



The Seven Pillars of Creation

*The Bible, Science, and the Ecology
of Wonder*

WILLIAM P. BROWN

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Contents

Preface, ix

Acknowledgments, xiii

Abbreviations, xvii

1. Introduction: From Wonder to Wisdom, 3
 - Lost in Wonder, Losing Wonder*, 4
 - Word and World Made Flesh*, 6
 - Wonder and Wisdom*, 7
 - Faith Seeking Further Understanding*, 8
 - Scoping the Biblical World*, 11
 - Guide for the Journey*, 14
 - Wisdom's Quilt*, 17
2. Revolution and Evolution: Ancient Near Eastern Backgrounds to Creation, 21
 - War of the Gods: Mesopotamia and Canaan*, 22
 - Creation's Self-Evolution: Egypt*, 29
 - Conclusions*, 31
3. The Cosmic Temple: Cosmogony According to Genesis 1:1–2:3, 33
 - Translation*, 34
 - Character of Creation*, 36
 - Cooperative Process of Creation*, 44
 - Character of God*, 46

- Character of Humanity*, 47
Socio-Historical Context, 48
Creation and Science: Connections and Collisions, 49
Rereading Genesis 1, 66
4. The Ground of Being: The Drama of Dirt in Genesis 2:4b–3:24, 79
Text and Narrative, 80
Kingship and Kinship: Socio-Historical Context, 91
Science and the Ground of Life, 92
Rereading Genesis 2:4b–3:24, 107
5. Behemoth and the *Beagle*: Creation According to Job 38–41, 115
Socio-Historical Background, 116
The Strange World of the Text, 116
God's Creation: A Whirlwind Tour, 125
Biology and Biophilia, 131
Job and Evolution, 135
6. The Passion of the Creator: The Manifold Nature of Nature in Psalm 104, 141
Translation and Text, 142
Social Context, 144
Character of Creation, 145
God the Playful Provider, 147
Humanity's Place, 150
The Science of Biodiversity, 151
Reading Psalm 104 Naturally, 157
7. Wisdom's World: Cosmos as Playhouse in Proverbs 8:22–31, 161
Socio-Literary Context, 161
Creation According to Wisdom, 163
Scientia and Sapientia, 168
Revisiting Wisdom's World, 176
8. The Dying Cosmos: Qoheleth's Misanthropic Principle, 177
Socio-Historical Background, 178
Creation According to Qoheleth, 178
The Recycled World of Science, 186
Humanity Gone to Hebel? Qoheleth Meets Steven Weinberg, 194
9. The Fabric of the Cosmos: The Emergence of New Creation in "Second Isaiah", 197
Socio-Historical Background, 198

Character of Creation and Community, 200

Character of God, 204

Flowering of Creation, 206

Science of Emergence, 210

Isaiah Emergent, 214

10. The God Allusion: Creation as Consciousness-Raiser, 221

Textual Orientation, 222

Bible and Science, 226

Canonical Consonances, 227

Humanity's Place, 230

Word for a Warming World, 234

Appendix, 241

Notes, 245

Bibliography, 301

Index, 321

Index of Scripture Passages, 329

Abbreviations

- AB Anchor Bible
- ANET *Ancient Near Eastern Texts Relating to the Old Testament*. Edited by J. B. Prichard. 3rd edition. Princeton, NJ: Princeton University Press, 1954
- AOAT Alter Orient und Altes Testament
- ATANT Abhandlungen zur Theologie des Alten und Neuen Testaments
- BA *Biblical Archaeologist*
- BHS *Biblical Hebraica Stuttgartensia*. Edited by K. Elliger and W. Rudolph. Stuttgart: Deutsche Bibelgesellschaft, 1983.
- BM *Before the Muses*. By Benjamin Foster. 2 vols. 2nd edition. Bethesda, MD: CDL Press, 1996.
- BWL *Babylonian Wisdom Literature*. Edited by W. G. Lambert. Oxford: Clarendon Press, 1960.
- BZAW Beihefte zur Zeitschrift für die alttestamentliche Wissenschaft
- CBQ *Catholic Biblical Quarterly*
- CBQMS Catholic Biblical Quarterly Monograph Series
- CS *The Context of Scripture, Volume One*. Edited by William W. Hallo and K. Lawson Younger Jr. Leiden: Brill 2003.
- FAT Forschungen zum Alten Testament
- FOTL Forms of Old Testament Literature

- HALOT *The Hebrew and Aramaic Lexicon of the Old Testament*. By Ludwig Koehler and Walter Baumgartner et al. 2 vols. Leiden: Brill, 2001.
- HBT *Horizons in Biblical Theology*
- HTR Harvard Theological Studies
- IDB *The Interpreter's Dictionary of the Bible*. Edited by G. A. Buttrick. 4 vols. Nashville, Abingdon, 1962.
- IEJ *Israel Exploration Journal*
- J-M *A Grammar of Biblical Hebrew*. By Paul Joüon. 2 vols. Rome, Editrice Pontificio Istituto Biblico, 1991.
- JBL *Journal of Biblical Literature*
- JPC *Journal of Psychology and Christianity*
- JR *Journal of Religion*
- JSOTSup Journal for the Study of the Old Testament: Supplement Series
- KTU *Die keilalphabetischen Texte aus Ugarit*. Edited by M. Dietrich, O. Loretz, and J. Sanmartín. AOAT 24/1. Neukirchen-Vluyn: Neukirchener Verlag, 1976. 2nd enlarged edition of *KTU: The Cuneiform Alphabetic Texts from Ugarit, Ras Ibn Hani, and Other Places*. Edited by M. Dietrich, O. Loretz, and J. Sanmartín. Münster: Ugarit-Verlag, 1995.
- LXX Septuagint
- MT Masoretic Text
- NJPS *Tanakh: The Holy Scriptures: The New JPS Translation according to the Traditional Hebrew Text*
- OBO Orbis biblicus et orientalis
- OTS Old Testament Studies
- PACS Philo of Alexandria Commentary Series. Edited by Gregory E. Sterling.
- PSB *Princeton Seminary Bulletin*
- SAACT State Archives of Assyria Cuneiform Texts
- SBLWAW Society of Biblical Literature Writings from the Ancient World
- ThLZ *Theologische Literaturzeitung*
- VT *Vetus Testamentum*
- VTSup Vetus Testamentum Supplements
- ZAW *Zeitschrift für die alttestamentliche Wissenschaft*

I

Introduction

From Wonder to Wisdom

Wisdom has built her house; she has hewn her seven pillars.

—Proverbs 9:1

The larger the island of knowledge, the longer the shoreline of wonder.

—Ralph W. Sockman¹

The religion that is married to science today will be a widow tomorrow. . . .
But the religion that is divorced from science will leave no offspring
tomorrow.

—Holmes Rolston III²

I would not say interpretations, Mr. Darrow, but comments on the lesson.

—William Jennings Bryan³

The inspiration behind this study stems from a childhood epiphany that took place in a science museum in Seattle. Set off in a far corner was a small video screen whose button was waiting to be pushed by a curious child. I happily obliged. A serene scene unfolded of a young couple lounging on a picnic blanket in a Chicago park. But before my eyes could linger, the screen took me out above the park, the city, Lake Michigan, the continent, and the globe. Vast stretches of outer space quickly came into view. The solar system resembled something of an atom. Next came other stars, the swirling Milky Way, and finally empty space dotted with tiny galaxies. Then in a matter of seconds I found myself once again suspended

over the lounging couple, pausing only briefly before closing in on a patch of skin and proceeding all the way to the cellular, molecular, atomic, and quark-scale levels. I was mesmerized by this dizzying ride through the cosmos and the microcosmos. I saw things I thought were privy only to God.

That presentation, I discovered years later, was *Powers of Ten*, the ingenious creation of Charles and Ray Eames.⁴ Both a visual thought experiment and a virtual rollercoaster ride, this now “ancient” video dramatically covered the extremities of scale, from the unimaginably vast (10^{25}) to the inscrutably tiny (10^{-16}), from the cosmic to the subatomic. The sum effect on me was nothing short of transcendent.

Gloriously “weird” is how physicist Brian Greene describes the quantum world.⁵ “Too wonderful” is how the biblical sage responds to creation’s marvels (Prov 30:18–19). The psalmist trembles before the vastness of the universe (Ps 8:3–4). Biologist Ursula Goodenough celebrates the “sacred depths of nature.”⁶ What do they all have in common? I wonder. Though separated by over two and a half millennia, the authors of ancient Scripture and numerous scientists of today find themselves caught up in a world of abiding astonishment. Like the ancients, many scientists admit to being struck by an overwhelming sense of wonder—even “sacredness”—about nature and the cosmos.⁷ What a far cry from Francis Bacon’s objectification of the natural realm as humanity’s slave!

The wonder of it all prompts one—anyone—to wonder about it all. Bioanthropologist Melvin Konner regards the capacity to wonder as “the hallmark of our species and the central feature of the human spirit.”⁸ Although *Homo sapiens* (“wise human”) may be too self-congratulatory, there is no doubt that we are *Homo admirans*, the “wondering human.” Wonder is what unites the empiricist and the “contemplator,” the scientist and the believer.⁹ “Everyone is naturally born a scientist,” admits astrobiologist Chris Impey.¹⁰ We can no more deny that of our distant ancestors than we can deny that of ourselves. Together, the ancient cosmogonist and the modern cosmologist, the biblical sage and the urbane biologist form a “cohort of wonder.”¹¹

Lost in Wonder, Losing Wonder

Sadly, the cohort is dissolving. The language of wonder has become riddled with the rhetoric of adversity. In their fight against “soulless science,” creationists champion a view of creation so narrow that it is decidedly unbiblical. At the other extreme, certain scientists construe faith in God as the enemy of scientific progress and human well-being.¹² As one might expect, misunderstandings

and distortions abound as each side reduces the other to laughable caricatures. Illiteracy, both scientific and biblical, reigns.

Is science really hell-bent on eroding humanity's nobility and eliminating all sense of mystery? Not the science I know. Is faith simply a lazy excuse to wallow in human pretension? Not the faith I know. What if invoking God was a way of acknowledging the remarkable intelligibility of creation? What if science informed and enabled persons of faith to become more trustworthy "stewards of God's mysteries" (1 Cor 4:1-2)? What if faith fostered a "radical openness to the truth, whatever it may turn out to be."¹³ The faith I know does not keep believers on a leash, preventing them from extending their knowledge of the world. The science I know is not about eliminating mystery. To the contrary, the experience of mystery "stands at the cradle of true art and true science," as Albert Einstein famously intoned. "Whoever does not know it can no longer wonder, no longer marvel, is as good as dead."¹⁴

"Mystery," of course, can mean anything from the incomprehensible born of ignorance to the surprising anomaly that invites explanation. For me, mystery inspires awe and inquiry. Examples of mystery are the "unreasonable effectiveness of mathematics,"¹⁵ the remarkable intelligibility of nature, something instead of nothing, the emergence of life, and God's love for the world. Mystery acknowledges that, while we cannot know absolutely everything about, say, a particular ecosystem, there is nothing to stop us from knowing *more* about it, infinitely so. Mystery recognizes the provisional nature of our explanations and the inexhaustibility of our investigations. The world will always be more than what we know. Mystery is being grasped by something larger than ourselves, ever compelling us to stretch, rather than limit, the horizons of our awareness. Under the rubric of wonder, mystery has its place alongside understanding.¹⁶

To recapture something of the awe that fostered the spirit of inquiry among the ancients and today ignites the "vital spark of wonder that drives the best science,"¹⁷ I want to embark on my own tour of sorts, not so much a roller-coaster ride as a leisurely excursion. I propose a tour of the biblical contours of creation conducted in conversation with science, an expedition that boldly charts the now *uncommon* ground of wonder. The terrain is rugged. Certain theologians, joined by scientists of deep theological conviction, have labored hard to put religion and science on a positive footing. But their discussions have been largely ignored by the front-line combatants and have so far slipped under the radar screen of the general public.¹⁸ Biblical scholars, moreover, have largely avoided entering the conversation, perhaps because the discussion has remained too technical or would take the biblicist far afield of his or her own areas of expertise. Across the table, the theologian and the scientist would have

good reason to question what a Bible scholar, steeped in antiquity, could ever contribute to such forward-looking discussions.

This is unfortunate, for the Bible—particularly its authority and interpretation—has been an intractably persistent issue in both the popular “debate” (read “culture war”) and the academic dialogue. From the 1925 Scopes trial in Dayton, Tennessee, to the 2005 court case of Dover, Pennsylvania,¹⁹ the Bible has been either the point of contention or the unnamed elephant. The root of the problem, or better challenge, has always been the Bible and how to read it. Thus, my central aim is to explore how to read what the Bible says about creation. What follows is meant not to win the “war” but, more modestly, to reduce the number of casualties, on both sides.²⁰ I want to move beyond the “debate” by introducing something of the Bible’s own inexhaustible richness, its profound wonder.

I begin by recognizing that there is much more to the biblical account of creation than the seven days of creation. There are at least seven *ways* of creation featured in the Bible, seven separate traditions, each worthy of reflection but each incomplete by itself.²¹ They are:

1. Genesis 1:1–2:3
2. Genesis 2:4b–3:24
3. Job 38–41
4. Psalm 104
5. Proverbs 8:22–31
6. Ecclesiastes 1:2–11; 12:1–7
7. Isaiah 40–55 (excerpts)

As no single observer can ever gain complete information about the world on any given level, so no one biblical tradition has the complete and final word on the world. Moreover, each tradition has a depth dimension that is all too easily missed, if not dismissed, in the current discussions. The full scope of human life cannot be reduced to blind chance and selfish genes anymore than the Bible’s perspectives on creation can be whittled down to seven days and an apple (which is nowhere mentioned in Genesis). Such reductionism is made to the impoverishment of all participants, Darwinists and creationists, physicists and theologians, Sunday school teachers and exegetes alike.

Word and World Made Flesh

This book invites the non-expert who yearns to know more about engaging biblical faith and science in constructive, as opposed to confrontational, ways. This study also welcomes the scientist who desires to know more about what

the ancient Scriptures say about cosmology, nature, and humanity's place. In short, I want to help readers become more literate in Scripture *and* science, as I have become in the course of my research. Specifically, I want to bring together two distinct disciplines, biblical theology and modern science,²² and explore points of conversation in ways that I hope generate more synergy than sparks. My conviction is that one cannot adequately interpret the Bible today, particularly the creation traditions, without engaging science. Otherwise, the Bible's "strange new world" would become an old irrelevant word.

Central to the Christian faith is a doctrine that resists the temptation to distance the biblical world from the natural world: the incarnation. Barbara Brown Taylor puts it well: "[F]aith in an incarnational God will not allow us to ignore the physical world, nor any of its nuances."²³ Such faith calls us to know and respect the physical, fleshy world, whose "nuances" are its wondrous workings: its delicate balances and indomitable dynamics, its life-sustaining regularities and surprising anomalies, its remarkable intelligibility and bewildering complexity, its order and its chaos. Such is the *World* made flesh, and faith in the *Word* made flesh acknowledges that the very forces that produced me also produced microbes, bees, and manatees. As much as Christians cannot ignore the incarnate God, they cannot dismiss the discoveries of science. Theologically, there is no other option: faith in such a God calls people of faith to understand and respect the natural order, the world that God deemed "extremely good" (Gen 1:31) and saw fit to inhabit. The God in whom "we live and move and have our being" (Acts 17:28) has all to do with the world in which we do indeed live and move and have our being. The world subsists *in* God even as God remains present *in* the world. It is, admittedly, a mystery. But through science we become more literate in the mysteries of creation and, in turn, more trustworthy "stewards" of those mysteries.

Wonder and Wisdom

To be literate is more than being informed. "We are drowning in information, while starving for wisdom," laments biologist Edward O. Wilson.²⁴ Born from wonder, wisdom may very well be the basis and purpose for gaining "cultural competence" and, thus, bridging faith and science. By no coincidence, wisdom assumes a prominent place in Scripture. According to biblical lore, Wisdom personified claims to have been personally present at the creation of the cosmos (Prov 8:22–31).²⁵ After bearing witness to God's construction of the universe, she creates something of her own, namely, a house with "seven pillars" (9:1). By any standard building code of Near Eastern antiquity, such a house

would have been remarkably spacious. But certain rabbinic interpreters saw something more. They discerned a correspondence between Wisdom's seven pillars and the seven days of creation.²⁶

This insight, regardless of its exegetical validity, has inspired the title of this project. Wisdom's "edifice complex" is, I submit, an appropriate framework for studying biblical creation in conversation with science. Biblical wisdom was nurtured by a spirit of inquiry.²⁷ It acknowledges creation's multifaceted integrity, complexity, and mystery. For our world, threatened as it is with environmental degradation, a wisdom that embraces both science and faith is sorely needed. From climate chaos²⁸ to species extinctions, the data of despair afflict us. But from such data wisdom seeks understanding, feeds hope, discerns solutions, and inspires action. As biblical Wisdom invites her students to enter her spacious home and partake of her varied fare (Prov 9:2-4), so the reader is invited to enter the Bible's various perspectives on creation, to wander and to wonder, and from wonder to gain wisdom.

Faith Seeking Further Understanding

If theology is, to quote St. Anselm (1033-1109), "faith seeking understanding"²⁹ and science is a form of understanding seeking further understanding, then theology has nothing to fear and, in fact, much to learn from science. Theology cannot advance the scientific quest for the underlying constituents of matter and the physical nature of causation. Science, in turn, cannot lay claim to know God and God's purposes.³⁰ Both disciplines represent independent fields of inquiry. But, I ask, does their independence preclude cross-disciplinary conversation? Because both seek truth, because each discipline is driven by an "ontological thirst, by the thirst to know reality as it is,"³¹ each can learn from the other, especially theology from science. If theology is about relating the world to God but does not take into account the world as known through science, then it fails.³² And such failure strikes at the very heart of the theological task, for among theology's anathemas is the stigma of irrelevance or "the lack of cultural competence."³³ Science, more so now than ever before, constitutes a critical feature of cultural competence. Indeed, according to one astronomer, science is "the one truly global culture."³⁴

For the sake of theological competence, I ask the following question, the one that drives this study: What is it like to read the Bible in one hand and the journal *Science* in the other? The question is not simply a matter of interpretation. It broaches a larger question: What is it like to be both a contemplator and an empiricist? Or to borrow directly from the Bible: What is like to be both a

sage and a psalmist, a steward of creation's mysteries and a servant of Christ? In my hermeneutical quest I have found that science holds the promise of deepening the Bible's own perspectives on creation. Astronomy, geology, and biology have put to rest all unbiblical notions that the world is a static given, a ready-made creation dropped from heaven. No, nature has its own story to tell. To talk comprehensively about the story of God's creative and redemptive work is to overturn the woefully narrow view that treats the world as merely the stage for humanity's salvation. The world that God so loved in John 3:16 is nothing less than cosmic. The extent of God's provident love reaches the whole of creation (Rom 8:19–23). If Earth's story is deemed at all important for our time, then it must find a place within or at least alongside God's story for all time, whose very bookends are, in fact, creation and new creation. And at either end of either story—whether the Bible's or Earth's—the scope of life and, thus, God's purposes extend far beyond humanity.

In a nutshell, this study is aimed at engaging science in the theological interpretation of Scripture. It is written for those who desire to know both what the Bible possibly *says* about creation in light of its ancient historical and literary contexts and what the Bible can *mean* within our context as informed by science.³⁵ However one distinguishes the various layers of meaning with which the Bible engages the reader (and vice versa!), all attempts at interpreting the Bible happen in dialogue,³⁶ and every dialogue begins by seeking points of contact.

As the physicist searches for the most fundamental constituents of reality and the biologist investigates the “ultimate causes” of phylogenetic change, so the theologian seeks to articulate the ultimate nature of reality as witnessed in Scripture, tradition, and experience. To quote Barth, the Bible reveals a “strange new world.”³⁷ So do astrophysics and quantum mechanics. Ultimately, the separate disciplines of science and theology ought to provide complementary maps of the same strange world we inhabit. Mary Midgley suggests that in this mutual quest for truth “consonances” or correlations between such maps are to be expected.³⁸ But finding clear and unambiguous connections may be too much to expect. Given the methodological differences between science and theology, such consonances cannot be obvious or clear cut. If they are there, they are at best subtle and partial. Ted Peters recasts such consonances as “shared domains of inquiry.”³⁹ Perhaps most suggestive is James Gustafson's metaphor of “intersections”: common points of interest shared by various disciplines in which the “traffic” is able to flow smoothly in both directions, as opposed to being stuck in gridlock.⁴⁰ Living in Atlanta, I appreciate this metaphor.

Because the discipline in which I live and move is textually based, I propose the term “parallel” as a way of identifying a point of intersection or shared

domain. Used widely (and loosely) by biblical scholars, a “parallel” typically designates some kind of literary association such as a motif, narrative juncture, type-scene, literary pattern, or similar words shared among written sources. But in the case of science and the Bible, any “parallel” would need to be significantly qualified. Because a science report and a confession of faith are two very different genres with two very different goals, any alleged point of contact is at most *virtual*.⁴¹ “Virtual parallels,” thus, are not correspondences or “consonances” in any literal sense. They are at most analogous points of contact or imaginative associations, tangents at best. Parallelomania, the tendency to see parallels wherever one looks, has no place in this cross-disciplinary dialogue, for it runs the danger of collapsing the conversation. True parallels are few and far between, particularly across disciplinary boundaries, but because they are similar *and* different, they arrest our attention, prompting us to pause and to ponder, and, most important, to enter into fruitful dialogue.

In light of the ongoing nature of scientific discovery and theological inquiry, virtual parallels can only be proposed tentatively.⁴² Nevertheless, to cite Warren Brown, constructive connections between science and faith exhibit a degree of “resonance,” at least temporarily so. While they do not strike an identical tone, resonances produce a heuristic harmony that invites further exploration and interpretive improvisation.⁴³ To shift from the aural to the visual, I call such resonances “virtual” because of the real distinctions that exist between science and theology in their method and manner of discourse. “Virtual” connotes a sense of approximation, as when one claims that something is “virtually” identical to something else. More fundamentally, “virtual” designates the generative work of the imagination, as indicated by the now common phrase “virtual reality.” A “virtual parallel” signals a sense of connection formed within the informed imagination of the interpreter. Identifying and exploring “virtual parallels” is a way of imaginatively interrelating science and faith without surrendering the integrity of one to the other. It is, in short, a way of jump-starting the conversation, of revving the engines.

But there is much more to the interpretive venture than simply identifying virtual parallels or harmonious resonances. Though the terrain between science and biblical faith may be filled with intriguing connections awaiting exploration, it is also riddled with disjunctions or collisions, claims made by the biblical text about the world that conflict with the findings of science. But as I hope to show, acknowledging the disjunctions is also indispensable for interpreting the biblical text. By whatever name we give them, *both* the resonances and the dissonances, the connections and collisions, the parallels and disjunctions, lead to opportunities for fresh dialogue and for appropriating the ancient creation traditions.

Scoping the Biblical World

As a biblical theologian, I take as my point of departure the Scriptures, striving mightily to make sense of them within their own contexts, literary and historical. But as a person of faith, I have the additional privilege of making sense of these ancient texts within our contemporary contexts. As noted earlier, much of the present conflict surrounding science and faith has to do with the Bible and how to read it. Thus, a way forward can only begin by addressing what the Bible is, and to do that we must begin with what the Bible was.

Scripture did not appear in the twinkling of an eye or fall from heaven on golden plates. The Hebrew Bible underwent its own convoluted evolution from oral beginnings to edited endings. Its various traditions emerged throughout nearly a millennium of turbulent history and theological toil. Scripture is the product of a community whose identity was shaped by the exigencies of history, on the one hand, and an abiding conviction of divine providence, on the other. Regarding the Hebrew Bible or Old Testament, the community in question was ancient “Israel,” whose name, according to the enigmatic story of Genesis 32:22–32, has something to do with “striving with God” (v. 28),⁴⁴ bestowed, not coincidentally, upon Jacob, the Bible’s most notorious underdog.⁴⁵ Consisting of stories and legal codes, poetry and narrative, genealogies and parables, laments and praise, Scripture reflects the sacred, painful struggle of a community in lively dialogue with itself, the larger world, and God. As the psalmist proclaims about creation, “O LORD, how manifold are your works!” (Ps 104:24a), so something comparable can be said of the Bible: O LORD, how manifold are your books!

Canonical Authority

As Delwin Brown observes, “Canon is not simply a collection; it is a force.”⁴⁶ Like gravity, the Bible draws in many of its readers. For believers, Scripture’s attractive pull is the basis of its authority. But what kind of authority does Scripture exercise?⁴⁷ From the Latin *auctoritas*, “authority” bears the sense of “origination,” to which the word “author” is related. “Authority” is also related to the verb *auctorare*, “to bind.” Such richness of meaning, however, is lost in common, contemporary usage. “Authority” frequently functions in legal or academic discourse, particularly when a specific decision or precedent is sought. People, for example, seek an authoritative reason that results in a binding legal decision. Journalists seek an authoritative or credible source for their research and reporting. Certain individuals assume authoritative status because they are considered experts in their fields. Authority, in short, is domain specific.

When “authority” is applied to the Bible, certain questions emerge: To what domain(s) does biblical authority pertain? Does it apply to scientific matters as much as it does to issues of faith and moral conduct? That may be easy to answer, but what about murkier matters such as sexuality, global warming, and stem-cell research, where ethical and theological reflection needs to engage the natural and social sciences? To complicate matters further, whereas recourse to authority frequently involves seeking specific decisions or answers to specific issues, how does one seek such things from biblical narratives and lament psalms? How does one “squeeze” authority out of the love poetry of the Song of Songs? Or is only the legal or instructive material of the Bible to be deemed authoritative?

Perhaps the best place to begin is by acknowledging that Scripture is authoritative first and foremost with respect to its theological subject, God, who lies beyond the purview of scientific and historical inquiry. Nevertheless, because God is the creator of all things, respect for the authority of Scripture requires respect for the authority of science. The Bible fully acknowledges that many aspects about our world can be discerned through empirical observation—a premise of the biblical wisdom tradition, as we shall see.

“Authority” in the biblical sense is clearly different from its usage in contemporary discourse. Solomon’s decree to cut the infant in half was not in itself the right *legal* decision (1 Kgs 3:25)—indeed it would have been horrifically wrong had it been *literally* carried out! Rather, the king’s ruling was meant to evoke a response that resolved the conflict. The Bible’s “authority,” thus, points to its generative power to evoke reflection and shape the conduct, indeed the very identity, of the reader and the reading community.⁴⁸ Biblical authority is as formative as it is normative, and it is made manifest in Scripture’s creative, authorial power for its readers.⁴⁹ As the attractive, binding force of gravity has helped to shape the universe in all its complexity, so the authority of Scripture forms the community of faith in all its variety.

The Refracting Lens of Hermeneutics

Interpreting the Bible, even reading it, requires a lens. The theory and practice of interpretation is the stuff of hermeneutics, a term derived from the mythical Hermes, the messenger of the Olympian gods known for his cunning and swiftness. Regarding the Bible, or any ancient text, the provisional work of hermeneutics is neither swift nor cunning. Slow and stumbling is more like it, for the ancient text is never easily or fully accessible to modern understanding. A chasm separates the modern interpreter and the ancient author, filled only partially and sometimes erroneously by the venerable history of interpretation.

We cannot fully grasp what an ancient text said to its intended audience any more than we can transport ourselves back in time and conduct interviews. The historian, even the biblical historian, cannot raise the dead.

Still, by attempting to peer ever so slightly over the hermeneutical divide, we can catch a glimpse of what the ancient text *could* have meant through careful philological study, literary analysis, knowledge of history, and comparative study. Such tools help us to develop a matrix of possible meanings, some more plausible than others. But we can never cross the divide; the full meaning of the ancient text remains ever elusive. When a telescope probes the night sky, it not only brings into view objects from great distances, it also looks back in time, measured in light-years. Given the great distances traversed by light, telescopes are the only time machines we have. The more distant the galaxy, the older and more obscure it is to the observer and the faster it is moving away.⁵⁰ Such is the built-in limitation of sight, thanks to the finite speed of light. Similar is the limitation of hermeneutics, thanks to the span of time and our own cultural myopia. Call it the finite speed of life.

There is, moreover, something broader about the hermeneutical enterprise than simply determining what the text could have said in its earliest context(s). Were that all there is to hermeneutics, biblical interpretation would be a strictly historical enterprise, an antiquarian's dream. For persons of faith, the Bible is much more than an ancient artifact; it bears relevance, and in ways not necessarily reducible to the original intent of the author(s), however partially that can be retrieved. What the text *means*, in other words, is as critically important as what it once meant or said.⁵¹ Discerning the text's meaning involves interpreting the text in the light of one's experience and within one's community. One cannot interpret the biblical text without interpreting oneself within one's context (cultural, religious, and personal).

As for the Bible's contemporary meaning and relevance, the telescope analogy shifts its focus: through interpretation Scripture itself becomes a lens to view the world and oneself. The Bible is more than a set of theological propositions or historical facts. It is more like a lens through which one sees the world differently, bringing into focus what would otherwise be overlooked.⁵² If we press the analogy further, studying the shape and curvature of the lens corresponds to discerning what the Bible might have said in its earliest context(s). To explore the Bible's meaning today is to peer *through* the lens of Scripture to discern the world around. Put more precisely, Scripture is like the refracting lens of a telescope that gathers and directs incoming light, the light of the world, in new ways. On the other end of the telescope is the eyepiece, which provides focus and magnifying power. It is what the reader provides from his or her own context.

Yes, Scripture is a world unto itself. Its various genres and traditions all populate this dense and strangely diverse world we call the Bible. But its faithful readers are called not to live *in* the Bible, as if that were even possible, but to live *through* it into the world in which they move and have their being. Through interpretation, the Bible becomes the part of the interpreter's lens to perceive and thereby engage his or her world. What, then, does it mean to view the world through the lens of Scripture alongside the powerful telescopes and microscopes, spectrometers and seismometers that have advanced our understanding of creation in ways unimaginable to the ancient authors of Scripture? Such is the impetus of this study.

The lens of Scripture, however, is not uniform. Every creation tradition offers its own distinctive lens. Some of the accounts are systematically presented. Others are rougher cut with poetic pathos. Some adopt the jagged genre of narrative; others read almost like a dispassionate treatise. Consonant with their variant forms, these accounts offer divergent views of the world, of creation. The ancient editors of Scripture chose not to homogenize them or to combine them into a single, comprehensive account of how and why the world came to be what it is. There is no GUT in Scripture, no Grand Unified Theory of creation (or, better, no Grand Unified Theology). Instead, there are diverse traditions reflecting differing theological perspectives. Why? One can only wonder. So begins our journey.

Guide for the Journey

As we explore the cosmologies of Scripture, we need a field guide of sorts, a method of inquiry that will provide a way of comparing these traditions and setting them in conversation with science. I propose three interrelated steps:

- Step 1. Elucidate the text's perspective on creation within the text's own contexts.
- Step 2. Associate the text's perspective on creation with the perspective of science.
- Step 3. Appropriate the text in relation to science and science in relation to the text.

Step 1: Elucidate

This first step is observational; it aims at being descriptive. Here, I hope to elucidate each biblical tradition on its own terms as much as possible. This involves examining the text's literary shape and historical context, as well as its

theological orientation, all of which contribute to the text's construal of creation. As we will see, each text in its context yields a distinct "model" of creation. I use the term "model" because, as Ian Barbour notes, models have been indispensable to *both* science and theology.⁵³ Or to adopt the language of Genesis: each tradition casts creation in the "image" of something.

In the biblical context, a model or image reveals something about God, the One who stands behind creation, and about ancient Israel, the community that stands behind the text. And as much as a given tradition says something about God, it also says something about humanity and its place in the world. Step 1, in short, takes seriously the world *of* the text as it stands in its literary and theological complexity, as well as the world *behind* the text, its historical background, to help account for the distinctive emphases of each tradition.

Step 2: Associate

This step probes the world *in front of* the text, specifically the reader's world as informed by science, in relation to the text. It is here that I identify certain associations, what I call "virtual parallels," between a biblical perspective or model and scientific outlook. Nevertheless, there are also "collisions" to be acknowledged. They, too, have hermeneutical value. The connections are virtual; the collisions are real. But both are formative in shaping the text's meaning for today. In certain cases, science underlines, even extends and deepens, the world of the biblical text. In others, it provides a counterpoint by which the meaning of a biblical tradition can be understood in new ways. In any case, identifying *both* the connections and collisions, the "virtual parallels" and the irreconcilable differences, offers fresh opportunities to mine the ancient traditions for their wisdom and relevance, hence the final step.

Step 3: Appropriate

This "final" step returns to the biblical text, but with the insights gained on our "detour" into science. Central is the question: How do we understand the biblical traditions in the light of current scientific understanding and vice versa? Cast more generally: How do persons of faith living in a scientifically informed world appropriate the ancient creation traditions of Scripture? Appropriation involves not just a new way of interpreting the text but a new way of living it. It recognizes that, as John Goldingay aptly notes, "interpretation is a moral issue."⁵⁴

In sum, this interpretive exercise is one that moves from the biblical text to science and back, a hermeneutical roundabout that yields new understandings

of what the biblical text means for today. The process, broadly conceived, is nothing new among biblical interpreters: the interpretation of any text oscillates between the rhetorical world of the ancient text and the contemporary world of the interpreter. This movement is often called the “hermeneutical circle,” or better “spiral,” whereby the ancient text and the interpreter’s context are brought together into dialogue.

I have found, however, a more incisive way of describing the hermeneutical process, and it is borrowed from the field of science: the “feedback loop.” A feedback loop moves from one level of description or inquiry to another and returns to the first level with enriched understanding,⁵⁵ for example, from the psychological to the neurobiological and back. The result is a greater understanding of psychological phenomena. The various levels of scientific inquiry acknowledge different levels of physical reality, from the subatomic to the chemical and the biological to human cognition and collective, social behavior. Each level of physical reality operates within its own parameters, dynamics, and laws, yet interdependently so as one level builds on or is “nested in” the other. A hermeneutical feedback loop traverses these levels without reducing one to another.

I propose by analogy a hermeneutical feedback loop between biblical faith and scientific understanding whereby the former is enriched by the latter. If biblical creation faith is to be intelligible today, then it requires the feedback of science. This does not mean that science should dictate the direction of biblical interpretation and theological reflection. That would turn the dialogue into a hostile takeover. Rather, the process allows science to nudge the work of biblical theology in directions it has not yet ventured and, in so doing, add another layer to Scripture’s interpretive “thickness” (as my colleague Walter Brueggemann would say) or wondrous depth.

Though the steps described above seem straightforward and clearly delineated on paper, they never are in practice. I have found that even as I regard the text as my point of departure, the hermeneutical journey actually begins with me, the interpreter. As I hold the world of the text in focus (Step 1), I also remain in focus. I view the text through *my* lens. To the text I bring my concerns and convictions, my filters and prejudices. I come to the text not as a blank slate but as a reader informed by science and shaped by my culture, which in turn shapes my interpretation, even my translation. The text is not a container of meaning waiting to be unlocked and opened, but an object of focus with which I interact and whose meaning emerges only by my interaction with it.⁵⁶ But even as I read the text through my own myopic lens, I hope my eyes at least remain wide open, enough so that I can see things that lie just outside my own small interpretive world. Other eyes will have to judge.

The model of biblical interpretation that I propose does not strive for mere coexistence between biblical faith and science.⁵⁷ It does not settle for a “correlationist” or connect-the-dots approach. To strive only for compatibility is to set the bar of lively engagement far too low. As E. O. Wilson rightly observes, alliances among disparate disciplines are forged “through the medium of interpretation.”⁵⁸ And, I would add, they are cemented by feedback, some of which may be negative (i.e., “collisions”) but much of it positive (“virtual parallels”). Boiled down, this study is aimed at forming and sustaining an alliance through the deceptively simple exercise of interpretation. The result is no futile God-of-the-scientific-gaps exercise. To the contrary, this is science of the divine vistas.

Wisdom’s Quilt

The late eminent biologist Stephen Jay Gould is well known for categorically dividing science and religion into “non-overlapping magisteria” (aka NOMA). But largely overlooked is his remark on the need to “unite the patches built by our separate magisteria into a beautiful and coherent quilt called wisdom.”⁵⁹ Taking my cue from Gould, I submit that more important than the separation of magisteria is the larger quilt whose various “patches”—quilters call them “blocks”—*together* make sense of the world around us. Indeed, more than Gould perhaps realized, wisdom can turn the dividing wall between science and faith into a porous membrane through which selected ideas can flow. Call it TOMA or “tangentially overlapping magisteria.”

There is, in fact, strong biblical precedence for holding Scripture and science in tangential, cross-disciplinary relation. The ancients, though lacking the tools of scientific analysis, were keen observers of the natural world. Solomon, remembered in biblical tradition as the consummate royal sage, is said not only to have been prodigious in composing songs and proverbs, but also to have demonstrated an intimate familiarity with the world of botany and zoology, prompting international acclaim.

He would speak of trees, from the cedar in Lebanon to the hyssop that grows out of the wall; he would speak of animals, birds, reptiles, and fish. People would come from all the nations to hear Solomon’s wisdom; they came from all the kings of the earth who had heard of his wisdom (1 Kgs 4:32–34).⁶⁰

In ancient Mesopotamia, we find strong evidence of scholarly, if not scientific, observations of the natural world.⁶¹ Some modern scholars have argued that

ancient lists of phenomena, both natural and divine, were the product of an emerging *Listenwissenschaft* (literally “list study”),⁶² a precursor to scientific study. Although this point is debatable,⁶³ it comes as no surprise that certain biblical creation accounts feature something akin to catalogues of natural phenomena (e.g., Job 38–41; Ps 104), indicating the “scientific,” or at least taxonomic, impulse to classify.⁶⁴

In an apocryphal text also attributed to Solomon, the “spirit of wisdom” is said to impart what could be called *scientific* knowledge of creation:

For it is God who gave me unerring knowledge of what exists, to know the structure of the world and the activity of the elements; the beginning and end and middle of times, the alternations of the solstices and the changes of the seasons, the cycles of the year and the constellations of the stars, the natures of animals and the tempers of wild animals, the powers of spirits and the thoughts of human beings, the varieties of plants and the virtues of roots; I learned both what is secret and what is manifest, for wisdom, the fashioner of all things, taught me.

—Wisdom of Solomon 7:17–21 (NRSV)

According to this text, God’s wisdom imparts knowledge of astronomical patterns and biological forms. Though such knowledge is considered a matter of revelation, it is still knowledge of *nature*, a natural knowledge. Wisdom, thus, blurs the boundary between divine revelation and natural discovery, both of which are part of the same package of knowledge and neither of which settles for ignorance.

The ancients observed the world with what they had—eyes to see and ears to hear, accompanied by an eagerness to understand it all in relation to God. The biblical sages in particular studied the natural world, and their perspectives, one could say, helped set the intellectual stage for later scientific study, from the classical Greeks to the present. To them, the world was orderly yet tinged with mystery. Nature was beneficial but also formidable and perilous; hence, the Israelites, along with all ancient peoples, had to learn how to develop creation’s salutary side. For them that included breeding animals, terracing slopes, and conserving water, all which had to be learned by trial and error, by testing.⁶⁵ They were agriculturalists, keenly aware of how to maximize the land’s long term productivity. The land was their laboratory of survival. Agronomy was the first science, next to medicine.

To study nature, moreover, was an existential matter, not unlike Brian Greene’s point that even if greater scientific understanding does not yield

greater utility, it does yield “its own empowerment.”⁶⁶ Such empowerment, however, points not just to the capacity of the human intellect. There was something more for these ancient inquirers. They felt gripped by something beyond themselves. They bore witness to a world bursting with the manifold nature of life; they marveled over the cosmic expanse of the universe; they trembled before the world’s terrible beauty. They asked questions:

When I gaze upon your heavens, the work of your fingers,
the moon and the stars that you have established;
What are human beings that you are mindful of them,
mortals that you care for them? (Psalm 8:3–4)

Awestruck, the ancients actively inquired. Skip ahead two and a half millennia, and you find that the question of human identity persists even as our understanding of the cosmos has dramatically changed. All the more so: as our understanding of the universe has increased astronomically, the question posed by the psalmist is intensified exponentially. Astrobiologist Chris Impey puts it well: “The history of astronomy has been a steady march of awe and ignominy,” awe over the unimaginable size and age of the universe, ignominy in realizing that we are not the only game in town.⁶⁷ And so the psalmist’s question is posed with even greater urgency; the answer, even from the biblical perspective, affirms both the awe and the ignominy (see Pss 8:5 and 144:3–4).

To be sure, the *specific* questions posed by the ancients are not the questions normally posed by scientists, a point that cannot be overstated. Nevertheless, they were no less probing, and that too is a point worth noting. Their various models of creation can profitably be regarded as “thought experiments” (à la Einstein), probing forays into the world of *realia* as inquiring and conceptually powerful as any theoretical formulation proposed by physicists today. If string theorists can comfortably work with five interdependent formulas, why can’t the Bible have seven models of creation? But more than thought experiments, these traditions were, and continue to be, theological “life experiments” that not only evoke wonder but also cultivate wisdom. The seven pillars of creation are Wisdom’s seven pillars.

Speaking of wisdom: the need to engage science and biblical faith has never been more urgent. We desperately need a new way in the world that is both empirically and biblically credible. One testimony to such need is given in the recent popular book by E. O. Wilson, an alleged representative of “soulless scientism.” Cast as a series of letters addressed to a Southern Baptist pastor, *The Creation* reaches out to the religious community to recapture the wonder of

nature and, thereby, build an alliance to help mitigate the rapid destruction of the earth's biodiversity.⁶⁸ I, for one, want to strengthen this emerging alliance. The "cohort of wonder" must form a partnership of stewardship, and none too soon. For creation's sake—for God's sake—we need a new Great Awakening, a Green Awakening.