TELOS

The Scientific Basis for a Life of Purpose

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Foreword

My introduction to Dr. Iacoboni came by way of a radio interview a number of years ago in which the show's host asked him about the origin of his first book and, in reality, the origin of his faith. I was immediately impressed by his intelligence and clarity of thought and by how God had used his experience of treating multiple cancer patients from all walks of life. I was intrigued most of all by his observation that people of faith lived and died differently, which ultimately brought him to a place of faith, believing that the only explanation for the difference he saw in these patients was the existence of something beyond the physical: *the undying soul*.

He put these observations and conclusion in a book by the same title, The Undying Soul.1 I read that book and immediately contacted Dr. Iacoboni to begin a conversation about speaking to a group of over a hundred chaplains at an annual conference that I was responsible for planning. Chaplains are ordained pastors who obtain special training and are willing to leave the structured walls of the church to serve those in crisis on the battlefields of life. Some of the people chaplains serve are in the military, while many others are in hospitals, nursing homes, prisons, various workplaces, and other arenas of life's real challenges. These men and women deal with people in crisis all day every day. They need reminders that the torch of faith they carry into the darkness of the battle makes all the difference in the world. Dr. Iacoboni brought a professional and authoritative witness to this crucial fact. He lived in the life-and-death world of the deadliest cancers and personified a hope and optimism that was more than medical. He shared and reinforced from a position of clinical observation that faith in a spiritual reality above and beyond the physical made all the difference in dealing with the physical and emotional

challenges of this broken world. Fortunately, Dr. Iacoboni agreed to come to the conference and speak.

After three days of interacting with our chaplains' group and visiting in our home, he and I learned that we shared a common curiosity about making sense of the connection between the world we see and the unseen truths that explain it. We continued to interact for a time via email. In the meantime, he moved to another job, and I retired from mine. Our connection faded. It was a significant pleasure to hear again more recently that he had written another book and wanted me to read the manuscript and offer an endorsement. I was both flattered and impressed with the important subject of this new book, *Telos*.

Dr. Iacoboni reveals utterly unique insights into the mystery of intelligent design theory that I've not seen anywhere else. For example, he points out the simple fact that Darwin's famous "discovery" of "natural selection" was an act of intentionality. And that intentionality is at the core of all intelligent design theory.

Dr. Iacoboni again draws brilliantly on his own extensive professional life experiences in this book, just as he did in *The Undying Soul*. In the process, the reader is drawn into the vividness of our vibrant living world as Dr. Iacoboni clearly demonstrates that the living world around us abounds with undeniable purpose—purpose that can only come from a divine source. Reading *Telos* will give you invaluable insight into the complexities, beauty, and grandeur of the world God has created.

I have been intrigued since my college days with the discussions attempting to reconcile the biblical account of creation and the contemporary theories of evolution that seem to erase the Creator from the process. A growing consensus among thinkers seems to be that evolution by way of random mutation and survival of the fittest cannot (with any number of millions of years) explain the complexity and interactivity of the systems and life forms that make up the world we know today. Only by the assumption of an intelligent designer can we explain the complexity of a watch found on a beach or the ability of a bat to capture its supper with sonar. The new thought that Dr. Iacoboni supplies (or discovers and develops what Aristotle already suggested) is that the intelligent designer did not have to insert a new form upon each stage of the development of the cosmos but that the ultimate purpose and end result was existing in the beginning and draws (like the force of gravity or magnetism) each particle into its complex whole and purpose. This force, he argues, was given a name in ancient Greek literature: *Telos*, or end.

We now know that each living cell contains within itself a complex set of instructions, which we call DNA, that dictate how the cell will divide and replicate to become an entire organism, be it a tree, a toad, or a human being. Did the entire universe begin with a single particle or mass that had within it a plan or design for all the complexity and harmony we experience today?

Though I am not a scientist or as broadly educated as Dr. Iacoboni, I suspect that his contribution to the discussion of intelligent design will be significant. I hope that he and others will continue to investigate and discuss issues of origin in order to help us all continue to live meaningfully in the intersection of the physical and spiritual realities of today. This book helps move that thought process toward its own Telos or end/purpose/design.

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Telos

From ancient Greek, meaning "the *End* as it was *Intended*"

Preface

In 2007, world-renowned atheist philosopher Antony Flew changed his life-long worldview. He was finally convinced by the facts of modern science of the undeniable truth as described in his paradigm-shattering book, *There Is a God*.

Even so, the famed professor opined that there was yet one missing piece essential to the puzzle that, if discovered, must cast away any and all doubt of God's existence: "The existence of conditions favorable to life still does not explain how life itself originated. Life was able to survive only because of favorable conditions on our planet. But there is no *law of nature* that instructs matter to produce end-directed, self-replicating entities."²

No law of nature, that is, until now.

Introduction To Be or Not to Be

One day while I went outdoors Walking upon a wood Saw I much more to hope for Than any poor man should.

> The stealthy lynx, The furtive hare Played back and forth In survival's dare.

The termite, beetle, and cricket still Lay claim to the thicket against its will.

> A cardinal's wing The ferret's play The world at once In a single day.

Tree's leaves reach forward to touch the sky The chipmunk runs from the owl's cry.

This wondrous tapestry, to whom consign? It's endless display?... His design! In late December 1976, on a cold, gray, windswept wintry day on the plains of eastern Colorado, a young man went for a walk in a snowstorm. Healthy, upper-middle-class, and educated, he was a second-year medical student at one of the top universities in the world. And he was an orphan. His widowed mother had recently died a slow, painful death from breast cancer. Hard as that was, on this gray day, his despair was of another sort. Spiritual. Philosophical. An orphan of faith. For decades he had taken to heart what he had been taught in college, a vigorous study of the so-called hard sciences, that dismissed and disdained the religion he had been born into. The void that was left in him, that drove him out into this bleak landscape, was a quotation he remembered from one of the most preeminent intellects of the twentieth century, mathematician-philosopher Bertrand Russell, who wrote in 1904:

Man is the product of *causes* which had *no prevision* of the end they were achieving; his origin, his hopes, his fears, his loves and his beliefs, are but the outcome of *accidental colocation* of atoms...destined to extinction in the vast death of the solar system; the whole temple of Man's achievement must inevitably be buried beneath the debris of *a universe in ruins*.³

Upon matriculation to medical school, the young man had tried to dismiss those decades-old words in the light of humanity's emergence after the two great wars. But now, to his deep chagrin, he discovered that Russell's message of despair had been preserved and enunciated anew. In medical school he was required to read the words of one of the greatest life-scientists in the world, Jacques Monod. This aspiring young doctor was gripped with the realization that the iconic Monod had declared, in complete harmony with Russell, that "Man must at last wake out of his millenary dream; and in doing so, wake to his total solitude, *his fundamental isolation*. Now does he at last realize that, like a gypsy, he lives on the boundary of an alien world. A world that is deaf to his music, indifferent to his hopes."⁴

As the snow flurries swirled around him on that nondescript landscape, where land and sky merged into a blurry colorless translucency, he quickened his pace, trying to shed the restlessness imposed by the lingering storm that forced his weeklong shut-in during Christmas break. He was numb to the penetrating cold because he was already half frozen by the coldness in his heart. He was a true believer and a deep thinker. And all he could think about was Russell and Monod's admonition, a message amplified by the task of carving up corpses in a cadaver lab: humans are just the result of random physical events taking place on some backwater planet at the edge of an insignificant galaxy. Or simply put: *man has no ultimate purpose in life*. We don't really belong here. We are accidents, freaks of nature. As Jacques Monod said, we are gypsies on "the boundary of an alien world." We are unintended, unnecessary, unimportant.

But that's not how this young man was raised. He was brought up in perhaps the most optimistic and prosperous time and place in all of human history. Our American fathers were victorious in the greatest war in history. There was unbridled economic prosperity. America's sons and daughters stood ready to lead the world in a new era of hope and justice. Freedom afforded by the Declaration of Independence, justice guaranteed by the US Constitution, and purpose derived from a loving Creator who had made all this possible. And yet, all those hopes and dreams had now, somehow, vanished. All because of these decrees by the reigning intellectual elites. So why bother? Maybe he should just keep walking. On into the storm. Who would care? The streets were empty. No one else wanted to be out. There was nothing to stop him. No life purpose anyway.

Just then he came upon a shed alongside the road. His physical instincts overruled his overwrought psyche. He ducked through an open door. Once inside, he began to shiver uncontrollably, a response that put the foolishness of his actions into stark relief. He had acted out his melancholy to the point of sheer desperation. Now what? Why was there no answer? All he wanted was to know that his life had true meaning, real purpose. The words of a familiar tune by Supertramp again came to mind. In their 1979 popular tune "The Logical Song," the singer describes the angst he feels when, alone at night and able to ponder, he finds that he can't even answer the most basic question of all. In desperation, he pleads with someone wiser:

> Please tell me who I am... Who I am Who I am⁵

Overwhelmed, he wept. Uncontrollably wept. Until a good part of the sadness gripping him was spent. When it was over, he just wondered: *Why? How? How had the purpose-filled life he once cherished disappeared? What* really *was going on here?*

Something deep inside told him, *Don't give up*, *Stephen. You will find a way, an answer.* He knew, just knew, that he had to find an answer, not just for himself, but also for those he was to care for as a future oncologist. When cancer killed his mother at age forty-seven, he tried to intellectualize the event. And he vowed to become a cancer specialist to avenge her death by vanquishing that evil scourge. But he also knew, just knew, that his patients would want an answer to the most fundamental question, the same answer he was looking for. How could he be a complete

caregiver to terminally ill cancer patients if he could not answer life's most basic question?

And now, at long last, some forty years later, I believe I have found that answer.

That's what this book is about. The answer is purpose! I have written *Telos* to show you in vivid detail and to prove beyond any shred of doubt that purpose itself is not simply real but also that purpose dwells at the ground of your very being and guides your every action.

Pastor Rick Warren became world famous with his best-selling *The Purpose-Driven Life*. Therein he explains to a confused world what no other creature but man could doubt: the purposefulness of life. And the immense reception to Pastor Warren's message made one thing above all quite clear: we all yearn for purpose. Somehow, we have lost access to this most basic aspect of life itself.

Warren's approach is theological, explaining purpose via revelation as given to us in the Holy Bible. My approach is different. In *Telos*, I discuss nothing already addressed by Pastor Warren. I am not a theologian. I am a scientist and a cancer doctor. What I have uncovered could change everything you may have thought you knew about the relationship between faith, purpose, and modern science. Because what I intend to prove to you is that the reigning paradigm in modern science and its obligatory requirement to abandon faith is totally wrong. Fatally flawed.

Every day in my medical practice, I am able to speak to my patients, not just about chemotherapy and CAT scans, but also about the true meaning and purpose of life. There has been no greater blessing bestowed upon me as a physician than the love and gratitude they give me in response to these conversations. Of course, I don't give them the tutorial that is this book. But I do pass along the main idea, to understand that life and death have purpose and that we all belong to both. I had a hint of this even while I was discouraged by reading Monod and Russell. The words of a true twentieth-century sage gave me a ray of hope: "We have shattered the myth where human intelligence is a fluke in the midst of boundless stupidity. For if the behavior of an organism is intelligible only in relation to its environment, intelligent behavior implies an intelligent environment."⁶

So I will teach you things you most likely have never heard of. It will be fun learning indeed. But far more importantly, it just might save your life. And possibly your soul.

I want the world to know what I didn't know in 1976. I want the young and old to walk with joy in the storm. No more should any of us needlessly cry tears of sadness alone in a shed during the grayness of winter or alone anywhere, grasping for the meaning that we all want and need to survive.

Intent and Mission

I will say this now and many more times in the pages ahead: your life, my life, all life, *has purpose, was created by purpose, and objective science proves this to be true.* You may already know emotionally about the purpose in your life. But in our modern techno-science world, emotion may not be enough. The lessons of this book are written to defend your oh-so-precious spiritual *birth right of purpose* from the hegemony of misguided modern science—the so-called received wisdom that permeates and contaminates the academia of today. It's nihilist propaganda that I, and every other science student of the past sixty years, has been subjected to by their mentors. There is a word for their oppressive position: *dogma*. And it's dogma vacant of supporting facts.

You'll find that *Telos* is not another bland narrative of science and philosophy, though I will delve into both. Rather, *Telos* is a journey where we will chisel away at the shackles of

pseudo-intellectual enslavement that has kept all of us from the self-fulfillment and purposeful wonder that God has offered to us all. Herein I offer to you nothing less than a twenty-first century spiritual emancipation proclamation, combined with a call for a new age of enlightened vision and self-awareness. And I promise to make this fun and entertaining along the way, taking you to places and persons you may never have encountered before. Together we will climb breathtaking vistas as well as plumb the darker crevasses of misguided modern philosophy. I'm sure you'll find *Telos* both challenging and exhilarating. And in the end, I hope it will leave you with a deep, burning insight into the unfathomable wonder and beauty of our world. A world of ubiquitous, breathtaking, exhilarating purpose.

PART I

Modern Science and Its Manipulations



1

A Day in the Life of *Telos*

I met a man of humble means Who lived alone, contented. He gave away most all he owned, An act he never resented.

I asked him why he lived this way When once he owned such treasure. He said there was now just one thing In this world which gave him pleasure.

What could that be, I asked, Which replaced all that was material? He looked at me and with a sigh replied Are you acquainted with the ethereal?

Most men look for many things, They hope will offer meaning But oftentimes they look right past What in nature is most revealing.

To know at last that purpose Which God has given me is all that really matters... For it is that which set me free! t's just an hour before dawn. A whitetail doe has been waiting throughout the dark moonless night for just enough light in which to feed. In that pitch darkness the cougar who has been on her trail also cannot see. A dim grayness lights the meadow as the doe ventures forth, driven by hunger. She knows that it's safe for just a short time to munch on the fresh sprouts that await her in the clearing before the light of day makes her an easy target. Hunger dwells within her, but hunger competes with the caution imposed by situational awareness. Both drives are inherent: to feed and thereby be able to nourish her newborn fawn that lies waiting in the thicket from which she emerges—*this indwelling purpose, along with the instinct* to wait until night's *end* before acting, to improve her chances of survival as well as her offspring's.

What's innate is inherent, and what's inherent is indwelling: innate = inherent = indwelling. What's true of this in the animal world is also true of each of us. We have something indwelling us, something that is a fundamental part of our nature. Like gravity, it's invisible, but it's just as real as anything else in our entire experience. It's just there. But unlike gravity, it is not external. It comes from within.

From the beginning of time, all men and women recognized the presence of this indwelling, innate force, motivating them to proceed with purpose in their most essential daily activities. In the natural world, uncontaminated by misguided pseudoscience, that motivation persists unhindered for all to readily observe. It's like every beat of your heart, like the love of life within your heart, like the self-awareness that guides your every waking moment, like the consciousness of your very soul.

And you do not exist without it.

These may seem like bold pronouncements. In fact, they are simple truths, essential to each of us, however lost or tainted they have become over the past century—an era of "rationalist" thinking imposed upon us by the nefarious ambitions of the pseudo-intellectual scientific elites. We will closely examine those ideas in the chapters ahead. It's not so much that the science itself is wrong, but rather, these elites extrapolated science into the spiritual realm where it has no place. This extrapolation was done in order to make claims of total truth, in order to replace the timeless truths I will bring out in this book.

Inherent Purpose

First, though, let's look at more evidence of "inherent" too often dismissed as just a "given."

A female Nile crocodile has not eaten for weeks. She has spent all of her time incubating her eggs. When readying to lay these eggs more than a month ago, she dug out a nest in the moist soil, carefully choosing just the right spot on the edge of the grove with enough moisture, shade, and heat to nurture her preborn. Although her brain is the size of an almond, this feat of nesting is so complex that even the most experienced herpetologists are at pains to emulate it. She could not eat all this time because to leave the nest would expose her eggs to easy predation from nearby monitor lizards.

All the while, inside those very eggs, a gooey, gemish of yolk and egg white is miraculously proceeding with steadfast purpose through a series of exquisitely orchestrated formative chemical reactions. What on earth is the guiding force that causes these molecular interactions, largely inexplicable by modern science, to unfailingly result in their miraculous transformation into fully formed baby crocs? Even the eggshell itself is semi-porous, allowing just enough water and oxygen to seep in to sustain the life of the croc embryo, all the while maintaining an invisible antibacterial barrier to prevent infection. How amazing is that! And these hatchlings, too, are imbedded with purpose, knowing exactly when and how to poke through that marvelous eggshell and say hello to the momma croc.

Now at last the eggs are hatching as the tiny baby crocs climb out of their shells. Momma croc gently picks them up in her large mouth and walks them down to the water's edge, slowly releasing them under a shaded bank where they can be protected. These same jaws that crunch through the ribcage of unlucky wildebeests now fondle and caress her newborn as she completes her motherly duties.

All of this is *inherent* within her: the natural urge to both reproduce and then protect her young. And her *innate* purpose is to ensure the ongoing survival of her lineage, an *indwelling* drive even more powerful than her own personal survival instinct. This *purpose* caused her to put aside her own needs and undertake the arduous tasks of breeding, nesting, and fasting so that, in the end, she would produce vibrant offspring.

Because quite simply, that's just what *purpose* is: the *drive* to fulfill a desired *end*.

You see, Telos, like all other forces of attraction, is invisible. What you see is the effect, not the invisible cause. You may see raindrops falling (or your black coffee getting spilled on the pretty white carpet), but you don't see what causes them to fall—gravity. It's the very same thing with Telos, which is that force of nature that generates purpose. What you actually see are the purposeful actions of creatures driven by that force.

So that is exactly the definition of Telos: the indwelling-innate-inherent force of nature that motivates all living things to act with purpose. Let's look at a few more examples.

It's October in the Pacific Northwest. And that means that salmon are returning to rivers all along the western United States, from northern California to Alaska. These astounding fish with brains the size of a peanut have successfully navigated across the wide Pacific and back again to the river of their origin, a journey of about eight thousand miles. How do they navigate so far and so precisely? Modern science has no idea. You may carve up that tiny salmon brain a hundred different ways and still come away with no clue. While the great edifice of contemporary science remains stupefied, we together will learn just what force of nature performs this spectacular feat.

Here's what I can tell you at this early juncture: *Inherent* within them is a knowledge of navigation no scientist can explain. Yet they are *purpose-driven* to fulfill their *indwelling urge* to spawn, thereby completing their life's *innate purpose*.

Let's stay with primitive, cold-blooded, tiny-brained creatures just once more.

A hungry tiger shark is on the prowl along the coast of an uncharted South Sea island. While it has two eyes, they are primitive at best. How can it accurately see prey through the ocean's blurriness and translucence? It can't. Of course, it has to feed. And to do that, it has to catch prey. But most fish in the ocean are faster than the shark, so what must it do to survive? Well, it has to find prey already in distress so they are easily caught. But how? The shark can't see very well, and it's not very fast. But the shark has a sensory organ like no other creature on earth. Running along both sides of its head and neck is a linear vibratory sensor called the Ampullae of Lorenzini. It's a rather complex jelly-filled motion receptor that detects the slightest erratic movement in the water from a hundred feet away. So when you see footage of sharks seemingly swimming lazily along, it's because they are waiting for a cue from this vibration sense organ. When the alarm goes off, they rush to the scene of the impaired target and easily gobble up a meal.

How did sharks acquire this fantastic, almost space-age, tractor beam? No other creature has it. And sharks are so primitive that they have barely changed in two hundred million years, essentially since the age of dinosaurs. There really is no scientific answer to this question—that is, until now.

Along with millions of other natural marvels, modern science just lumps all of them into a worldview that denies they are marvels at all. They are "nothing but" inevitable outcomes dictated by the survival of the fittest, shaped by millions of years of unguided accidents. Recall again those ominous words of the acclaimed genius Bertrand Russell that had such a profoundly negative impact on me when I was young and impressionable. He wrote that we and everything else in the universe are products of "*causes* that had *no prevision* of the *end* they were achieving." In other words, these causes acted mindlessly with no purpose because these causes have no mind and so no ability to act with purpose. But does that make sense? I just described creatures that are motivated by causes with very clear "prevision." Including, apparently, acting with a gift of prophecy.

Consider: As I'm writing this, it's mid-July, and in a wooded area deep in the Ozark mountains, acorns are just now falling from the oak trees. Most years, the chipmunks don't bother storing nuts for winter until late August. But this year something is quite different. It looks like battle stations out there as the chipmunks stockpile their winter feed earlier and with more intensity than ever. Do they know something we don't? Is there going to be a long, tough winter later this year? These chipmunks seem to think so, which is why they are gathering that which is necessary to survive the tough times ahead. Dwelling within them is the prescience of what the coming seasons will bring. No scientist can explain how these mere rodents can know what the distant winter weather will be like. But innately, they do know, and they respond to this inexplicable knowledge and proceed fastidiously. Their purpose is obvious: stock up for what lies ahead or starve to death. They don't want to end up with nothing in the root cellar once the land is laid barren with snow.

In that same forest, insects without a central nervous system—that is, without a brain as we know it—are busy constructing an intricate dwelling in which to house their highly organized community of occupants: bees, termites, and ants. It remains yet another of the greatest mysteries of science that such humble, "brainless" creatures can independently organize their large populaces into such cohesive colonies and construct such elaborate housing for their food stores and young.

Y'know, bees don't make honey just so that humans and bears can have a tasty treat now and then. Like the chipmunks, they somehow know that the abundance of summer won't last, so they, too, store food for the darker days ahead. This *awareness* is inherent within them, an indwelling aspect of their nature. It is an essential part of their very being. Thus, they lay their eggs in the octagonal wax segments of the hive so that the baby bees (the larvae) have something to eat as they incubate their way toward beehood.

But how do they know this? Bees and ants don't have traces of "information bits" somewhere in their nonexistent brains. For that matter, neither do crocodiles or salmon or even mammals such as chipmunks and whitetail deer. No scientist has ever found anything like that in any brain or nerve ending in any creature, despite looking exhaustively for decades, not even inside the human brain, such as the one inside your head that's allowing you to read this book right now.

The Source?

So where, oh where, is all this lifesaving, oh-so-purposeful information coming from? No scientist knows.

Go ahead. Get a boat. A big one if you like. And sail without a compass or GPS system or sextant from Seattle to Tokyo and back again. It's a big wide ocean. You'd have no chance of making the trip. But every mini-pea-brained salmon-fry does it with ease. What does this tell you? It tells me that something essential is missing from the paradigm of modern science. Something big. And that's exactly what we will be exploring in the chapters ahead.

What I will demonstrate is that the causes imposed on nature really do have prevision, something Russell and most modern scientists remain blind to. In fact, anticipation and prevision surround and abound in the natural world. Living creatures exercise purpose in survival and reproduction so that in the end there will be plenty to dine on and new members to take their place in the ceaseless parade of seasons. The purpose that drives them is inherent within them. It is innate and indwelling, and it's just like the purpose that is inside of you—an integral, inseparable part of your very nature. It's that invisible but immediately apparent knowable force that causes you to act with purpose. It's an intrinsic, inseparable element of your very existence. Like gravity, which is always there to hold you to the ground. There is nothing external that puts gravity into effect. The force of gravity just is. Period.

Now, if you think that gravity is caused by the attraction of one mass upon another, famed theoretical physicist Albert Einstein would say you were wrong. He completely rewrote Isaac Newton's explanation of gravity. Even if you believed Newton, the question would still arise, "What is it in matter that causes the force of attraction?" No one knows. It's just there.

Just like your heart. You don't will your heart to beat. There is nothing external that makes it beat. It just does. It beats as it must because it is in you. It's a part of you. Of every second of every minute of every day, beginning seven months before you were even born, your heart has been beating, pumping blood throughout your body. Why does it do this? No scientist can tell you. It just does. And your physical life depends on it. Without your heart doing this work, you would die.

Just as the whitetail doe would not survive without the innate ability to proceed with caution.

Just as the crocodile's lineage would cease without its indwelling ability to breed.

Just as the chipmunks would surely perish in the dead of winter without their inherent urge to stash acorns.

I recently watched a video of a newborn giraffe that was on its feet and suckling its mother within ten minutes of being born. That drive to get up, start suckling, and stay on its feet is innate. It all comes from within. Mommy giraffe did not have to do any prompting.

Scientists call this instinct. But where does instinct come from? Just blind chance? Fortunate luck? No scientist can explain it. The label "instinct" is just a dismissive way of describing the innate/inherent/indwelling marvels I've already presented. Scientists offer no deeper explanation than to say that instinct just happens to be there so that lucky sharks and lucky giraffes and lucky bees and salmon and deer and chipmunks and crocodiles can survive. "Luck" is the total extent of their explanation. Luck is the alleged mechanism that randomly endows these purpose-driven creatures with the instinctive knowledge necessary to survive in the wild. We can easily see that all creatures have the exquisitely designed anatomy and skillful abilities required to survive the treacherous struggle for survival in the wild. Is all of this really the result of just plain luck? Does that scientific explanation tell you anything meaningful at all? Of course not. It's purely circular logic. It's like saying, "Big is more than small because it's larger."

Have you ever played sports and felt the reward when your skill and hard work made it possible for you to hit the home run, serve the ace, or break the tape at the finish line? And isn't it sad when your opponent says, "You just got lucky"? The fact is that you know that it wasn't luck at all. It was the drive to fulfill an intended purpose.

And that drive to arrive and to survive, which is so obviously innate in all living creatures, actually starts where it must: at the very *origin of all life* on planet earth. There is a name for the cause of this galaxy of purposeful actions, the drive to accomplish the intended end: Telos.

Just as a pine tree shoot bends its shaft to find sunlight coming through the partly shaded forest canopy, driven to the light by its inherent nature.

Just like those hummingbirds that migrate ten thousand miles from Brazil to Canada and back again, going where the weather suits their feathers, all because of their innate drive to act with purpose.

Just like the hatching mayfly bursts out of its cocoon carapace to fly, mate, and then die all within its forty-eight-hour lifespan.

Just like emperor penguins, which huddle together in an Antarctic blizzard, each one rotating in their turn from the center to the outer rim of the circle and back again, sharing the cold and shielding each other in the most hostile environment on earth. Nobody trained the penguins to perform this complex maneuver or explained to them that by cooperating in this way, they would be better able to survive than if they just went it alone. The indwelling knowledge to act with such purpose was already inside them, inherent in their behavior, no less than their own beating hearts.

Just as the noble monarch butterfly navigates its three-thousand-mile journey from central Mexico to Colorado to California, taking four generations to complete each cycle—such an inexplicably complex journey performed by a brainless insect. Just as...just as...just as...Yes, the examples are as limitless as life itself.

Only one thing can make all this possible. Only one: that ancient yet timeless willful force of nature generating a world of ubiquitous purpose. That which dwells inside each living being, the driving force of purpose in nature: Telos.

You might wonder why a busy oncologist facing medical crises on a daily basis would spend time pondering the role purpose plays in nature. And the answer might surprise you: I needed to learn something about my own purpose. Let me explain.

Despite the drama and sadness that sometimes permeates cancer care, I found myself so inexplicably drawn to it that if I didn't put in a good twelve to fourteen hours every day, I felt shortchanged. Was it the extra money for working overtime, the power over life and death, or the sense of self-importance I derived from being a doctor that drove me? One or the other or all three, I felt early on. But before long I found there was really only one thing I actually cared about: the lives of my patients. Which raised the next question: Why? From gross dissection and biochemistry classes on, my education had taught me to see human beings as soulless assemblages of co-located atoms with deranged body chemistry. So what difference should it make if they lived or died? As it turns out, it made all the difference in the world to me both as a man and a doctor. Caring for them was what drove me night and day. And the source of that devotion was a mystery until the day I finally realized the truth: that inner desire to heal was innate, as inherent as the busy-ness of bees and the navigation skill of salmon fingerlings, the situational awareness of deer, and the maternal instincts of bears and crocs.

It was this very real and personal awareness of my indwelling purpose that prompted me to see and celebrate the natural marvels of our world where soon I recognized Telos in action everywhere.