## Chapter 2: Finding Validity

In [Chapter 1](#) I said that religions comfort their believers with a cosmic story that explains why they exist and sets out their purpose in life. If we can't believe in these great stories, we have to come to terms with the idea that we are the result of a "random"—and why do people always say "random" as if it were a bad thing?—mash-up of genetic units, "a mere accident".

How awful is that? Should it make us feel rootless? Lost in a void? Afraid?

I say, not at all! Let's see why.

### The basic choice: contingent, or not?

The choice between seeing yourself as an accidental outcrop of a material universe, or as an intentional creation by God, is fundamental, and the view you choose can have a profound effect on how you see your life and how you should live it. Strangely enough, until a few decades ago, there was no choice to be made! Until the twentieth century everyone pretty much assumed that each human being was (somehow) built to some god's plan. Only in the 1940s did anyone begin to think seriously about the consequences of atheism<sup>23</sup>. John Paul Sartre and a few others began to think seriously about this question: If there is no god, there is no divine plan; If there is no divine plan, each person's "nature" is an unplanned accident; If that's the case: how then are we to live, find meaning, and be moral?

The technical terms are *contingent* versus *noncontingent*. The word *contingent* means "happening by chance or unforeseen causes". To

say that you are a contingent being is to say that you came about as the result of multiple causes—physical causes, historical accidents, lucky breaks and unlucky ones—most of which are unknown and unknowable. If we are contingent, philosophers say our “nature”—our traits and features and abilities—is not *determined*; that is, not dictated by anything but the unknown causes that made us.

The opposite is to say you are *noncontingent*, which means that you came about as an intentional part of a plan that is managed or supervised (somehow) by a supernatural intelligence. In that case your “nature” is *determined*; meaning, it is set by a plan that overrides or controls your immediate causes. You are “meant” (by something) to be the way you are.

These two ideas are in absolute conflict. Are we noncontingent, planned, with a nature determined in advance? Or are we are contingent, with a nature that arises from the same messy causes that created us? The choice has consequences on how we think of ourselves as beings in the world.

For some people it is a great comfort to be part of a plan. It eases their minds to think that however they are, God wanted them that way. For them, any idea of being a contingent person in an unplanned universe is deeply unsettling. The scariness of contingency has been noted by psychologists such as Abraham Maslow<sup>24</sup>:

Many orthodoxly religious people would be so frightened by giving up the notion that the universe has integration, unity, and therefore meaningfulness (which is given to it by the fact that was all created by God or ruled by God or is God) that the only alternative for them would be to see the universe as a totally unintegrated chaos.

We will see later that an unplanned universe is anything but “totally unintegrated chaos”. But let’s first think critically about the



conventional view of a universe running to a supernatural plan. It turns out to be pretty scary, in its own way.

## Consequences of a predetermined nature

We have solid evidence from biology that our genes shape our bodies and the deep tendencies of our personalities. Also, psychology and sociology give strong evidence that much of the rest of our character is formed by our experiences with our parents, our family, and our peers.

In short, we each begin life as a mix of parental DNA; then we express the potential of that DNA as best we can, working under the pressures and influences of our family, our birth culture, and this particular moment in history. We have evidence to say that these things—genes, family, culture, and historical context—are what “determine our natures” in a practical sense.

Given that, how could our natures *also* be determined by God’s plan? The only way it could happen is if some agent *controlled* all those things; for example, controlled the mating choices of our parents, right down to the exact choice of sperm and egg at the moment of conception. And the same agent must have been able to control all the defining experiences of our formative years, all the encounters with relatives and other children, every one of the shocks and traumas and joys that have bent and shaped us to make us what we are now.

And then, to make not only you and me but *every* person non-accidental and preplanned, this agent would have to intervene, undetected, in every one of billions of conceptions, and meddle as well in every personality-shaping event of every childhood around the world.

How could that work, exactly?

## The dark side of a divine plan

Well, say it could work. If this were the case—if it were true, as some people like to say, that “everything happens for a purpose”—some serious consequences would follow.

Oh, what could be wrong with every person being determined by a divine plan? Hey, the plan produced splendid specimens like you and me, didn’t it? Fine, but we also must acknowledge that the same plan mandates children with Down Syndrome, spina bifida, and neonatal cancers, to mention only three out of many tragic possibilities.

Then remember that some people’s characters are formed by trauma, by disaster, by poverty and famine, or by physical and emotional abuse. The plan, in order to give those people their particular natures, must have *required* them to experience tragic events or vile ones. Do you know someone who was traumatized or abused as a child? If there’s a plan, that had to have been part of it.

Personally I find that idea harder to live with than existential dread. I would much rather think that things like birth defects, diseases, poverty, famine, and child abuse are the outcome of contingent circumstances, than to think they are planned by some supernatural being<sup>25</sup>.

## Its incompatibility with free will

Another problem with noncontingency is a side effect of all the billions of interventions that are needed to produce every person according to plan. Every one of the events that determines a person’s nature—their parent’s choices, and every childhood interaction they have with another person—is also an event in *other peoples’ lives*. If a divine plan is to produce a particular nature in *one* person, it will have to control and alter the lives of countless *other* people, sometimes in major ways. People are dying

from seemingly-random causes—landslides and floods and drive-by shootings—every minute. If each of us is formed to a plan, then at least some of these deaths and traumas must have been planned in order to shape the natures of the people who survive them<sup>26</sup>.

In short, if you really want to believe you are part of a divine plan, you have to agree that much of your life experience was stage-managed for the purpose of molding other people's natures, and theirs for you. And that means you have to pretty much give up any idea of free will<sup>27</sup>. That seems to me another high price to pay in order to avoid existential dread<sup>28</sup>.

## Surviving Absurdity

### On being a *mere* accident



#### Trigger Warning!

In the following section I quote Albert Camus as he suggests that suicide is one response to the contingent world. If you are even *slightly* troubled by thoughts of self-harm you should jump ahead to the next topic, [Filling the Abyss with Light](#). Also, have no reluctance to call the National suicide prevention lifeline at 1-800-273-8255 or to visit [suicidepreventionlifeline.org](https://suicidepreventionlifeline.org).

The first thing I want to do is to drive a stake through that adjective “mere”! If you and I are accidents, it is in the same sense that a snowflake is an accident. Folklore has it that every snowflake is unique. Well, no matter how you calculate it<sup>29</sup>, there are *astronomically* more ways of combining DNA codons than there are ways of crystallizing simple water molecules. So each of us is an accident that is uncountably more unlikely than any snowflake that ever fell in all of Earth's history.

You know that many billions of people have lived, and died, and are dust. But those billions used up only a sliver of the possible combinations of human DNA. In fact, only the tiniest fraction of the possible people ever *will* exist. There has never been anyone like you or me, and there never will be. Yet here we are! We made it! What incredible good fortune!

Why are we not celebrating?

Probably because the conclusion that follows—that each of us began as a random shake of the DNA dice, and is now in a crazy collision with a unique moment in history, in a universe that has no interest in our fates, in a world that has exactly the same respect for you or for me as it has for an iceberg, a giraffe, or a virus—that conclusion threatens our egos.

Here's how a modern cosmologist summed up our situation<sup>30</sup>:

One of the strong and pervasive images of the twentieth century western world is that man is alone in an alien universe, absurd in his inability to participate in the vast schemes of the cosmos, a fluke, a mistake, perhaps even a cosmic joke... A stranger and a tourist in the physical universe, we contribute little other than our refuse and receive little other than an earth upon which to stand.

Are you depressed yet? Many are. I see this fear crop up over and over again in online forums, with people asking long agonized variations on “What’s the point of living if we all end up dead and nothing matters?” So let’s really grind the point home. This may make you feel bad, but stick around. It will come right in the end. I hope.

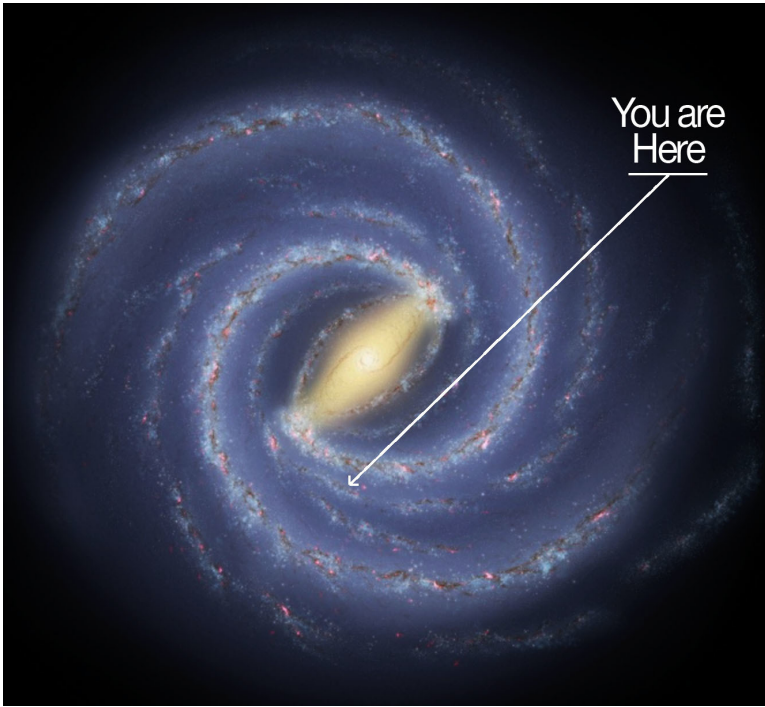
How tiny and insignificant are we? In your imagination zoom out to see the whole world as seen from space.



*Earth from space*

Down there are billions of people, each struggling with their plans and hopes. Can you see any effect of their efforts?

In the spaceship of imagination zoom further out to span the entire Milky Way galaxy.



*Artist's conception by R. Hurt (SSC/Caltech)*

In that whirl are *at least* 100,000,000,000 stars. In that cloud our Sun is like one grain of sand in a whirlwind. Circling the Sun is an even tinier mote, on the surface of which all humanity lives and dies.

Return to Earth, now, and consider time. Can you remember the names of your great-grandparents? Maybe so, but can you say what they looked like, or what they thought, or what they were proud of achieving? Probably not! So, who do you think will remember what *you* looked like, or thought, or took pride in, a hundred years from now?

If you answered “nobody”, well, that is not exactly a new idea. Here is how it was expressed 2,500 years ago:

For there is no remembrance of the wise more than of

the fool, for ever; seeing that which now is in the days  
to come shall all be forgotten. (Ecclesiastes 2:15)

Thoughts like these were in the mind of Albert Camus when he opened one of the most famous essays in philosophy<sup>31</sup> with,

There is but one truly serious philosophical problem,  
and that is suicide. Judging whether life is or is not  
worth living amounts to answering the fundamental  
question of philosophy.

Why would the choice between suicide and life be the first question for a philosopher to answer? Because, Camus found, when he really, finally gave up all belief in humanity as part of a planned universe, suddenly all human effort seemed ridiculous.

...in a universe suddenly divested of illusions and lights,  
man feels an alien, a stranger... This divorce between  
man and this life, the actor and his setting, is properly  
the feeling of absurdity. ... At certain moments  
of lucidity, the mechanical aspect of [men's] gestures,  
their meaningless pantomime makes silly everything  
that surrounds them.

Camus pointed to this fundamental conflict, between what we naturally seek in the universe (meaning, significance), and what we actually find in the universe (an uncaring machine), and named it the Absurd. We have an instinctive need to find sense and significance in the universe (Camus called it “the wild longing for clarity whose call echoes in the human heart”). Then we realize that the universe will not grant us any such thing. A universe that offers *no* meaning, has given birth to a being that *craves* meaning. That’s Absurd!

We feel the Absurd when we look down at the Earth from space and say, “Why do they bother?”; or when we look back in time at

the billions of people whose faces have been erased by history and say, “Why did they live?”; and finally when we look forward to the absolute fact of our own coming deaths and begin to think, “Why do I...”.

We will find a lot more to say about death in [Chapter 8](#), but that will be pointless unless we first come to terms with the Absurd.

## Absurd defiance

Camus’ own answer was to accept this bleak picture and then to defy it:

One of the only coherent philosophical positions is thus *revolt*. ... It challenges the world anew every second. ... It is not aspiration, for it is devoid of hope... revolt is the certainty of a crushing fate, without the resignation that ought to accompany it.

The absurd man can only drain everything to the bitter end, and deplete himself. ... he knows that in that consciousness and in that day-to-day revolt he gives proof of his only truth, which is defiance.

Face the universe, Camus says, and—fully aware that there is no hope of clarity or finality; fully aware that all human actions are ultimately meaningless; fully aware that one’s own life will end and all one’s works will be forgotten—know all that and then say *Nevertheless, I will live*.<sup>32</sup>

## Being absurdly human

My own criticism of the Absurd is this: *We do not truly live in that cold universe*. We conduct our lives almost entirely in a *social* world, one that is composed almost entirely of other people and their actions.



True, you can at any moment step back from life, take a nibble of the red pill, and see how ridiculous all our striving is, when measured against the vastness of space and time. When you do, human gestures become that “meaningless pantomime” that Camus saw; human voices become like the honking of geese. But human voices, human acts and hopes have meaning *to humans*, and *we are* humans and live entirely among and with humans.

The only way to make these things meaningless is to *stop being human*, take a non-human perspective, or imagine that by some magic all human beings were erased from the Earth. Picture that empty Earth; now meaning has gone away! Money: scraps of paper. Words: odd dark marks. Clothing: scraps of woven stuff. Traffic lights: pointless blinking. Love? Morality? Literally meaningless; there is no love between mountains, no morality between one tree and another.

That is how to see Camus’ Absurd world: as a world *from which people have been erased*. Or worse, we see it after we have deliberately *dehumanized* every other person, made them into objects in our minds, forced ourselves to see them as things, shadow puppets.

But people will not be erased from your life. Money will never be mere scraps of paper so long as anyone values it. Words are not just blurts of noise or random pixels on a screen so long as anyone reads and hears and responds to them. Clothes aren’t random bits of woven stuff; they keep us warm, and they signal to other people what we think of ourselves. Traffic lights are not pointless *as long as there is traffic*.

And both love and morality are essential to the way we share the *social* world—which, again, is where we cannot help but spend our lives. Of course our actions do not have galactic, or global, or historical significance! But just the same, our acts have real, immediate effects on other people; and other people’s actions have real, immediate effects on us. This is not hypothetical.

In the end my answer to Absurdity is not so very different from

Camus' answer. Even knowing that there is no hope of clarity or finality; even knowing that all human actions are meaningless to the universe; even knowing that my own life will end and my works will be forgotten; even then, I would say *Nevertheless, I'm a human, I choose to live in the human world.*<sup>33</sup>

## Morality arises

And now, something amazing happens! When we are under the spell of the Absurd, seeing all of humanity as a bit of fungus on a sand grain in a galactic whirlwind, nothing matters. Or rather, everything matters, but to exactly the same degree. Either way, there can be no preferences, no reason to choose one act over another. However, when I make the commitment to live in the human world, *then* the consequences of my actions can be ranked as being “better” or “worse”—because they are always better or worse *for people*. Now I cannot avoid taking on responsibility, because with every act I perform in the human world, I face a choice: will my act make that human world better? Or worse? And for whom?

Suddenly, surprisingly, we have a basis for a morality! We will explore this more in [Chapter 7](#).

Face the unplanned universe with Camus's defiance, or with simple acceptance: Either way, one need not commit suicide for one's philosophy. (There's a relief!) But there is yet another approach to being a mere accident.

## Filling the Abyss with light

Let's take another look at that “totally unintegrated chaos” that is the straw-man universe some fear. People who spend their lives looking closely at nature come to see that it is anything but chaotic in the conventional sense. Here is naturalist Bernd Heinrich, observing beech tree reproduction in the Maine woods<sup>34</sup>:

A tree's life is an extraordinary achievement against incredible odds, from an individualistic perspective. From the perspective of nature, on the other hand, there is assurance that each tree will produce, on the average, just one other reproducing tree ... to a tree, and to most other organisms, life itself is the very ideal of the "luck of the draw." ... And that is precisely what I find to be uplifting, and food for joyful optimism.

Out of the random scattering of beech seeds, each with its random fate, we do not get chaos; we get the lovely order of a functioning forest.

## Universal fecundity

Patterns of stability build up out of randomness everywhere. The universe is not cold, empty, and dark. It bubbles with form and structure at every scale of measure that we can observe. At the shortest meaningful length (the Planck length) the vacuum seethes with energy, throwing up matching pairs of particles and annihilating them in literally inconceivable quantities, as if the universe were effervescent.

At molecular scales, great swathes of "empty" space are filled with clouds of dust and gas within which a myriad of chemical reactions are proceeding. They proceed very slowly owing to low temperatures, but the universe has plenty of time. Astronomers have observed molecular clouds containing sugars, amino acids, and other chemicals of life, all cooked up on dust grains by the light of new stars.

At stellar scales, the more we learn about stars, the more structure and variety we find. As of 1988, we could only speculate that some stars would have planets. Today we know of more than 4,000 stars with planets<sup>35</sup>, and it looks very likely that half or more of all stars have planets<sup>36</sup>. At galactic scales, stars and gas organize themselves

into a zoo of interacting dynamic structures. At cosmic scales, herds of galaxies stream through the vastness in clouds bound by gravity.

The more closely we look at *anything*, the more structure and form the universe reveals. Among the planetary bodies of our own solar system (which in my childhood were known only as dots of pastel-colored light) we have yet to find a boring object. Each planet, moon, comet or asteroid we visit turns out to be unique. Each has been as impossible to predict from first principles as a human personality. No geologist or science-fiction writer could ever have dreamed that the universe is able, using only rock, ice and time, to make something like the terrain of Jupiter's satellite, Europa:



*Courtesy NASA/JPL/Caltech*

Or the South Pole of Mars:



Courtesy NASA/JPL/Caltech

Far from being cold and empty, the universe sparkles with radiation, bubbles with form.<sup>37</sup>

## Tap-Dancing Infinity

The Vedanta branch of Hinduism takes the view that the essence of the universe is *play*. They say the universe must be at exuberant play with itself, dancing a vast private dance in which each interchange of energy is a step, each structure a graceful gesture<sup>38</sup>.

The more carefully scientists look, the more their observations support this grand metaphor. It seems that *the universe drives toward structure at every scale of measurement*, any structure at all, filling out every possibility. It especially seems to like branching structures—tree roots, the path of a lightning bolt, the blood vessels in the eye. We carry the most elaborate branching structure ever made inside our heads—our brains. But don't get cocky; remember our foliage is pathetic and we couldn't filter plankton through our teeth at any price. In other words, we are only another gesture in the great dance of form.

On this view, we do indeed have a right to exist. It is the same right as every other arrangement of matter and energy: the right to exist until we are transformed into something else. True, the universe has no special interest in when that happens. That's because the universe is just as invested in the "something else" that we will become—and in what that becomes, *ad infinitum*—as it is in us.

Try to replace the vision of humankind lost in a cold, dark chaos, with the image of an exuberant, light-filled universe that bursts out into forms and living species as easily as an ocean bursts out into waves and sea-foam. Try to see people as droplets of life that the universe sprays out and then reabsorbs, the way a breaking wave sprays out droplets and reabsorbs them. When you do this, two nice consequences follow.

First, any “problem of evil” disappears. This universe regards the murder of one human by another exactly the way it regards an avalanche falling on a human, or a virus infecting one: with complete indifference. Avalanches fall; viruses infect; mammals prey on one another—it’s *what they do*.

Now, this absolutely does not mean that *we* should be indifferent to these things! That would be yielding to The Absurd, viewing a world without humanity (in two senses). As I said above, when we defiantly choose to live in the human world, we cannot avoid the responsibility to be moral. And we only have to look around to see that desiring to be moral, trying to be compassionate, and urging other people to be moral and compassionate, are *things we humans do*, and just as naturally as any other behavior in nature.

However, our understanding of the light-filled universe gives us this comfort: when the virus infects, or the avalanche falls, we do not have to torment ourselves trying to invent explanations, or twist logic trying to make awful things fit into a plan. They just *are*, exactly the way beautiful and joyful things *are*.

Second, the vision of a light-filled universe gives another way to find meaning. Why are we here? Because you and I, two humans, are exactly as important to a vast universe as two eagles, or two oak trees. Each eagle, each tree, each person, is an iridescent bubble of life blown by a careless, tap-dancing infinity.

We have no choice but to be part of Infinity’s dance. But we have this advantage over trees and eagles: we have a choice of what kind of dance partners we will be! In the light of that idea, how should

we live? There can only be one answer: emulate the universe, and ramify! burgeon! dance!

## Creating the Sacred

Here's a huge advantage of being a "None" and not following any religion: we get to *choose* what we will find to be sacred.

*Sacred*, adj.,

1. dedicated or set apart for the service or worship of a deity;
2. possessing the highest title to obedience, honor, reverence, or veneration; entitled to extreme reverence; venerable.

It's entirely our choice what we think is "entitled to extreme reverence".

In [Chapter 6](#) we will talk about recognizing excellence, especially among people. In [Chapter 9](#) we will talk about how cultivating a sense of gratitude can increase our happiness. The basis for both things lies here, in our understanding of ourselves as thinking motes in an unplanned but sparkling infinity. As such we are free to look around us and pick out, nominate, designate the things that are, to our eyes, glorious. Because there is no plan, no theology, no doctrine to confine our choices, we are free to *choose our own sacraments*—and then to choose the way we worship them. You don't need to believe in anything supernatural to agree with Sonya Lyubomirsky,

A meal can be holy, and so can a child's laugh or a new snowfall. The big sky above Montana looks to many people as if it has God's fingerprints on it, but so can ordinary scenes and situations. Sanctifying day-to-day

objects, experiences, and struggles takes a great deal of practice, but it's at the heart of spirituality and its rewards.<sup>39</sup>

## Revelation without end

The accounts of the world in religious scriptures try to explain where the world came from, and try to provide metaphors for a well-lived life. Scriptures may be useful, but the wisdom in any document is fixed in extent. We outside of religion have access to a canon as well, and it is infinite and ever-unfolding. Too few of us know this or celebrate it.

## Fixed extent of human revelation

Each great religion is based on the revelation perceived by one founding master and teacher—Moses, the Buddha, Jesus, the Prophet, or in recent history, Joseph Smith, Mary Baker Eddy, L. Ron Hubbard. Once the master has gone, it falls to the disciples to preserve what they can of the master's teachings.

Two things follow from this. First, the most that current believers can get of the master's insights is that fraction the master was able to convey by word and example. We can never know the whole revelation as it formed in the master's mind. What is left to us is what the master could communicate. Buddhists are explicit about this; an often-quoted teaching of the Buddha is this one<sup>40</sup>:

Once the Blessed One was staying at Kosambi in the Simsapa forest. Then, picking up a few Simsapa leaves with his hand, he asked the monks, "How do you construe this, monks: Which are more numerous, the few Simsapa leaves in my hand or those overhead in the Simsapa forest?"



“The leaves in the hand of the Blessed One are few in number, lord. Those overhead in the forest are far more numerous.”

“In the same way, monks, those things that I have known with direct knowledge but have not taught are far more numerous [than what I have taught].”

So the canon of any religion as received today is only that fraction the leader could convey, and of that, only the fraction the disciples could remember and pass on. Accurate preservation was essential. After all, people do not ask, “What do you, Peter or Ananda, think?” They expect Peter or Ananda to tell them what the master thought.

The result is that the canon of a religion cannot adapt to a changing world. It is unthinkable to do anything but keep a complete, accurate copy of the teachings, but accuracy prevents change. Inevitably the sweeping spotlight of time will pick out bits that today seem nothing less than embarrassing<sup>41</sup>. Meanwhile, time also raises new issues that the master had no reason to address—for example, the social consequences of genetic engineering, or cheap birth-control.

The disciples have to interpret and re-interpret the canon to deal with changing circumstances. Dedicated, intelligent people in every creed have selflessly spent their lives trying to do this. In the process they invented marvels of intellectual gymnastics, from exegesis<sup>42</sup> to Kabbalism<sup>43</sup>.

## Endless extent of natural revelation

It might seem that outside of a religion, there is no canon of revelation at all. That is not true. In *Age of Reason*, Thomas Paine begins with a sharp critique of human-written “revelation”. Then, roaring in capital letters to mark the central point of his credo, he describes the true revelation<sup>44</sup>. Give yourself a treat: read this passage aloud, as if you were speaking from a pulpit in a great cathedral:

The WORD OF GOD IS THE CREATION WE BEHOLD and it is in this word, which no human invention can counterfeit or alter, that God speaketh universally to man. ... It is an ever-existing original, which every man can read. It cannot be forged; it cannot be counterfeited; it cannot be lost; it cannot be altered; it cannot be suppressed. ...*In fine*, do we want to know what God is? Search not the book called the Scripture, which any human hand might make, but the Scripture called the Creation.

...That which is now called natural philosophy, embracing the whole circle of science, of which astronomy occupies the chief place, is the study of the works of God, and of the power and wisdom of God in his works, and is the true theology.

You see? Our *secular* canon is the whole magnificent physical universe! It is a book of teachings that is infinite in breadth and depth. The closer we look at any detail, the more structure unfolds to be seen. It requires as many years of a scientist's career to fully grasp the life-cycle of a virus, or that of a rhinoceros, or a forest, or a hurricane, or a star.

Natural revelation far exceeds the extent of any one teacher's lifetime output, and when new questions arise, it extends itself in surprising new ways to answer them.

True, the canon of creation needs interpretation, but that is a worldwide cooperative task in which anyone can take part. The results are available to any mind to use or to contradict, and there is a public system for constant revision and correction.

The revelations of most religions contain human dramas, parables, and great metaphors. Next to those, the canon of science might seem bloodless and abstract, lacking in human interest. It is sadly true that the language of scientific papers is abstract and passive.

And science findings are described in a specialist vocabulary and supported by mathematics, so they are never as accessible as a vivid Biblical parable or one of the Buddha's earthy metaphors.

A lot of science consists of collecting mountains of tiny detail that are stunningly boring to everyone but the specialists who make a career of knowing them; and then the details are written up in opaque, professional lingo. That helps to explain why so many nonscientists think science is not just dull, but the very enemy of poetry, excitement, and possibility.

But the *results* of scientific work shake the foundations of society! Try to imagine what your world would be like today without—and name any of a thousand discoveries that were unknown when your mother was born. The modest and often anonymous people who work on *exegesis* of the physical universe remake human society over and over. Which had the greater impact on lives today: any Biblical parable, or the smart phone?

## Bestriding the world

If you make the effort to absorb the scientific world-view you will find that it equips you with a marvelous zoom lens of the imagination. You and a poet look at a rainbow: you see exactly the same beauty that a poet sees. But you can also, in imagination, zoom into the rainbow and see it as an uncountable number of water droplets, each one a tiny crystal ball, spraying the image of the sun back toward you in a spectrum, so that the billions of drops along one arc of sky reflect back only violet light to your eye, while the drops along a different, concentric, arc reflect back indigo to you, but violet to someone a few yards behind you. You “get” the rainbow in a way the poet can't.

You look into a clear night sky and see the same blaze of stars Van Gogh painted; but you can also see into the depths of both space and time. You can know the stars are not just diamond chips on

a black sphere, but a swirling cloud with three-dimensional flows, like sparks from an infinite campfire—and those sparks are suns, many grander than our own sun, each with a life story from birth to a chilly or an explosive death. You know the night sky in a way that Van Gogh never could! With a scientist's vision you can, in Shakespeare's phrase, "bestride the narrow world like a Colossus".

## The price of knowledge

This endless vision comes at a price: Although the universe is stupendously rich and full of endless wonder, and a great deal of it is knowable, we have so far learned only a tiny fraction of what there is to know. From this it follows quite inexorably that we have to be willing to live with "Just don't know (yet)" as the answer to many questions, even big ones. As Arthur C. Clarke put it<sup>45</sup>,

...men have debated the problems of existence for thousands of years—and that is precisely why I am skeptical about most of the answers. One of the great lessons of modern science is that millennia are only moments. It is not likely that ultimate questions will be settled in such short periods of time, or that we will really know much about the universe while we are still crawling around in the playpen of the Solar system.

Our lack of knowledge is not a catastrophe; it's just how things are. The great physicist Richard Feynman accepted it<sup>46</sup>:

I think it's much more interesting to live not knowing, than to have answers which might be wrong... there are many things I don't know anything about, such as whether it means anything to ask why we're here ... but I don't have to know an answer, I don't feel frightened by not knowing things, by being lost in a mysterious

universe without having any purpose, which is the way it really is, so far as I can tell.

Despite our limits and the youth of our civilization, we have done marvelously well. Picture a sunlit pond in the forest. Above it, a hatch of mayflies are darting about, in and out of a shaft of sunlight. To a mayfly, the leaves on the alder trees hanging over the pond are as eternal as the pole star is to us. Our lives, compared to the stars, are tinier than a mayfly's life compared to the alder tree's. Yet we can describe the birth and death of stars! This is quite as remarkable as it would be if we found out that some mayfly astronomer knew about the budding and the fall of alder leaves.

## Being more than a spear-carrier

Remember the great drama of Good versus Evil, in which some believers think they participate? For the good folks in the congregation at the Benston Assembly of God, this feeling gave color and excitement to lives that were otherwise pretty ordinary.

Much later, I came to understand that there are some people—fortunately, not many—who become so convinced that they are warriors in a great battle, fighting on the side of purest good against the vilest of evils, that they convince themselves they are permitted, empowered, authorized, to go beyond words to violent deeds. In recent years America and Europe are much concerned with the violent deeds of Islamic terrorists. But there are men (almost always, men) of the same mind-set in every religion. Even peaceful Buddhism has its violent fanatics<sup>47</sup>.

Violence is never the correct answer to a debate; in fact the person who resorts to violence in support of an idea has *already lost the argument*. But setting aside all violent means, it is still possible for a non-religious skeptic to take a role in a great contest: the on-going battle of Seeing versus Denial. It's a genuine conflict that is fought on many fronts every day.

For example, when I drafted this chapter for the first edition, it was the month in which the State of Kansas decided to expunge the word “evolution” from its textbooks. Now as I work on the second edition, the Cabinet Secretaries of Energy, the Interior, and the Environmental Protection Agency are all on record as denying the reality of human-caused global warming.

Do you understand the arguments in these disputes? If challenged at a party, could you defend the concept of evolution against the charge it is “just a theory”?<sup>48</sup> Could you explain any of the evidence that makes 95% of climatologists say human actions are causing climate change?

If your life lacks drama, you can take part in any number of skeptical battles, online or in person. All it takes is a little study. But again: the one who first resorts to violence (or even to *ad hominem* attack) has already lost the argument.

## Summary

When you do not subscribe to a religious account of the world, you cannot claim to be a specially-planned creation. But that turns out to be no great loss, because when you closely examine the idea that each of us has a determined nature, it turns out to have really unpleasant consequences.

But then what? If the universe is all material and unplanned, it is necessary to admit that human effort is Absurd, at least on a cosmic scale. But it is possible and reasonable to spit in the eye of The Absurd and choose to live. Then it is possible to celebrate being an astronomically unlikely accident within a fertile, effervescent universe. One help in that task is to deepen your appreciation of the infinite, open “revelation” of the natural universe, so much richer and more accessible than any prophet’s teachings.

# Chapter 3: Finding Community

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## What the research shows

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## Possible causes

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## Opportunities for community

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## Sunday congregations

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## **Intimate family**

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## **Roots**

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## **Friends**

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## **Neighbors**

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## **Hobbies and interests**

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## **Work**

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## **Volunteering**

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## **Imaginary friends**

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## **Obstacles to community**

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## **Shyness**

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## **Danger of commitment**

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## **Time and money**

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## **Confession good for the body**

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## **Summary**

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# Chapter 4: Contemplation and Tranquility

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## The many practices of tranquility

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### Control of the mind's attention

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### Meditation

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### Sitting meditation

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### The meditative attitude

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## **Visual field meditation**

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## **Effects of meditative practice over time**

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## **Meditation books**

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## **Contemplative practices**

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## **Cultivating a limitless heart**

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## **Metta practice**

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## **Effects of metta practice**

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## **The efficacy of prayer**

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## **Prayer for believers**

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## **A prayerful consultation**

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# Chapter 5: Using Ritual

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## Doing lucky science

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## Burn your losses

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## Touch your heels before you shoot

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## This is your lucky charm, keep it close

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## A skeptical view of ritual

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## **Rituals are everywhere**

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## **Awareness and assent**

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## **Private rituals**

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## **Uses of ritual**

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## **Structuring life**

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## **Helping people bond**

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## **Expressing and confirming emotion**

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## Internalizing transitions

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## Elements of ritual

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## Ritual objects

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## Ritual spaces

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## Conventional ritual elements

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## Unmaking rituals

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## Making rituals

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## Personal rituals

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## Rituals of family and friends

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## Replacing failed rituals

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## Rituals of grief and loss

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## Rituals of transition

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# Chapter 6: The Usefulness of Heroes

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## Self-definition and Heros

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### Self-definition

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### Shrinking the task

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### Standards of self-definition

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### Publishing a self-definition

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## **Professional help for the project of self**

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## **Modesty and impermanence**

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## **Are there heroes any more?**

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## **All heroes tainted?**

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## **Dearth of models?**

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## **The offerings of pop culture**

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## **Recognizing excellence**

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## **Vaaahh-roooooom**

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## **Now batting... Rod Carew**

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## **Pirsig's metaphysics of quality**

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## **The intersection of quality with growth**

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## **Finding heroes**

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## **Finding your own heroes**

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## **Give up jadedness**

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## **Give up cynicism**

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## **Inventing a hero**

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## **Finding heroes for children**

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# Chapter 7: Articulating Your Ethics

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## Uses of an ethical code

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## What a code is not

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## Your Ethical Touchstone

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## Testing against unity of being

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## **Testing against sociality**

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## **Testing against empathy**

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## **Candidate guidelines**

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## **Solon's dicta**

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## **The Rotarian's 4-Way Test**

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## **The Golden Rule**

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## **Three imperatives**

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## **The Ten Commandments**

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## **The commandments in the New Testament**

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## **The Five Precepts of Buddhism**

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### **Do not destroy living things**

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### **Take only what is given**

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### **Refrain from sexual misconduct**

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### **Speak what is true and helpful**

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## **Do not intoxicate yourself**

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## **The Precepts in practice**

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## **Your own guidelines**

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## **Here's mine**

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# Chapter 8: Death and Dying

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## Ten billion to die

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## Fighting the fear

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## Using death to motivate virtue

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## Grief

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## Bereavements

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## **Grief and grieving**

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## **First-person grieving**

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## **Helping a grieving person**

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## **Living with the dying**

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## **Supporting the dying**

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## **Choosing where to die**

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## **Final arrangements**

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## **Arranging your own affairs**

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## **Expecting the unlikely end**

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## **Medical directives**

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## **Disposition of your body**

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## **Estate planning**

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## **Your digital directive**

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## **Letter of instruction**

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## **Maintenance**

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## **Personal Memorials**

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# Chapter 9: Being Happier

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## Positive Psychology

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## The Happiness Set-Point

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## The weakness of circumstance

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## Money really doesn't matter

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## Adaptation levels

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## **Sliding standards**

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## **Some circumstances do matter**

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## **Building toward happiness**

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## **Practice gratitude**

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## **Practice kindness**

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## **Savor**

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## **Socialize and volunteer**

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## Exercise

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## Learn

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## Step off the hedonic treadmill

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# Chapter 10: Contentment and Resilience

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## Freedom from debt

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## Having nothing to hide

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## Detachment

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## The futility of judgment

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## **Recognition, the Third Stance**

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## **Benefits of Detachment**

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## **Forgiveness**

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## **Learning Optimism**

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# Chapter 11: A Partner in Infinity's Dance

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# Appendix A: Lubben Social Network Scale

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# All the References

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## Recommended Books

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### Chapter 2: Finding Validity

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### Chapter 3: Finding Community

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### Chapter 4: Contemplation and Tranquility

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## **Chapter 5: Using Ritual**

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## **Chapter 6: The Usefulness of Heroes**

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## **Chapter 7: Articulating Your Ethics**

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## **Chapter 8: Death and Dying**

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## **Chapter 9: Being Happy.**

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## Notes

### Introduction

1 There has been such a flurry of surveys and news stories about the accelerating decline of religious belief that it's hard to keep this note current! Here are a few:

- According to PRRI in [this PRRI survey](#) (retrieved July 2018), “one-quarter (25%) of Americans claim no formal religious identity, making this group the single largest ‘religious group’ in the U.S.” (retrieved July 2019)
- The Pew Research Center’s study on “America’s Changing Religious Landscape” is headed “Christians Decline Sharply as Share of Population; Unaffiliated and Other Faiths Continue to Grow”. Read it [at this link](#) (retrieved July 2018).
- More incoming Harvard freshmen identify as “agnostic” than Catholic or Protestant; self-identified “atheists” almost equal Catholics. Read [the Crimson article](#) (retrieved July 2018).
- A study commissioned by the Benedict XVI Centre for Religion and Society at St Mary’s University, London on the religious affiliation of young adults across Europe reports that “Nones” comprise 70% of young adults in the U.K., and higher percentages in other countries. Read the report [at this link](#) (Large PDF, retrieved July 2018).
- This [Gallup Poll](#) says Nones have increased sharply in this century, and 42% of Millennials are Nones (retrieved July 2019).

2 Excellent! You found the End Notes! To get back to where you were, just click the note number at the start of this paragraph!

### Chapter 1: What Are the Benefits of a Religious Practice?

- 3 The church building is gone now. The Assemblies of God was, and still is, a Protestant denomination that stresses biblical literalism, salvation by faith, and speaking in tongues as a demonstration of “the gift of the Holy Spirit”. Today there is a world-wide organization of Assemblies of God churches in various countries that together constitute a major branch of Protestant religion.
- 4 Bergin, Allen E. and P. Scott Richards. “Religious Values and Mental Health” in *Encyclopedia of Psychology* Vol.7 p59-62. Oxford University Press, 2000 (ISBN 1-55798-187-6).
- 5 The phrase “peculiar people,” used proudly by fundamentalists to distinguish themselves from “worldly” people, is found in three places in the Bible. Twice in Deuteronomy it is used in wording God’s commitment to the Hebrew tribes:

For thou [art] an holy people unto the LORD thy God,  
and the LORD hath chosen thee to be a peculiar people  
unto himself, above all the nations that [are] upon the  
earth. (Deuteronomy 14:2)

And the LORD hath avouched thee this day to be his pe-  
culiar people, as he hath promised thee, and that [thou]  
shouldest keep all his commandments... (Deuteronomy  
26:18)

These verses only justify the Jews as a “peculiar people.” For Christians, the more significant use is found in the words of Peter in the New Testament:

But ye [are] a chosen generation, a royal priesthood, an  
holy nation, a peculiar people; that ye should shew forth

the praises of him who hath called you out of darkness  
into his marvellous light:... (I Peter 2:9)

- 6 Goodstein, Laurie. "Sense of resignation as horror wears off." copyright NY Times, printed in the *San Jose Mercury News* 18 Sep 1999. This news story continues, "I don't believe this is necessarily the end," she added, echoing several others who spoke of apocalyptic signs, "but it's definitely getting closer."

Apocalyptic ideas add spice to the great story. They are attractive because they offer hope that the dramatic conclusion of the great story might come in the believer's lifetime, rather than in some far future.

- 7 Believers who say "Get thee behind me, Satan" as a way of rejecting temptation are probably thinking of the story of Christ's Temptation, told this way in the book of Luke:

And the devil, taking him up into an high mountain, shewed unto him all the kingdoms of the world in a moment of time. And the devil said unto him, All this power will I give thee, and the glory of them... If thou therefore wilt worship me, all shall be thine. And Jesus answered and said unto him, Get thee behind me, Satan: for it is written, Thou shalt worship the Lord thy God, and him only shalt thou serve. (Luke 4:5-8)

The phrase appears also in the two versions of Christ's rebuke of Peter (Matthew 16:21-23 and Mark 8:31-33), when Peter wants to reject a prophecy of the coming Passion. But this doesn't have the drama of refusing "all the kingdoms of the world."

- 8 Cassius's sarcastic description of Caesar's ego in *Julius Caesar*.



- 9 The phrase “two or three are gathered” is used by many Christians to speak of the importance of meeting for worship. It comes from the Gospel of Matthew, where Christ offers his disciples this powerful promise:

Verily I say unto you, Whatsoever ye shall bind on earth shall be bound in heaven: and whatsoever ye shall loose on earth shall be loosed in heaven. Again I say unto you, That if two of you shall agree on earth as touching any thing that they shall ask, it shall be done for them of my Father which is in heaven. For where two or three are gathered together in my name, there am I in the midst of them. (Matthew 18:18-20)

In context, the passage appears to be about matters of discipline within the community of believers, but pastors like to quote only the final sentence as a way of reminding their congregations of the hope and solemnity of the service.

- 10 The complete text of the Quran is available online at many sites, for example the [Quran.com](http://Quran.com) (retrieved July 2018):

“Ye are the best community that hath been raised up for mankind. Ye enjoin right conduct and forbid indecency; and ye believe in Allah.” (Ali’Imran 3:110)

- 11 An authoritative survey article on the relationship of belief to health issues is Matthews et. al. “Religious Commitment and Health Status: A Review of the Research and Implications for Family Medicine.” *Archives of Family Medicine* Vol.7 No.2 (March/April 1998).

- 12 Having others share our beliefs is even more important than

having them share our ethnicity. From Rokeach, Milton, *The Open and Closed Mind*. Basic Books, 1960:

We generally seem to prefer, to one degree or another, those with belief systems that are more congruent with our own. Our findings suggest that this organizing principle is far more important than other kinds of categorizations, such as race or ethnic grouping, in determining our relations with others. If race or ethnic categorizations are important it is primarily because they are convenient symbols that stand for complexes of beliefs which to one degree or another are seen to be similar to or different from our own. We find this organizing principle to hold for southerners as well as northerners, for those high in prejudice as well as low in prejudice, and for younger as well as older Jewish children.

13 Pew Research, [“American Spirituality”](#) (retrieved July 2019).

14 “Make show! Make show!” is what Allan Williams, their then-manager, urged the Beatles to do, when they were bombing in their first Hamburg gig. (Williams, Allen and William Marshall, *The Man Who Gave the Beatles Away*. Ballantine Books, 1975 (ISBN 0345-27074-6))

The German audience took up my shout and it soon became a late-night rallying call all over the Reeperbahn area: “Mak show!”

15 (Berlin, Isaiah and Ramn Jahanbegloo, *Conversations With Isaiah Berlin*. P. Halban, 1992) Berlin continues with a gratuitous and completely unwarranted insult, “That is why dry atheists

seem to me blind and deaf to some forms of profound human experiences, perhaps the inner life: it is like being aesthetically blind.”

- 16 Dostoevsky is frequently quoted as having written “If God does not exist, everything is permitted.” Often, only that sentence is quoted, leaving the impression that Dostoevsky himself had that opinion, and implying that Dostoevsky felt morality was impossible without belief.

Two things are wrong with this. First, Dostoevsky did not write it in his own voice; he placed the opinion in the mouth of a character, Ivan Karamozov. Second, the sentence itself does not appear in *The Brothers Karamazov*! Anyone can verify this by searching the online text of the book, [for example the Project Gutenberg edition](#) (retrieved July 2018).

It is correct that the proposition “if God does not exist, everything is lawful” is a fair summary of an opinion that Ivan Fyodorovitch Karamazov advances, but Dostoevsky never has Ivan himself expound these beliefs. Other characters explain Ivan’s beliefs to each other and to the reader, but they never use the often-quoted sentence. More important, there is nothing in *The Brothers Karamazov* to show how the author himself felt about this issue. To attribute the sentence to Dostoevsky himself is careless scholarship (carelessness of which Jean-Paul Sartre, among many others, seems to have been guilty).

But we can go further. The sentence “if God does not exist, everything is lawful” is a logical implication, “if A then B.” In logic, an implication is true only if the antecedent, A, is true. When the antecedent is false, the statement is not negated; it is nullified, made meaningless: if not-A then nothing is asserted about B. So? Well, partway through *The Brothers Karamazov*, Ivan admits to Alyosha that in fact, he believes in God, and apparently has from the beginning. In other words,

Ivan has known from the start that his proposition was null, and therefore no more than an intellectual toy. The great irony of the novel is that *others* act on Ivan's toy philosophy with tragic consequences. An irony of modern scholarship is that Dostoevsky's best-known phrase is a sham belief of a character who never states it as it is quoted.

- 17 See the Pew survey "[Many see belief in God as essential to Morality](#)" (retrieved July 2019).
- 18 Prager is of course not alone; I have seen opinions like his expressed in, for example, op-ed pieces by Boston's Jeff Jacoby and Detroit's Tony Snow. These sentiments can be given a charitable reading as a popularized version of the Existentialist concept of Nothingness: that without the anchor of a predetermined nature, humankind must make its own way through a void. However, the Existentialist understands that the result of Nothingness is not only the freedom, but the *responsibility* to blaze an admirable trail into the void. The Nothingness of Existentialism is a challenge to self-transcendence. In contrast, the message that I get from writers like Prager and Jacoby is that there is *no* valid moral alternative to belief in God; and therefore, unbelievers cannot be moral; and therefore, unbelievers can only be *immoral*; and therefore—this is never stated but is clearly implied—unbelievers are untrustworthy, possibly dangerous, people.
- 19 Hofstadter, Douglas R., *Le Ton Beau De Marot: In Praise of the Music of Language*. Basic Books, 1998 (ISBN 0465086454).
- 20 When Josef Stalin died, I was in grade school. I still remember my mother saying with angry satisfaction, "I guess now he knows whether there's a God or not." It so impressed me that during "current events" period in school that day, I stuck up my pudgy little hand and said "My mother says,..." and quoted

her. I cringe to remember this. The teacher's reaction, as I remember, was to change the subject.

21 Sagan, Carl. "In the valley of the shadow." *Parade* magazine, 3/10/1996.

22 What made me an atheist at a young age? Blame the books of history, science, and science fiction that I devoured as young reader. Van Loon's *Geography* gave me a sense of the scale of our world and the variety of people in it. Science fiction gave me an early sense of the mind-blowing scale of the universe, and that was backed by what I absorbed about astronomy. Those ideas clashed with what I was taught in a Bible-believing church. The God I was taught there was a being that felt jealousy and rage; a being that could without a qualm drown millions of living things that it had made because they disappointed it; a being who would knock down the tower of Babel and confuse people's minds because it didn't want them to learn anything; a being who took sides between one tribe and another; a being who couldn't figure out how to give up a grudge ("original sin") until his son committed suicide in front of him to change his mind. (That's what the new testament message comes down to, if you think it through.)

I couldn't put such thoughts in fine words then, but I instinctively understood that the God I was being told about could not possibly be the creator of the universe that science was showing me. So, what is the word for a book that tells you a dramatic story that cannot possibly be true? Fantasy! I knew fantasies, I read lots of them. It was obvious that the Bible was just another fantasy novel; that the God of Christianity was a fictional character; and that belief was an elaborate game of "let's pretend". Out of respect for my parents I went to church every Sunday until I left home for college; then dropped religion with a feeling of relief.

23 Stanford Encyclopedia of Philosophy, “[The Emergence of Existence as a Philosophical Problem](#)” (retrieved July 2019).

24 Maslow, Abraham H. *Religions, Values, and Peak-Experiences*. Ohio State University Press, 1964; currently reprinted by Viking Press as ISBN 0140194878.

25 If you try this argument on a believer, they might respond that these bad things must be the work of God’s adversary, Satan. But that won’t wash: if a person’s personality is the result of trauma or war or child abuse, one of two things must be true. That personality is the way it was intended by God’s plan, in which case the trauma must have been part of the plan, intended and sanctioned by God. Or else the personality has been distorted by trauma caused by Satan, in which case that person’s nature did *not* come out the way God intended. But that means that God is not capable of making sure his plan is carried out in every case. As soon as you admit that to be possible, then you have to ask, well, which people are fully built to God’s plan, and which people aren’t? Is *anyone*? How many of us were shaped by Satan’s plan, not God’s? And you end up doubting the source of every person’s nature, including your own. Again, I’d rather face existential dread than this possibility that my “nature” wasn’t even formed by God’s plan, but by Satan’s.

26 Exactly this kind of manipulation is described in the Bible. In Exodus 7, God encourages Moses to ask Pharaoh to free the Israelites from bondage. However, God says “But I will harden Pharaoh’s heart, and though I multiply my signs and wonders in the land of Egypt, Pharaoh will not listen to you.” The implication is clear: Pharaoh would have been open to reason, but God *tampered with his mind* to make him reject Moses’ request. As a direct result, a good part of the Egyptian population dies in the subsequent plagues. So it is perfectly

Biblical that if a person's "nature" is in part "determined" by, say, being caught in a war zone, it might have come about because God tampered with the minds of many to make that war happen.

27 Whether we actually do have free will—and, if we do, how it emerges from the biochemical operations of our brains, which are essentially mechanical and presumably deterministic—are questions that have been debated by people with better minds than I have. For an introduction to the difficulties of this slippery problem, you might see Gardner, Martin, "The Mystery of Free Will" in *The Night Is Large: Collected Essays 1938-1995* (St. Martin's Press, 1996) for an informal discussion, or the [Stanford Encyclopedia of Philosophy](#) (retrieved July 2019) for the technical discussion.

28 For a terse, poetic discussion of the conflict between determinism and free will, listen to [Free Will](#) by the band Rush (retrieved July 2019).

Each of us  
A cell of awareness  
Imperfect and incomplete  
Genetic blends  
With uncertain ends  
On a fortune hunt  
That's far too fleet

29 Ask the internet the question "how many permutations of human DNA are possible" if you need a way to pass a long afternoon of browsing! The genome can be partitioned in different ways, and estimates vary widely depending on which numbers you choose to combine—but the result is always a huge number.

One approach is to recall that the genome comprises 46 *chromosomes* (bundles of genes). When the body makes a *gamete* (a sperm or an egg) it pulls the DNA apart to make a set of 23 chromosomes (the process called *meiosis*), and each of the 23 has a *random* combination of the genes from that chromosome of the parent cell. So one parent can produce exactly  $2^{23}$  unique gametes from his or her own genome. When a sperm meets an egg, they combine their chromosomes to make a complete set of 46, composed of those random selections from the parents. Combining these odds, *one pair of parents* could produce up to 70,368,744,177,664 unique children. Multiply that by the number of parents alive to get the count of possible unique genomes in the next generation.

Another approach is to count SNPs (Single Nucleotide Polymorphisms, or “snips” (further described at [this link](#), retrieved July 2019). Scientists have catalogued the full three-billion base pair DNA of a significant number of people. When they compare the DNA of individuals they find they are mostly the same, but individuals often differ from the typical by a single base pair at many locations. A single SNP might be meaningless, or it might predispose its bearer to a disease, or contribute to a trait like hair color or handedness.

As of 2018 there were about 61,000 “validated” SNPs in a catalog at the NIH (online at [this link](#), retrieved July 2019). Most SNPs can occur in only one of two forms. Thus a person’s DNA can vary from the norm at 61,000 points, giving  $2^{61000}$  possible combinations of SNP/no-SNP, or roughly  $7e+18362$ .

I think either number justifies the adjective “astronomical”.

30 Malville, J. McKim. *The Fermenting Universe: Myths of Eternal Change*. The Seabury Press, NY 1981; ISBN 0-8064-2345-8.

31 Camus, Albert. “The Myth of Sisyphus” in: O’Brien, Justin (tr).



*The Myth of Sisyphus and other essays*, Vintage Books, 1991 (ISBN 0-679-73373-6). Although this famous essay is still in copyright, you can with some searching find it as an online etext.

- 32 It was after I wrote that line that I heard the phrase “Nevertheless, she persisted” as a [feminist rallying cry](#) (retrieved July 2019). I do not want to be guilty of cultural appropriation here. I’m a male who has benefited rather nicely from growing up in a patriarchal society, *thankyouverymuch*. But still, I think there’s a parallel between the defiance of Camus in the face of the Absurd universe, and the defiance of women in the face of patriarchal oppression. In both cases, the individual is defiantly asserting the right to shape their life in the face of unfeeling opposition.
- 33 Not long after writing this I found a musical expression of the same idea in an unlikely place. Joe Paquin was an underrated country singer and poet who recorded a number of songs through the 1980s and 90s. In one of his albums, *Only Human*, ([sample it on Amazon](#), retrieved July 2019) is the song “Little White Dot”, in which Paquin put these words to a rockin’ Zydeco rhythm:

well this big wide world  
is a little white dot,  
one of a billion stars;  
but it’s the only white dot we’ve got  
so I’ll see you on down at the bar.

I think *It’s the only white dot we’ve got, so I’ll see you on down at the bar* is just about a perfect way to say, “nevertheless, I choose to live in the human world.”

- 34 Heinrich, Bernd. *A Year in the Maine Woods*. Perseus Books,

1994 (ISBN 0-201-48939-2).

- 35 Learn about [exoplanets at wikipedia](#) (retrieved July 2019).
- 36 “One or more bound planets per Milky Way star” (retrieved July 2019).
- 37 Two books that do a great job of communicating this vision are [Malville, op.cit.](#) and Goodenough, Ursula, *The Sacred Depths of Nature*. Oxford University Press, 1998 (ISBN 0195126130).
- 38 The idea that Brahma creates the universe for sport is not just a poetic metaphor; it is a logical conclusion of Hindu doctrine. Hindu thinkers worked it out this way: If Brahma, the all, is truly infinite, it cannot have needs. A need would imply a shortcoming, which is not possible of the infinite. And if Brahma is infinite, it cannot have a purpose, because all possible ends are accomplished and contained in the infinite. Yet Brahma clearly chooses to manifest as the physical universe. Why? Not because it needs to; and not to achieve a purpose. What does that leave, other than a desire to amuse itself? The concept is expressed in Sanskrit as *liilaa-vibhuuti*, playful manifestation. (Banerjee, Nikunja Bihari. *The Spirit of Indian Philosophy*. Curzon Press, 1975)
- 39 Lyubomirsky, Sonya, *The How of Happiness: A new approach to getting the life you want*, Penguin Books 2007; ISBN 978-1-59420-148-6.
- 40 Samyutta Nikaya LVI.31. The recorded teachings of the Buddha are available online at several places including [Access to Insight](#) and [Vipassana.com](#) (both retrieved July 2019).
- 41 For one example of this, read the Law, dictated by God to Moses in Exodus chapter 21, on slave-owning and the treatment of slaves:

...And the LORD said to Moses, “Thus you shall say to the people of Israel:... Now these are the ordinances which you shall set before them...

When you buy a Hebrew slave, he shall serve six years, and in the seventh he shall go out free, for nothing. If he comes in single, he shall go out single; if he comes in married, then his wife shall go out with him. If his master gives him a wife and she bears him sons or daughters, the wife and her children shall be her master’s and he shall go out alone. But if the slave plainly says, ‘I love my master, my wife, and my children; I will not go out free,’ then his master shall bring him to God, and he shall bring him to the door or the doorpost; and his master shall bore his ear through with an awl; and he shall serve him for life....

When a man strikes his slave, male or female, with a rod and the slave dies under his hand, he shall be punished. But if the slave survives a day or two, he is not to be punished; for the slave is his money.

Don’t trust me; read the original to verify that these are instructions said to have been given by God, from the cloud atop Sinai, to Moses, as Law.

- 42 The [Catholic Encyclopedia](#) (retrieved July 2019) says: “Exegesis is the branch of theology which investigates and expresses the true sense of Sacred Scripture.” The linked article explains how the exegete identifies the literal sense of the scripture (what it actually says); and from that the derivative sense (what can be inferred from the literal sense); and from that the typical sense (the symbolic or allegorical sense). When these are insufficient, the exegete launches into *hermeneutics*, that is, creative interpretation of the Divine intent, as opposed to the actual words. The techniques of exegesis are not for everyone to use: “In its human character, the Bible is subject to the

same rules of interpretation as profane books; but in its Divine character, it is given into the custody of the Church to be kept and explained...”

- 43 Kabbalism is a set of methods developed in the 12th and 13th centuries for extracting mystical meanings from the Hebrew Scriptures. The general idea was to find hidden, or encoded, meanings by manipulating the text. In the technique of *gematria*, letters are assigned numerical values. The Kabbalist forms numerical sums of words and phrases and interprets them to yield new meanings. Using *notaricon*, the Kabbalist discovers new words by forming acronyms from initial letters of sentences. Using *temura*, the Kabbalist systematically transposes and otherwise rearranges letters. Other techniques systematically substitute letters for other letters, in effect decrypting the scriptural text as if it were a message in a substitution code.
- 44 Paine, Thomas, *Age of Reason*. Available in editions from several publishers, e.g. Prometheus Books (ISBN 0879752734), and as an [online etext](#) (retrieved July 2019).
- 45 Clarke, Arthur C., *Greetings, Carbon-Based Biped! Collected Essays 1934–1998*. St. Martin’s Press, 1999 (ISBN 0312267452).
- 46 Feynman, Richard P. *The Pleasure of Finding Things Out*. (ed. Jeffrey Robbins) Perseus Publishing, 1999 (ISBN 0-7382-0349-1).
- 47 A survey of political violence by Buddhists across Asia can be found in this [wikipedia article](#) (retrieved July 2019).
- 48 You could start by getting a copy of the National Academy of Science’s pamphlet [Science and Creationism: A View from the National Academy of Sciences, Second Edition](#) (retrieved July 2019). Then read the text of the NAS’s book on [Science, Evolution, and Creationism](#) (retrieved July 2019).