

***Israelite Wisdom and the Quest for Knowledge:
An Interdisciplinary Study in the Rise of Natural Science***

by Byron G. Curtis, Ph.D.
Geneva College
November 15, 2005

כְּבוֹד אֱלֹהִים תְּסַתֵּר דְּבָר וּכְבוֹד מְלָכִים תִּקְרֶה דְּבָר

*It is the glory of God to conceal things,
but the glory of kings to search things out”*
— Proverbs 25:2

²⁹God gave Solomon very great wisdom, discernment, and breadth of understanding as vast as the sand on the seashore, ³⁰so that Solomon’s wisdom surpassed the wisdom of all the people of the east, and all the wisdom of Egypt. ³¹He was wiser than anyone else, wiser than Ethan the Ezrahite, and Heman, Calcol, and Darda, children of Mahol; his fame spread throughout all the surrounding nations. ³²He composed three thousand proverbs, and his songs numbered a thousand and five. ³³He would speak of trees, from the cedar that is in the Lebanon to the hyssop that grows in the wall; he would speak of animals, and birds, and reptiles, and fish. ³⁴People came from all the nations to hear the wisdom of Solomon; they came from all the kings of the earth who had heard of his wisdom. —1 Kings 4:29-34 (NRSV)

Introduction: Wisdom and Radical Openness

This paper is an exploration of the relationship among natural science, natural theology, and Old Testament wisdom literature. I doubt that I shall say in it anything new, and there is more to be said on this relationship than can be addressed in a single paper. I hope, however, to underscore a few points and perhaps by highlighting this unusual nexus, to clarify some things that would not otherwise come to attention. My main contention here is that *Israel's wisdom literature inculcates a stance of radical openness to the potentialities of the created world, a stance that abets a healthy development of both natural theology and natural science.* To define my terms: first, by "wisdom literature," I mainly refer to the Old Testament (hereafter OT) books of Proverbs, Job and Qohelet (Ecclesiastes), part of the Protestant Christian canon, although some other biblical passages, and later Jewish wisdom books such as the pseudonymously-named Wisdom of Solomon will be pertinent to our exploration. In this paper, the book of Proverbs and the Wisdom of Solomon will receive the most attention. Second, the reference to the created world denotes not only physical, temporal existence, but also the human world of psychological and social phenomena. Third, my mention of natural theology points the reader to that understanding of the natural world that leads to a partial, true, though non-saving, knowledge of the one God. Finally, regarding natural science, it will not be my claim that Israel's wisdom literature should be accorded total responsibility for the *rise* of that grand and sometimes inglorious enterprise; merely that OT wisdom literature is congruent with attitudes toward created existence which value that existence and find it worthy of the detailed

observation and analysis which *are* responsible for the rise of natural science. OT wisdom literature is thus one of the several sources of western science. Moreover, I shall claim that Israelite wisdom literature inculcates values that are congruent with a chastened, humble natural science, one not given to the abuse of the created world, because it knows that creation is the work of God.

My interest in this three-fold nexus of wisdom literature, natural theology, and natural science arises in part from my recent reading of Alister McGrath's three volume opus, *A Scientific Theology* (2001-2003, henceforth *AST*), a sprawling work of more than a thousand pages that takes as its main task the explication of the common rationality found in both natural science and Christian theology. McGrath is particularly well-suited to this task because he first earned a doctorate in molecular biology and then earned a second doctorate in theology, and so has gained a place among the surprisingly large and distinguished company of scientist-theologians. At the time of this writing, he teaches theology at Oxford University, where he until recently served as principal of Wycliffe Hall, Oxford's Evangelical Protestant faculty.¹ McGrath shall serve as a major conversation partner in this paper.

In *AST* McGrath argues that "*a positive working relationship between Christian theology and the natural sciences is demanded by the Christian understanding of the nature of reality itself*" (2001, 1:21, emphases original). Natural science, then, becomes the new "handmaid" to theology, taking a place vis-à-vis theology akin to the one once held by Aristotelian philosophy in the Medieval synthesis so brilliantly expounded in the theology of Thomas Aquinas (1225-1274). That reality, McGrath argues, should not be construed as "nature," a concept that he finds

“inchoate” (1:81-133); “nature” leads either to the deification of the world, to the feminization of the world, or to the mechanization of the world (1:105-10). “*Nature is already an interpreted category*” (1:113, emphasizes original). None of these is a sustainable idea. Instead Christian should conceive of nature as “creation,” the handiwork of God, a “theatre of his glory,” as Calvin calls it (*Institutes of the Christian Religion* 1.6.2; cf. 1.5.1-2; cf. McGrath, *AST* 1:103).²

Wisdom Lit—What is It?

So—wisdom literature: what is it, and what is it not? Wisdom literature is not a specific genre, or even a set of genres; instead, as Roland Murphy suggests, following Gerhard von Rad, it is literature that expresses a certain “approach to reality” that tends to appear in certain preferred literary forms, such as the moral and observational sentence-wisdom popularly known as the proverb, and the literary form known as the “instruction,” found, among other places, in the longer introductory poems in Proverbs 1-9 (2002, 1; 1981,3; von Rad 1972). That approach to reality involves the cultivation of experiential knowledge, knowledge for solving the problems with which life faces us (von Rad 1972, 3-4). Wisdom literature then, at least in its ancient Israelite context, is deeply rooted in experiential problem solving and the life of virtue. Terence Fretheim observes, “Wisdom is an inexact term that is commonly used to refer to knowledge regarding life that God has built into the infrastructure of the natural and social worlds, the search for those understandings in everyday experience, and the transmission of the results of that search” (2005, 199).

¹ McGrath promises subsequent volumes in the major topics of Christian theology, building upon the critical realist epistemology he has lined out in *AST*. Hence, *AST* is intended to serve as but the prolegomenon to a much larger work.

It was Gerhard von Rad (1901-1971), Professor of Old Testament at the University of Heidelberg, who led the way for biblical scholars to see wisdom literature—indeed, the various literatures of the Old Testament—as expressions of tradition. Von Rad saw that Israelite theology in the OT could be studied under the categories of various traditions. Under his lead, tradition-history became a major method of diachronic analysis of the Bible’s theology (J. L. Crenshaw 1978, 31). He organized his massive two-volume Old Testament theology around the two themes of “Israel’s Historical Traditions” (volume 1, ET 1962), and “Israel’s Prophetic Traditions” (volume 2, ET 1965). But having set out these two sets of traditions, von Rad realized their inadequacy. Hence, in 1970 he produced his *Weisheit in Israel* (ET *Wisdom in Israel*, 1972), a ground-breaking book that in many respects should be viewed as the “third volume” of his OT theology, though it was never published in that form. For von Rad, Israelite wisdom’s way can be classified neither as a “historical tradition,” nor as a “prophetic tradition.” It has its own voice; it is something unique, a *tertium quid*.

Moreover—and this puts von Rad’s *Weisheit* volume in a certain degree of tension with his earlier two—while wisdom has a history as an Israelite tradition, wisdom is not really about history. The Torah and the Prophets are both profoundly historical forms of literature. Not only are they rooted in the history of a particular people, narrating their story, or injecting into their story the oracles now collected into prophetic books; they are about the trajectory of that history into the future. They have an eschatology. OT theology had been, and still is, much about what the Germans call *Heilsgeschichte*, the history of salvation. Some indeed make OT theology exclusively about *Heilsgeschichte*. But Israel’s wisdom literature makes no allusion to the great

² See the full discussion of this theme in Calvin in Susan E. Schreiner’s *Theater of his Glory: Nature and the Natural Order in the Thought of John Calvin* (1991).

historical traditions of the Torah or the Prophets, and if it can be said to have an eschatology, that eschatology is quite different from that of Moses and the prophets.

Accordingly, when the young man of Proverbs 1:8 is exhorted to “Hear your father’s instruction, and . . . not reject your mother’s *torah* [= *teaching*, NRSV],” *torah* does not refer to the precepts of Moses, but to parental counsel in its traditional form—the cherished family and clan wisdom leading back into irrecoverable antiquity. Similarly, the repeated exhortations for the young man to “listen,” to “hear,” to “pay attention” (Prov 1:8; 4:1; 5:1; 6:20) do not rely upon supposed parallels in Deuteronomy 6:4’s *Shema*, “Hear O Israel, Yahweh is our God; Yahweh is One.” Rather, they should be understood as participating in the broader ancient Near Eastern wisdom tradition, where the “instruction” was a recognized literary genre, using this form of address to the young.³ Thus the Egyptian *Teachings of Amen-Em-Ope*, dating to ca. 1250-1000 BC, begin their exhortation to the student/son with the words, “Listen to what I say; learn my words by heart...” (Matthews and Benjamin 1997, 275).⁴ This genre of instruction can be traced back to the third millennium BC.⁵

This family and clan wisdom is usually identified as the first traceable stage of the Israelite wisdom tradition. That tradition can be traced through five historical stages: (1) family and clan

³ The new volume entitled *Israel’s Story: A Biblical Theology*, by C. Marvin Pate, J. Scott Duvall, *et alia*, mistakenly claims that this form of address is drawn from Deuteronomy 6 (2004, 78-80). Proverbs’ address is *congruent* with Deuteronomy 6, but is not drawn from it; instead it is rooted in the long-ancient genre. See the scathing review given this volume by Brian C. Jones (2005).

⁴ For the complete text in English, see J. B. Pritchard (1969, 421-25).

⁵ The “instruction” genre is characterized foremost by words addressed to a son or student, accompanied by warnings and exhortations, often in the “do not” form (R. Murphy 1998, xxii). Egyptian texts such as *The Teachings of Amen-Em-Ope* and the even older *Teachings of Ptah-Hotep* (ca. 2600-2100 BC) share these characteristics with the instruction poems of Proverbs 1-9. For a review of the literature from the ancient Egyptian sages, see R. J. Williams (1981). For the text of *Ptah-Hotep*, see Pritchard (1969, 412-24).

wisdom, a stage of mainly or exclusively oral tradition preceding wisdom's canonical form; (2) royal wisdom, beginning with King Solomon's dual work of authorship and sponsorship of the tradition; (3) scribal wisdom, which came to preeminence after the demise of the kingship; (4) intertestamental Jewish wisdom, which finds expression in books such as Ben Sira, the Wisdom of Solomon, Baruch (3:9-4:4), some of the compositions found at Qumran among the Dead Sea Scrolls, among others; and (5) New Testament wisdom, which finds expression in the words of Jesus, and in some of the epistles of the New Testament.⁶ Further, in both Jewish and Christian theology, the insights of the wisdom tradition live on.

It may come as a surprise to some readers to learn that Israelite wisdom literature exhibits close literary parallels to the wisdom literature of ancient Egypt, Mesopotamia and Syro-Palestine. Hence, concerted attempts to deal with its meaning must grapple with these important linkages. Reformed theology readily sees such linkages as out-workings of common grace (Richard Mouw, 2003). There is only one God; he created the world, and all humans are in his image; hence, all humans have a common capacity to understand—at least in part—the divinely-created world. That is natural theology. A theology drawing upon Israel's wisdom literature will not look askance at common grace insights, but welcome them as genuine contributions to the theological task of the church. Such insights must also be tested, because all cultures are fallen.⁷

As Dennis E. Johnson observes, “Since human sin entered the picture the universe's mute witness sends mixed signals of creation and curse, and as sin-damaged interpreters we are disabled in our efforts to untangle these two threads” (1998, 77). But having made this

⁶ E. J. Schnabel rightly comments that “The letter of James is heavily indebted to the Hebrew wisdom tradition” (2000, 847).

⁷ See the discussion of common grace and the theology of culture in Dean R. Smith (1995, 11-30)

observation, Johnson yet insists that even in our experience of perceiving special revelation, “general revelation—God’s word in creation and providence—has priority in our experience of hearing God’s two words. General revelation comes first, providing the context into which special revelation speaks and makes sense” (78). Natural theology, that is, theology grounded in observations and experiences of the created order, is thus a necessary part of Christian theology.

The Decline and Rise of Protestant Natural Theology

The mid-twentieth century witnessed a sharp decline in Protestant natural theology, signaled by Karl Barth’s famous “Nein!” article (1934), written against fellow neo-orthodox theologian Emil Brunner, an article that linked natural theology with Nazism and the so-called “German Christians” who found in “blood and soil” and in Adolf Hitler the revelation of God’s will for Germany. Gerhard von Rad followed suit in a 1936 article, claiming that creation theology, was, at best, but a secondary theme in the OT, not ranking alongside the great drama of redemption. With such claims as these in high places, natural theology fell on hard times. Even prominent evangelicals like Carl Henry joined the chorus, denying the very possibility of a valid natural theology (1976, 104-23). Natural theology fared much better among Roman Catholics, supported as they were by a more abundant testimony to it, found in the Catholic Apocrypha, especially the Wisdom of Solomon, as John J. Collins pointed out in a survey article on “Natural Theology and the Biblical Tradition” (1998).

For Protestants in the German-speaking world, the tide began to turn with the work of Hans Heinrich Schmid (1968; 1973) and Claus Westermann (1971), von Rad’s younger colleague at Heidelberg. Several such articles were brought together, in translation, by Princeton’s Bernhard W. Anderson (1984; cf. 1994), who wanted to get the conversation on creation theology

energized in English-speaking circles. But it wasn't until the 1990s that a major re-thinking occurred there. Then, both Scotsman James Barr of Vanderbilt University and Walter Brueggemann of Columbia Theological Seminary pointed out that the allegedly damning link between natural theology and Nazism is no necessary connection. Barr's 1991 Gifford Lectures, the famous annual lectureship devoted by its eponymous Scots benefactor to the topic of natural theology, exposed the weakness of Barth's position both historically, in relation to Nazism, and exegetically, demonstrating that a large amount of natural theology exists even in the Protestant canon (1993). A 1996 article by Brueggemann strengthened the case. Both a natural theology, derived from human experience of the created order, and creation theology, derived from biblical texts, were now seen by more and more OT scholars as legitimate and necessary endeavors, with creation theology no longer secondary, especially in light of contemporary Christianity's urgent need to profoundly address both matters of science, and matter of ecological concern (1996, 187-88). Wisdom theology has benefited from this newish turn in the scholarly conversation.

Wisdom Lit, Again

In light of the above, and returning to the theme of what wisdom literature is, we can say that wisdom literature invites the reader and the listener to learn how to cope with life through the school of experience. Israel's wisdom literature is not explicitly covenantal: there is no appeal made to the great covenantal revelations made to Noah (Gen 8-9), Abraham (Gen 12, 15, 17), Moses (Exod 19-24; Deuteronomy), David (2 Sam 7; Psalm 89, 132), or Jeremiah (31). Rather, repeated appeal is made to the experience of the reader/hearer within the immediate world, the world of daily encounter. Israelite wisdom is about the school of hard knocks.

Only late in Israel's wisdom tradition is explicit linkage made to the Torah and the Mosaic covenant. Earliest clear testimony of the linkage appears in Ben Sira 24, ca. 190 BC, and somewhat later in Baruch 3:9-4:4, wherein wisdom is equated with Torah. The Old Testament refrains from making this identification. "All this [wisdom] is the book of the covenant of the Most High God, the law which Moses commanded us" (Ben Sira 24:23). "She [Wisdom personified] is the book of the commandments of God" (Baruch 4:1). Accordingly, Joseph Blenkinsopp invites his readers "to think of wisdom and law as two great rivers which eventually flow together and find their outlet in rabbinic writings and early Christian theology" (1995, 151).

Another aspect of the uniqueness of Israel's wisdom literature lies in its distinctive psychology of revelation. Whereas Moses and the prophets often experienced the divine word as a spoken or as a visionary experience (Num 12:6-8; Jer 23:16-18), wisdom relies upon a reflective process of observing and evaluating. Proverbs 24:30-34 provides an excellent illustration of this point, for it unfolds the experience of the sage in his very act of formulating a proverb:

³⁰ I passed by the field of one who was lazy,
 by the vineyard of a stupid person;
³¹ and see, it was all overgrown with thorns;
 the ground was covered with nettles,
 and its stone wall was broken down.
³² Then I saw and considered it;
 I looked and received instruction.
³³ A little sleep, a little slumber,
 a little folding of the hands to rest,
³⁴ and poverty will come upon you like a robber,
 and want, like an armed warrior. (24:30-34 NRSV)

The satirical poem tells of the sage's observations of the broken down farmstead of the fool (vss. 30-31), and of the sage's evaluation of this experience (vs. 32). The poem climaxes in the production of the proverb, now enshrined in these concluding lines: "a little sleep, a little

slumber . . . and poverty will come upon you like a robber!” (vss. 33-34). How unlike the experience of the prophets this is. Here the inspiration process is virtually invisible, and requires of the sage a deep and genuine openness to the possibilities experience lays before him.⁸

This point then leads us to a general definition of wisdom. What is wisdom? Walther Zimmerli may have put it best and briefest when he said that wisdom “is the art of steering” (1976 [1964], 317; Cf. Leo G. Perdue 1994, 35), citing the term תְּהִבּוּלוֹת, *tahbulôt*, “shrewd guidance,” from Proverbs 1:5 (Holladay 1978, 388). In the book of Proverbs this answer operates in an optimistic manner. Mastery of life (Zimmerli 1976, 317) is promised to the youth who diligently seeks wisdom, attending to the counsels of his elders, taking them to heart in daily practice, “steering” past obstacles to arrive at the promised goals of long life, riches, and honor (3:16; 8:18; 22:1, 4). In the book of Job and Qohelet (Ecclesiastes), this answer takes on a more negative cast: wisdom is at best a coping with life, a struggle amid suffering or a facing up against futility. It is mystery, not mastery. Perplexity and resignation have a role to play. Hence, the wisdom tradition involves self-correction. Job’s hopeful despair checks the ready optimism of Proverbs. Proverbs’ can-do activism balances the cerebral pessimism of Qohelet. Qohelet’s meditations on the limits of human wisdom (3:11) and on the unfathomable work of God (8:17) chasten the whole. Such a threefold cord “is not easily broken” (Qoh 4:12).

Successful steering requires skill. At one level, the OT terminology for wisdom describes what we call “skills.” A brief study of the word Hebrew *hokmâh*⁹ (חֵכְמָה), generally translated as “wisdom,” displays the point. In Prov 30:24-28 *hokmâh* describes the survival skills of the ant,

⁸ The prologue to Luke’s gospel is in some respects parallel: Luke writes this gospel, “having carefully investigated everything from the beginning” and thus produces “an orderly account” (1:3).

the rock badger, the locust, and the lizard; indeed, all these are called “extremely wise” (*hakamîm mehukkamîm*, חֲכָמִים מְהֻכְחָמִים; 30:24) for their remarkable abilities of action and escape. *Hokmâh* describes the weaving and tailoring skills granted those artisans commissioned to construct the priestly garments of Aaron and his sons in Exod 28:3. Similarly Bezalel and Oholiab, the craftsmen of the Tabernacle’s furnishings of gold, silver, bronze, gemstones, and fabric, are said to have been filled by God with “wisdom of heart” (*hokmat-lêv*, חֵכְמַת־לֵב), i.e., “a mind of intelligence,” for this artistic work, making them “master craftsmen” (35:35). Administrative and judicial skill is singled out in Deut 1:15 as a form of *hokmâh*. A final example pertains to *social or relational skill*, where in Prov 12:18 “reckless words pierce like a sword, but the tongue [i.e., words] of the wise [*hakamîm*, חֲכָמִים] bring healing.” These kinds of wisdom—animal survival, craftsmanship, judicial insight, and relational skills—might be dismissed by some as of minor significance, until one realizes that daily life is treasured by the God of the Bible. Most of life is lived at this level of daily skill.

“Wisdom has built her house; she has hewn out its seven pillars” (Prov 9:1). In my undergraduate lectures on OT wisdom literature, and humbly trying to emulate the Israelite sages, I compare wisdom to a house. This house has only two floors—a ground-level floor and a basement. I tell my class that most of life is lived on the ground-level floor; that is the level of what I am calling here “daily skill,” the kinds of survival, technical, administrative, and relational skills described above. But the metaphor is not complete until one descends the stairs into the basement, where a deeper level of wisdom is to be found:

⁹ The initial “h” of *hokmâh* is aspirated deeply in the throat.

By wisdom Yahweh laid the earth's foundations;
 by understanding he set the heavens in place;
 by his knowledge the deeps were divided,
 and the clouds let drop the dew. (Prov 3:19-20)

Here we see the deeper (and higher!) wisdom by means of which Yahweh is said to have constructed the pediments of the earth and the arching expanse of the sky, a point reinforced by third and fourth lines of the quoted excerpt, with their reference to ocean depths and vaporous clouds. Here in Proverbs 3 the sage presents *hokmâh* as the means or instrument by which Yahweh formed the majestic extremes, the depths and heights of the world. Leo Perdue observes, "In this image of the divine architect, wisdom is the skill, plan and knowledge God uses to secure and order the cosmos, depicted as a great building" (1994, 83). Immediately after in the course of this text the son/student receives this instruction:

My son, preserve sound judgment and discernment,
 do not let them out of your sight;
 for they will be life to you,
 an ornament to grace your neck. (3:21-22)

The abrupt transition from Yahweh's deep wisdom, a wisdom which we might call "cosmic wisdom," to the human wisdom about which the son receives such exhortation suggests that the wisdom the son is invited to obtain is in some way tied to the cosmic wisdom by which Yahweh framed the earth. Even if we grant Perdue's further point that verses 13-20 constitute a separate three-strophed poem (3:13-15; 15-18; 19-20), Proverbs 1-9 exhibits an overall compositional strategy that renders it more than a collection of occasional wisdom poems. The poems of Proverbs 1-9 were likely composed as a set, specifically for the purpose of introducing the collected proverbial sentence-wisdom that begins in Prov 10 and that dominates until nearly the

end of the book.¹⁰ Hence, the exhortation to the son in 3:21-22 to “preserve sound judgment and discernment” (like an inheritance of fine jewels) ought not to be unduly separated from the cosmic wisdom of the preceding unit. Indeed, the very reason the son is exhorted to cherish the wisdom entrusted to him by his elders is because this very wisdom is identified with or derived from that cosmic wisdom found in Yahweh’s architecture of the cosmos.

Secular Israelite Wisdom?

This simple distinction between daily skill and cosmic wisdom ought not to be taken, as William McKane did in his 1970 *Proverbs* commentary, as reflecting an early, *secular* sort of wisdom tradition, to which was added a later *Yahwistic* layer of texts to comprise the present book of Proverbs. Nor does it reflect a “secularizing” tendency, as von Rad once suggested (1965, 342).¹¹ The Old Testament’s sages’ interest in the daily and the mundane instead reflects their conviction of Yahweh’s all-pervasive interest in the deeds of the world. Von Rad recognized the inadequacy of this “secular” labeling of wisdom. After claiming that in the sentence wisdom of Proverbs 10-29, “the experiences of community life . . . are understood in a predominantly ‘secular’ way” (1972, 299), von Rad has to backtrack: “to be more precise, the environment is addressed, in characteristically dialectical terms, as a secular entity governed by Yahweh” (299). Colin Gunton agrees: “There is something about the biblical God which enables a ‘secular’ account of human life to be given. . . . By secular here I do not mean non-theological,

¹⁰ But see the new approach of Glenn D. Pemberton (2005), which treats Prov 1-9 as a loose anthology of instructions, from which a father may choose just the right speeches appropriate for his particular son.

¹¹ Though even on this very page von Rad says that OT wisdom “one way or another . . . remained within the ambit of faith” (1965, 342).

but an account which enables the created world to be considered in its relative independence from the creator: as distinctively creation” (quoted in Fretheim 2005, 202).

While we may appreciate the points made by both von Rad and Gunton, “secular” is not the right word for this feature of Israelite wisdom. Israel of course knew certain fundamental distinctions about its life under Yahweh: the distinction between priesthood and laity (Judg 18:19), between clean and unclean (Lev 10:10), between the Sabbath and ordinary days (Exod 20:8-11), between the sacred space—whether in roving Tabernacle or rooted Temple—and common territory (Ezek 45:1). But no feature of Israelite life was to be autonomous of Yahweh. Israel was to be his “treasured possession . . . a kingdom of priests and a holy nation” (Exod 19:5-6). In this respect Israel’s life serves as the paradigm of the holiness that is to pervade the cosmos in the eschaton, as Zechariah 14 envisions, where even cooking pots and horse-harness bells are inscribed with קֹדֶשׁ לַיהוָה (*qodesh lyhwh*), “Sacred to Yahweh” (14:20-21).

The mundane character of so much of Israel’s sentence wisdom—the individual “sayings” of Proverbs 10-29 (though many of them are likely not oral in origin) refuses to be secularized, because the wisdom perspective of this literature claims as its beginning or chief point the *yir’at yhwh* (יִרְאַת יְהוָה), “the fear of the LORD,” as in the motto of the wisdom tradition found in Proverbs 1:7 and elsewhere: “The fear of Yahweh is the beginning of knowledge.” It is with this motto that our writer leads us into the wisdom found in the instruction poems of Proverbs 1-9, and which in turn lead the reader into the sentence wisdom that dominates the rest of the book, bits of wisdom that take as their talking points the assiduousness of the ant (30:24; cf. 6:6), the speed of leaping lizards (30:28), the farmstead of the foolish (24:30), the gentle answer that turns away wrath (15:1), and the good advice not to greet your neighbor too loudly early in the morning (27:14).

Zimmerli writes, “A glance at the statements made in the wisdom literature of the Old Testament shows that there is a strong will at work here seeking to understand the objects in the world around it.” Further, “in their various forms of parallelism, the proverbs exhibit the purpose of recognizing certain regularities in the realms of nature and humanity, behind their artful pleasure in originality” (2000 [1978], 156-57). The case for a cosmic order in Proverbial wisdom can be taken too far, as is the case in the otherwise important essay of Hans Heinrich Schmid, found in English as “Creation, Righteousness, and Salvation: ‘Creation Theology’ as the Broad Horizon of Biblical Theology” (1984, 102-17), and found in his book, *Gerechtigkeit als Weltordnung*—“Righteousness as World Order” (1964). Zimmerli also can take matters too far: “Wisdom lives in a sphere of a comprehensive faith of an order that can be characterized by the conception of divine . . . truth (1976, 316). But Proverbs *is* often comprised of *generalizations* about the way life happens, observations based on experience, experience of a regularized order observed. As Fretheim observes, “Wisdom is an inexact term that is commonly used to refer to knowledge regarding life that God has built into the infrastructure of the natural and social worlds, the search for those understandings in everyday experience, and the transmission of the results of that search (2005, 199).

Deed-Consequence

The often tacit basis for seeing such generalized regularity is faith in a steady and sovereign Yahweh, master of earth and heaven. “If a man digs a trap, he will fall into it; if a man rolls a stone, it will roll back on him” (Prov 26:27). Wisdom scholars debate the nature of the nexus that this literature asserts, the nexus between deed and consequence, between crime and punishment. In the view of Israel’s sages, is it automatic, built into the structure of the cosmos, virtually

mechanical? Or is the retribution directly afflicted by Yahweh, who remains present amid all things? Or is Yahweh rather something like a “midwife” (Murphy 1998, 265), indirectly superintending the vengeance of the cosmos upon the evildoer?¹² This debate continues, but it seems hard to affirm the more mechanical interpretations, especially for a book that says, “The die is cast into the lap, but its every outcome is from Yahweh” (Prov 16:33).

Israel’s sages were not blind to other outcomes, where consequence does not meet the deed, where punishment does not meet any crime. The book of Proverbs knows the righteous poor, the innocent oppressed, themes tackled more completely, to be sure, in Job and Qohelet. Proverbs 13:23 observes “a poor man’s field may produce abundant food, but injustice sweeps it away.” And 19:1 avers, “Better a poor man whose walk is blameless than a fool whose lips are perverse.” But lines like these are not the mainstay of Proverbs. Having observed these harsher realities, the book’s major voice, the personification who appears as Lady Wisdom, solemnly proclaims, “With me are riches and honor, enduring wealth and prosperity” (8:18). Of her it is said, “Long life is in her right hand; in her left hand are riches and honor” (3:16); and in one of my favorite lines, “She is a tree of life to those who lay hold of her” (3:18). As Proverbs 4:18-19 avers,

The path of the righteous is like the light of dawn,
which shines brighter and brighter until full day.
The way of the wicked is like deep darkness;
they do not know what they stumble over.

Thus the life of wisdom is lived, to use a phrase of Stanley Hauerwas’s, “with the grain of the universe” (2001, 17).

¹² The “midwife” description for the deed-consequence was originally proposed by Klaus Koch

Proverbs 25:2—The Glory of God and Kings

Zimmerli's and Fretheim's observations about order and regularity lead us to consider

Proverbs 25:2:

כְּבוֹד אֱלֹהִים תִּסְתֵּר דְּבָר וּכְבוֹד מְלָכִים תִּקְרֶה דְּבָר

*It is the glory of God to conceal things,
but the glory of kings to search things out.
—Proverbs 25:2*

The repeated word “glory” (כְּבוֹד, *kavôd*) in this context pertains to “splendor, magnificence,” or more concretely, “distinction, a mark of honor” (Holladay, 1988, 151). Much has been written on the theology of glory in the OT, and the main points are well known.¹³ Suffice it to say that *kavôd*, “glory,” here means, as Richard J. Clifford suggests, “action worthy of glory” (1999, 222).

Part of divine magnificence is mystery. The Dutch reformed theologian Herman Bavinck reminds us that “mystery is the lifeblood” of theology (2004 [1928], 29). Here in Proverbs 25:2, part of the divine magnificence is his power to “conceal” (הִסְתִּיר, *hastêr*, from the root *satâr*). In writing on this proverb, Roland Murphy says that there are “secrets that humans cannot even guess” (1998, 191). Often the *satâr* verb refers to God hiding himself, his face, from human perception, so as not to look with favor upon human prayer (B. K. Waltke 2005, 310 n. 56). The book of Isaiah even complains that “you are a God who hides himself” (אַתָּה אֵל מְסִתֵּתָר, 45:15). Here in Proverbs 25:2 it is the glory of God to conceal a *dabâr* (דְּבָר): the word may denote a word, a statement, an object, a judicial matter, a business transaction, or nearly anything

in 1955.

¹³ See C. John Collins's article on *kabed* in VanGemeren's *New International Dictionary of Old Testament Theology and Exegesis* (1997).

at all. The message seems to be that “God conceals all sorts of stuff; and this is part of his inscrutable glory.” The text comes close to Job 28, where the Joban poet takes a moment to reflect upon inscrutable divine wisdom:

- ⁹ Man’s hand assaults the flinty rock and lays bare the roots of the mountains.
¹⁰ He tunnels through the rock; his eyes see all its treasures.
¹¹ He searches the sources of the rivers and brings hidden things to light.
¹² “But where can wisdom be found? Where does understanding dwell?
¹³ Man does not comprehend its worth; it cannot be found in the land of the living.
¹⁴ The deep says, ‘It is not in me’; the sea says, ‘It is not with me’ . . .
²⁰ “Where then does wisdom come from? Where does understanding dwell?
²¹ It is hidden from the eyes of every living thing. (Job 28:9-14; 20-21)

Here in Job 28, as in Proverbs 25:2 divine wisdom is hidden. But in Job 28 the rhetorical point is different. There, divine wisdom cannot be found out by humans; the best we mortals can do is live by *yir’at yhwh*, “the fear of the LORD,” as the poem tells us at its finale: “*yir’at yhwh*, that is wisdom!” In Proverbs 25:2, however, there are some humans who can delve into some of the depths of divine wisdom: *kings*. In Israel, as in the ancient Near East, kings were often viewed as godlike in power. “It is the glory of kings to search out a matter.” The semantic parallelism of the two lines of Proverbs 25:2 strongly suggests that some of the very things that God takes pains to hide, kings can discover (הַקִּיָּץ, *haqôr*). We might even translate the proverb, “It is the glory of God to conceal matters; it is the glory of kings to discover them.” Thus kings “unscrew the inscrutable.”

This observation takes us back to Proverbs 3. There we previously saw the linkage between cosmic wisdom and human wisdom:

- ¹⁹ By wisdom Yahweh laid the earth’s foundations,
by understanding he set the heavens in place;
²⁰ by his knowledge the deeps were divided,
and the clouds let drop the dew.
²¹ My son, preserve sound judgment and discernment,
do not let them out of your sight . . .

Here the divine wisdom hidden in creation is available to the noble-minded, the diligent seeker. The noble and diligent seeker is defined by his or her radical openness in discerning this hidden wisdom. Let me suggest, then, that in Proverbs 25:2 that God has hidden divine wisdom within creation; and that it is the glory of kings and others of noble mind to investigate that creation, to find that divine wisdom. Kings investigate creation, whether human creation, that is, the social world, the world of politics, and of just administration; or the physical creation, the world of animal and mineral and vegetable. This creational context is somewhat confirmed by the lines that follow in Proverbs 25:

שָׁמַיִם לְרוֹם וָאָרֶץ לְעֵמֶק וְלֵב מְלָכִים אֵין תִּקְרָא

As the heavens are high and the earth is deep,
so the hearts of kings are unsearchable.

—Proverbs 25:3

High heaven and deep earth here are likened to the inscrutable minds of kings. Such kings must perceive deeply. Here the hearts of kings match the heights and depths of the cosmos, both unsearchable by lesser minds. So kings are godlike in their God-given power. The point is further confirmed by the tasks taken up by Solomon, king and sage, as described in 1 Kings 4, lines quoted at the beginning of this paper:

²⁹ God gave Solomon very great wisdom, discernment, and breadth of understanding as vast as the sand on the seashore, ³⁰ so that Solomon's wisdom surpassed the wisdom of all the people of the east, and all the wisdom of Egypt. ³¹ He was wiser than anyone else, wiser than Ethan the Ezrahite, and Heman, Calcol, and Darda, children of Mahol; his fame spread throughout all the surrounding nations. ³² He composed three thousand proverbs, and his songs numbered a thousand and five. ³³ He would speak of trees, from the cedar that is in the Lebanon to the hyssop that grows in the wall; he would speak of animals, and birds, and reptiles, and fish. ³⁴ People came from all the nations to hear the wisdom of Solomon; they came from all the kings of the earth who had heard of his wisdom. — 1 Kings 4:29-34 (NRSV)

Here Solomon's God-given wisdom is displayed not only by judicial prudence, proverbial wit, and poetical prowess: it is marked by his understanding of what we would now call botany and zoology, knowledge of things "from the cedar that is in the Lebanon to the hyssop that grows in the wall." It is the business of kings and those of noble mind to *know*.

Remarking on 1 Kings 4 and on Genesis 1-2, Old Testament scholar Terence Fretheim notes in his new book, *God and World in the Old Testament*: "Israel had no little interest in what we today would call 'scientific' issues (see 1 Kgs 4:33). These chapters [Gen 1-2] are prescientific in the sense that they predate modern science, but not in the sense of having no interest in these types of questions. 'Prescientific' knowledge is evident in these chapters." Regarding the Old Testament's classification of animals and plants into "kinds" (Gen 1:11-12), and the ordering of days, he adds, "These texts indicate that Israel's thinkers carefully pursued questions regarding the *how* of creation, and not just questions of *who* and *why*" (2005, 28, emphases original). They engaged in openness to the potentialities of the world.

NOMA and Lady Wisdom

This understanding contravenes Stephen J. Gould's rather naïve NOMA approach, which he expounded in his 1999 book, *Rocks of Ages: Science and Religion in the Fullness of Life* (1999, 5). "NOMA" means "Non-Overlapping Magisteria," that there are two *magisteria*, two teaching authorities, science, and religious faith, the first pursued by the examination of physical evidence with scientific reason, the other pursued by other means, perhaps religious intuition; and that these two magisteria are not to be permitted to overlap. But the Bible knows no such barrier. In words from Al Wolters's book, *Creation Regained: Biblical Basics for a Reformational*

Worldview (1985), words quoted by Terence Fretheim, and helpfully underlined by Dr. Esther Meek in her copy of Wolters's book, which I borrowed:

The Lord teaches the farmer his business. There is a right way to plow, to sow, and to thresh, depending on the kind of grain he is growing. Dill, cumin, wheat, and spelt must all be treated differently. A good farmer knows that, and this knowledge too is from the Lord, for the Lord teaches him. This is not a teaching through the revelation of Moses and the Prophets, but a teaching through the revelation of creation—the soil, the seeds, and the tools of his daily experience. It is by listening to the voice of God in the work of his hands that the farmer finds the way of agricultural wisdom. (1985, 28)

Also underlined by Professor Meek:

An implication of the revelation of God in creation is that the creation order is *knowable*. That is the significance of the call of Wisdom to all—she appeals to everyone to pay attention and learn from her, for insight and understanding are genuinely available to them if they heed her. This fundamental knowability of the creation order is the basis of all human understanding, both in science and in everyday life.” (1985, 28-29, emphasis original)

Then Wolters cites Proverbs with its famous personification of wisdom as woman. We may call her “Lady Wisdom,” for she is noble:

¹ Does not Wisdom call,
and does not Understanding raise her voice?
² On the heights, beside the way,
at the crossroads she takes her stand;
³ beside the gates in front of the town,
at the entrance of the portals she cries out:
⁴ “To you, O people, I call,
and my cry is to all that live.
⁵ O simple ones, learn prudence;
acquire intelligence, you who lack it.
⁶ Hear, for I will speak noble things,
and from my lips will come what is right.
(Proverbs 8:1-6)

Later in the poem she exclaims:

²² Yahweh created me at the beginning of his work,
the first of his acts of long ago.
²³ Ages ago I was set up,
at the first, before the beginning of the earth.

²⁴ When there were no depths I was brought forth,
 when there were no springs abounding with water.
²⁵ Before the mountains had been shaped,
 before the hills, I was brought forth—
²⁶ when he had not yet made earth and fields,
 or the world's first bits of soil.
²⁷ When he established the heavens, I was there,
 when he drew a circle on the face of the deep,
²⁸ when he made firm the skies above,
 when he established the fountains of the deep,
²⁹ when he assigned to the sea its limit,
 so that the waters might not transgress his command,
 when he marked out the foundations of the earth,
 ³⁰ then I was beside him, like a master worker;
 and I was daily his delight,
 rejoicing before him always,
³¹ rejoicing in his inhabited world
 and delighting in the human race.¹⁴

Specialists in the wisdom literature debate the precise understanding these words, the exact status of Lady Wisdom. Roland Murphy affirms that “there can be no doubt about her divine origin, and it is certain that she is somehow associated with creation,” yet, “who is Lady Wisdom? . . . She is variously interpreted as goddess . . . queen , , , and teacher . . . but [these] fail to answer the question of identity” (1985, 8). Helmer Ringren, for example, makes her a semi-divine hypostatization of a divine attribute (1947); Bernhard Lang makes her a demoted Israelite goddess, a relic from Israel’s semi-pagan past (1986). Murphy then mentions von Rad’s famous characterization: she is “the self revelation of creation” (8; cf. von Rad 1972, 148). But Murphy thinks this description does not go far enough: “The call of Lady Wisdom is the voice of the Lord. She is then the revelation of God, not merely the self-revelation of creation. She is the divine summons, issued in and through creation, sounding through the vast realm of the created

¹⁴ For the purposes of this paper I forego detailed discussion of the formidable translation problems in Proverbs 8:22-31. What, for example, does *'amôn* mean in vs. 30? (for discussion, see the standard commentaries and Cleon L. Rogers 1997).

world and heard on the level of human experience” (1985, 9-10).¹⁵ Based on Proverbs 8, this description seems warranted: she is birthed from the Lord and exists before creation, she witnesses the creative works of God, and plays some unclear role in their making. She delights to be with humans, and is the source of their wisdom (Murphy 1998, 280). Thus she is a kind of “surrogate for YHWH,” representing “the Lord’s orientation to creation, the divine presence in the world, a divine communication” (280).¹⁶

In its OT context, Proverbs 8 with its personified Lady perceives the creation to bear a remarkable link to its Creator. This Israelite view of the world as *wisdom-laden* has enormous repercussions. As Alister McGrath writes in his *Scientific Theology*: “The Christian tradition posits a unitary reality, holding that the entire creation has the potential to bear witness to its creator” (2003, 3:3).

That vision of God destroys any restrictive categorizations which insist that certain domains of knowledge are to be deemed religious, and others secular. A scientific theology, grounded in a unitary conception of reality, insists that the engagement with every aspect of the world offers the potential to deepen an appreciation of its creator, according to its own distinctive nature and the capacity of a fallen mind to discern it. (2003, 3:4)

There is thus a consilience to the world; not a consilience in E. O. Wilson’s reductive bio-molecular view of things, where even art is reduced to atoms (1998). There is instead a pervasive God-ward direction to all of life. This legacy of a unitary conception of reality under God derives in some measure from the wisdom literature of the Old Testament. Fretheim writes, “For human

¹⁵ But see Bruce K. Waltke for a learned denial (2004, 53-55).

¹⁶ No wonder that Proverbs 8’s picture of the Lady was selectively taken up by the New Testament in its witness to Christ, who is the Word and Wisdom of God (John 1:1-18; 1 Cor 1:24; Col 1:15-20); but also no wonder that Proverbs 8’s picture was also selectively taken up by the Arian heretics of the fourth century in defense of a creaturely Christ. On the controversy, see Richard A. Norris (1980).

beings to respond to Woman Wisdom's call to seek wisdom, then, is to seek to know what Wisdom knows, both knowledge about the world and the underlying will of God for the world and each creature within it." He then adds, "Those who seek this wisdom and take it to heart will be in tune with the creation as God intended it" (2005, 213). Such knowledge of wisdom, Fretheim writes, "would certainly entail a detailed understanding of how the world works; this would entail knowledge of what today would be called 'scientific'" (213).

Intertestamental Wisdom

The ideas and approaches to life in the OT wisdom tradition did not, of course, die with the completion of the OT canon. They lived on in the continuing circles of wisdom tradents—the bearers of the tradition—who helped preserve for us books that Israel canonized. These wisdom approaches and ideas continued in their intellectual trajectory among the tradents in a variety of directions, directions now attested for us in the intertestamental literature, in the New Testament, in the Dead Sea Scrolls, in the Rabbinic tradition, and in early Christianity. The intertestamental wisdom literature is represented most easily for us by the Apocryphal books of Ben Sira and the Wisdom of Solomon, and by a portion of Baruch, books readily available in various Bible editions. Wisdom also had significant influence upon the literature of the Enoch tradition, represented best by the sprawling composite now known as 1 Enoch, whose apocalyptic literary core may be traced back into pre-Christian antiquity, and in which matters of observational astronomy and the solar calendar are of great importance (J. H. Charlesworth 1983).

Wisdom is also represented at Qumran among the Dead Sea Scrolls.¹⁷ Major works have been published in the study of Qumran wisdom texts (J. J. Collins 1997). Philosophical interests appear in the works of Philo Judeaus (ca. 13 BC—ca. 50 AD), the Alexandrian Jewish philosopher whose love of Plato and propensity for idealist allegorical interpretation of the OT is well known (H. Wolfson 1947). The ideas of the wisdom tradition also took root among Christian theologians, among whom they have never perished.

Some of these later wisdom writings, including some in the Dead Sea Scrolls, lost the keen interest in the working of the world in favor of an esoteric sectarianism, where wisdom is defined as divine inspiration available only to members and especially the leaders of the sect (so 1QHodayot).¹⁸ Others show a developed interest in what we would call “scientific” pursuits. Among the foremost of these is the pseudonymously named Wisdom of Solomon, a book written in Greek by an unknown but probably Alexandrian Jew sometime between 50 BC and 50 AD, a book which bears strong similarities to Philo (A. G. Wright, 1990; J. J. Collins 2004, 589). There our Hellenistic author, taking the guise of Solomon, king and sage, reveals his radically open pursuit of wisdom in strikingly vivid terms :

- ¹⁷ For it is he [God] who gave me unerring knowledge of what exists,
to know the structure of the world and the activity of the elements;
¹⁸ the beginning and end and middle of times,
the alternations of the solstices and the changes of the seasons,
¹⁹ the cycles of the year and the constellations of the stars,
²⁰ 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;

¹⁷ 1 Enoch has also been found at Qumran, but it was known elsewhere long before the Qumran discoveries of the late 1940s, and has long been revered by the Ethiopian Church. The NT book of Jude quotes 1 Enoch 1:9.

¹⁸ For the Qumran wisdom texts in English, see Geza Vermes (1997, 395-425); for discussion see D. J. Harrington (1996).

- ²¹ I learned both what is secret and what is manifest,
²² for Wisdom, the fashioner of all things, taught me.

After this reflection in pre-scientific, perhaps proto-scientific, mode, our fictitious “Solomon” then launches into a discourse on the twenty-one attributes of Lady Wisdom:

- ^{22b} There is in her a spirit that is intelligent, holy,
 unique, manifold, subtle,
 mobile, clear, unpolluted,
 distinct, invulnerable, loving the good, keen,
 irresistible, ²³ beneficent, humane,
 steadfast, sure, free from anxiety,
 all-powerful, overseeing all,
 and penetrating through all spirits
 that are intelligent, pure, and altogether subtle.

Lady Wisdom lives on, and now she is “faster than a speeding bullet.” And if Lady Wisdom was already a pervasive power in the thought of the Hebrew sages of the OT era, she is ever more so in the thought of their heirs in the era of Jewish Hellenism. This leads me to the next major topic in my discussion of Israelite wisdom and the quest for knowledge.

On Christianity and the Rise of Natural Science

In *AST 3, Theory*, McGrath writes that “the entire purpose of scientific theories may be said to be the uncovering of universal principles which lie behind specific patterns of behaviour, which may be empirically observed” (2003, 34). Science, then, “is an organized and systematic enterprise that gathers knowledge about the world and condenses the knowledge into testable laws and principles” (E. O. Wilson 1998, 58). Important features that distinguish science from pseudoscience include repeatability, preferably by independent experimentalists; economy or elegance, that is, finding the simplest explanations for the largest amounts of data; mensuration, that is, the capacity for measurement by well-accepted standards; heuristics, that one discovery

leads (often unexpectedly) to another; and consilience, the connectedness and consistency of one body of knowledge with all others (58).

How did this grand endeavor of theory-building and empirical testing known as science come to be? It was Alfred North Whitehead (1861-1947), the British-American mathematician, physicist and philosopher, who shocked his Boston audience in his 1925 Lowell Lectures at Harvard, when he credited Christianity with the rise of modern science. In those days, Andrew Dickson White's *History of the Warfare of Science with Theology in Christendom* (1896) was still required reading for the American intelligentsia. The influential White (1832-1918) had served as founding president of Cornell University, and later as the U.S. minister to Germany and to Russia. More than one hundred years later, western Christianity has still not shaken off the shackles of the "warfare" model in which it had been chained by White's book, and by similar writings of that period.¹⁹ Nonetheless, Whitehead was able to sustain his point, though perhaps not to the persuasion of all his Harvard audience. Whitehead's lectures were published as *Science and the Modern World* (1925; 1953), a history of ideas and their scientific consequences, from the ancient Greeks up to the latest twentieth-century theorizing on relativity.

¹⁹ See Stephen Jay Gould's discussion of White's book (1999, 99-103; 121-22). Gould rightly points out that White was not contending *against* religion in favor of atheism or agnosticism; merely against a more *dogmatic* tradition of Christianity than his theological liberalism was willing to countenance. Part of White's agenda was the reconciliation of an undogmatic and liberal religion with natural science—an easy enough matter since science always wins in White's battles. He favored theistic evolution and what is now called "intelligent design theory." Section one of White's first chapter ends with these words: "In the light of these two evolutions, then—one of the visible universe, the other of a sacred creation-legend—science and theology, if the master minds in both are wise, may at last be reconciled. A great step in this reconciliation was recently seen at the main centre of theological thought among English-speaking people, when, in the collection of essays entitled *Lux Mundi*, emanating from the college established in these latter days as a fortress of orthodoxy at Oxford, the legendary character of the creation accounts in our sacred books was acknowledged, and when the Archbishop of Canterbury asked, "May not the Holy Spirit at times have made use of myth and legend?" (1896).

Whitehead did more than locate the rise of natural science as an event within Christianity. He specifically attributed it to the very Medieval scholastics who had been so excoriated, first by the Enlightenment *philosophes* of France, and later by writers like White, as the dolts of the Dark Ages: “My explanation,” Whitehead proposed, “is that the faith in the possibility of science, generated antecedently to the development of modern scientific theory, is an unconscious derivative from Medieval theology” (1953 [1925], 13). Why was Medieval theology the immediate root of natural science? It was the deeply held conviction that the world, as the artifact of the Christian God, was a rational place: “The greatest contribution of Medievalism to the formation of the scientific movement . . . [was] the inexpugnable belief that every detailed occurrence can be correlated with its antecedents in a perfectly definite manner, exemplifying general principles” (12). He adds: “Science is not merely the outcome of instinctive faith. It also requires an active interest in the simple occurrences of life for their own sake” (1953 [1925], 13).

Later scholarship has proved Whitehead to have been mainly in the right. Writing in 1957, for a publication sponsored by *The Journal of the History of Ideas*, A. C. Crombie wrote, “The origins of modern science are to be found at least as far back as the thirteenth century” (127):

Early in the 12th century, men (*sic*) asked how the facts recorded in the book of Genesis could best be explained in terms of rational causes. With the recovery of the full tradition of Greek and Arabic science in the 12th and 13th centuries, and particularly of the works of Aristotle and Euclid, there was born, from the marriage of the empiricism of technics [i.e., Medieval technology] with the rationalist of philosophy and mathematics, a new conscious empirical science seeking to discover the rational structure of nature. (1957, 126).

This work was in the main carried out by Medieval churchmen, by theologians and philosophers of religion. These churchmen were among the Christian heirs of the Israelite and Hellenistic Jewish wisdom tradition, a tradition taken up into the Christian canon, and the books of the Apocrypha, books widely but not universally viewed as Scripture by orthodox scholars. These

theologians and philosophers saw no divide between the study of God and the study of the works of God in creation.

Hence, the only part of Whitehead's argument that I wish to dispute is the claim that natural science was the "*unconscious* derivative" (emphasis mine) of Medieval theology. It seems to me that many of the Medieval scholastics were quite *consciously* devoting themselves to the enterprise that became western science. Consider the work of Robert Grosseteste (1168-1253), Chancellor of Oxford University, and later Bishop of Lincoln, who believed that the truth of theories about nature could be tested by open-minded experimentation. He applied this idea to the study of optics, using mirrors and lenses, and expressed his finding in the books *de Luce* ("Concerning Light") and *de Iride* (Concerning the Rainbow"), works which anticipate some of the findings of Galileo and Newton. Roger Bacon (ca. 1214-1294), another father of experimentalism, was Grosseteste's best-known student, and said of his teacher:

No one really knew the sciences, except the Lord Robert, Bishop of Lincoln, by reason of his length of life and experience, as well as of his studiousness and zeal. He knew mathematics and perspective, and there was nothing which he was unable to know, and at the same time he was sufficiently acquainted with languages to be able to understand the saints and the philosophers and the wise men of antiquity." (quoted in F. F. Urquhart 1910)

When he says that "no one knew the sciences," here Roger Bacon speaks with Franciscan humility: Bacon himself would prove to be one of the greatest of the fledgling experimentalists of the Medieval world. As for Robert Grosseteste, "his writings on the first chapter of Genesis include an interesting anticipation of modern cosmological ideas . . . and said that the universe began with pure energy exploding from a point source" (J. Kiefer 2002). Marshall Clagett, a specialist in the study of Medieval technology, speaks of "the extraordinary increase in the volume of scientific material" available to the readership of the fourteenth century, signaling a "fertile upheaval in natural philosophy"—the name given to natural science in that age—an

upheaval “that augured well for the scientific quickening that followed” in the time of Galileo (1967, 275; 303). Similarly, Stillman Drake, a twentieth century translator and commentator on Galileo, writes of Galileo’s work, not to note some stark contrast against the Medieval past, but to show surprising continuities, suggesting that “modern science was not suddenly born with Galileo, but rather emerged about that time after a long period of incubation” (1967, 305).

In his introduction to *Science and Religion* (1999), McGrath also credits the Medievals with the developments that lead to natural science (1-3), taking his perspective from specialists in Medieval intellectual history such as Edward Grant, who argued the case at book length in *The Foundations of Modern Science in the Middle Ages: Their Religious, Institutional and Intellectual Contexts* (1996).²⁰

Whitehead thought that science could only arise where there was profound belief in divine rationality: “when we compare this [scientific] tone of thought in Europe with the attitudes of other civilizations when left to themselves, there seems but one source for its origin. It must come from the medieval insistence on the rationality of God” (1953 [1925], 12). This belief in divine rationality had two sources, said Whitehead: the Bible and Greek philosophy, with the result that “the personal energy of Jehovah” and “the rationality of a Greek philosopher” (12) combined into a potent force in Europe.

The ancient Greek philosophers, complained Whitehead, were over-theoretical and under-empirical. The empiricism of the Aristotelians was insufficiently tied to theory, and the theories

²⁰ Ian Barbour’s 1997 book, *Religion and Science: Historical and Contemporary Issues*, takes a more traditional view, finding more discontinuity than continuity between the work of the medieval philosopher-scientists and the “new” science of Galileo and Kepler in the sixteenth and seventeenth century. He speaks of “drastic transformation” (9). There was, undeniably, a great cultural change that indeed took place in the era of Galileo and Kepler. But that change may best be explained as the cumulative effect of cultural forces rooted in the Middle Ages.

of the Platonists were insufficiently tied to empiricism. Hence, Greek science stagnated into authoritarianism (15). What was needed was “the alliance of science with technology, by which learning is kept in contact with”—quoting William James—‘irreducible and stubborn facts’” (15). That linkage between technology and learning was achieved, Whitehead claimed, in the monasteries, especially among the Benedictines, whose monks were devoted to labor, study and prayer. Key here is recognizing the importance of close observation of phenomena: “Science is not merely the outcome of instinctive faith. It also requires an active interest in the simple occurrences of life for their own sake” (1953 [1925], 13). It is this open-faced interest in the simple occurrences of life that inhabits the biblical wisdom literature. “The world required centuries of contemplation of irreducible and stubborn facts,” wrote Whitehead (16).²¹ The makers of the biblical proverbs would have heartily approved such a contemplation.

Rodney Stark’s *For the Glory of God*

The claims made in Whitehead’s argument have been taken up most recently, to my knowledge, by sociologist and comparative religionist Rodney Stark of the University of Washington, in his 2003 book *For the Glory of God: How Monotheism Led to Reformations,*

²¹ Whitehead cites a letter of William James to brother Henry James, about his struggles in writing his book, *Principles of Psychology*: “I have to forge every sentence in the teeth of irreducible and stubborn facts.” The source for the letter is not cited. Elsewhere, in his essay “On Some Hegelianisms,” a rather fun intellectual rant against German *a priori* idealism, William James waxes eloquent about “stubborn facts”: —“Is not my knowing them at all a gift and not a right? And shall it be given before they are given? *Data! gifts!* something to be thankful for! It is a gift that we can approach things at all “There are ‘bounds of ord’nance’ set for all things, where they must pause or rue it. ‘Facts’ are the bounds of human knowledge, set for it, not by it” (1992 [1882], 659; capitalization and punctuation original). The philosophy of William James is evidently haunted by the lingering ghost of Christian theism.

Science, Witch-hunts, and the End of Slavery. In this book Stark attempts to show the gradual growth of science from Medieval roots:

There was no “scientific revolution” that finally burst through the superstitious barriers of faith, but that the flowering of science that took place in the sixteenth century was the normal, gradual, and direct result of Scholasticism and the medieval universities. Indeed, theological assumptions unique to Christianity explain why science was born only in Christian Europe. Contrary to the received wisdom, religion and science not only were compatible; they were inseparable. (2003, 3)

After blasting away at the likes of Andrew Dickson White and his *History of the Warfare of Science with Theology in Christendom* (1896), at Carl Sagan, author of *Cosmos* (1980),²² and at Richard Dawkins, who wrote *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design* (1986),²³ Stark writes, “not only [is there] no conflict between religion and science, . . . *Christian theology was essential for the rise of science*” (123, emphases original). “The leading scientific figures in the sixteenth and seventeenth centuries overwhelmingly were devout Christians who believed it their duty to comprehend God’s handiwork” (123). Stark then blames Enlightenment atheists and humanists—writers such as Voltaire, Diderot, and Gibbon—for the deception that accuses Christianity as the opponent of science, and finds the rise of science among largely mythical freethinkers of the Renaissance (123-24).

Stark would have done well to have exercised some restraint in this historical argument.

Proof of historical causation is dastardly difficult. After all, how can one argue against hypotheticals: *If the Persians had beaten the Greeks at the battles of Marathon and Salamis in the*

²² Note Carl Sagan’s opening sentence, also featured as the opening words of the blockbuster PBS television series of the same title: “The Cosmos is all that is or ever was or ever will be” (1980, 1).

fifth century BC; *if* the Persians had then spread their oriental culture and their Zoroastrian religion so as to dominate in Europe—*would modern science not have happened?* Or would the rationality of the Persian deity *Ahura Mazda*, whose name means “Wise Lord,” have eventually led to something quite like our science, but by a different historical route?

So, let us state Stark’s conclusion in humbler form: in the particularity of the case, western science is indebted to Christian theology as a major source, because Christianity’s particular view of the rationality of God led to a similar view about the rationality of the natural world; such a natural world was then understood to be susceptible to systematic empirical investigation, the investigatory process we call science. In this humbler form, Stark’s thesis is more sustainable.

One of the heroes of Stark’s book is Thomas Aquinas’s famous teacher, Albertus Magnus (1205-1280), known among Roman Catholics as *Doctor Universalis* for the breadth of his insight. Albertus probably did more than any other Medieval scholar to propagate the newly discovered works of Aristotle in western Christendom, but, as Stark points out, he did so with a critical eye, correcting and supplementing Aristotle when necessary, and subjecting Aristotle’s claims to empirical testing, “frequently finding them to be in error” (2003, 143). Quoting David C. Lindberg, the historian of ancient and Medieval science, he writes, “Along the way Albertus became ‘perhaps the greatest field botanist of the entire Middle Ages,’ instituting a tradition of research leading directly to the breakthroughs in biology and physiology made during the sixteenth and seventeenth centuries” (143). Listed among Albertus’s many works of philosophy, theology, sermons, biblical commentaries, and his many expositions of Aristotle, we find little-

²³ Note Dawkins’s first sentence: “We animals are the most complicated things in the known universe,” in a chapter entitled, “Explaining the Very Improbable” (1986, 1).

known works such as *On Animals*, *On Vegetables*, and *On Minerals* (D. J. Kennedy 1910), titles that may remind us of Gilbert and Sullivan’s polymathic “modern Major General.” In his *On Minerals* he wrote: “The aim of natural science is not simply to accept the statements of others, but to investigate the causes that are at work in nature” (quoted in J. J. O’Connor and E. F. Robertson 2003). In one of his works on plants he wrote: “In studying nature we have not to inquire how God the Creator may, as He freely wills, use His creatures to work miracles and thereby show forth His power: we have rather to inquire what Nature with its immanent causes can naturally bring to pass” (2003). Not miracles, but *immanent causes*! It was this theistically-based confidence in the rationality and regularity of creation that led to natural science.

Stark then moves his argument to consider other civilizations. Science is not a natural outcome of civilization, he argues, referencing the indefatigable Marxian historian Joseph Needham’s six-volume history of *Science and Civilization in China* (1954-1984). Even when individual Chinese scholars of centuries past made remarkable observations and discoveries, these events never coalesced into a movement. “Science consists of an organized (that is, sustained and systematic) and empirically oriented effort to explain natural phenomena—a cumulative process of theory construction and theory testing. This enterprise arose only once”—in western Europe, in the sixteenth and seventeenth centuries (2003, 146). Why western Europe?—because there it was believed, in words addressed to God from that intertestamental Jewish book, the Wisdom of Solomon: “Thou hast ordered all things in measure and number and weight” (11:20). The early Christian writer Tertullian (ca. 160-ca. 220) follows suit in a piece written in 192 AD: “Reason is a thing of God, inasmuch as there is nothing which God the Maker of all has not provided, disposed, ordained by reason—nothing which he has not willed should be handled and understood by reason” (*On Repentance*, 1; cf. Stark 2003, 148).

As Needham observed regarding Chinese science: “the failure of the Chinese to develop science was due to their religion, to the inability of Chinese intellectuals to believe in the existence of laws of nature” (1954, 2:581). Needham further observed:

It was not that there was no order in Nature for the Chinese, but rather that it was not an order ordained by a rational personal being, and hence there was no conviction that rational personal beings would be able to spell out in their lesser earthly languages the divine code of laws decreed aforesaid. The Taoists, indeed, would have scorned such an idea as being too naïve for the subtlety and complexity of the universe as they intuited it.” (2:581) ²⁴

Stark summarizes: “It didn’t occur to the Chinese that science was *possible*” (2003, 151, emphasis original).

Similarly, despite remarkable early advances in Islamic medicine, mathematics and astronomy, Islam’s *’Allah* was not a *lawful* creator. Orthodox Muslim authorities suppressed fledgling claims about natural law, because natural law denied the sovereign and radical freedom of *’Allah*. Because of this utter sovereignty, no covenant of faithfulness about *’Allah*’s governance of the world was possible.²⁵ In Islam natural law became blasphemy (154).

The Medieval and Renaissance experimentalists saw things differently: like the kings envisaged in Proverbs 25:2, they were “in pursuit of the secrets of creation” (149). According to St. Bonaventura (1221-1274), the purpose of such a science is that “God may be honored”

²⁴ Stark cites the wrong volume in Needham.

²⁵ Contrast Jeremiah 31:35-36:

³⁵ Thus says Yahweh,
 who gives the sun for light by day
 and the fixed order of the moon and the stars for light by night,
 who stirs up the sea so that its waves roar—
 Yahweh of armies is his name:

³⁶ If this fixed order were ever to cease
 from my presence, says Yahweh,
 then also the offspring of Israel would cease
 to be a nation before me forever.

(149).²⁶ Stark's argument is not that Christianity was the *sufficient* cause of modern science; merely that it was a *necessary* cause, though this may overstate an otherwise persuasive case. His grand conclusion from his review of the literature?—

The rise of science was not an extension of classical learning. It was the natural outgrowth of Christian doctrine: Nature exists because it was created by God. To love and honor God, one must fully appreciate the wonders of his handiwork. Moreover, because God is perfect, his handiwork functions in accord with *immutable principles*. By the full use of our God-given powers of reason and observation, we ought to be able to discover these principles. (157)

Having highlighted the 1925 arguments of Alfred North Whitehead and the 2003 arguments of Rodney Stark, one might think that these two scholars were enthusiastic advocates for Christianity. Not so. Whitehead opposed orthodox Christianity, positing instead a non-omnipotent, changing God who lived in a state of steady flux with the cosmos, a view called “process philosophy.” Stark writes as a long-committed agnostic. Neither one professed Christian faith. They cannot readily be accused of pro-Christian bias. Their work is not *apologia pro vita mea*.

Nonetheless, Stark writes: “Science consists of an organized (that is, sustained and systematic) and empirically oriented effort to explain natural phenomena—a cumulative process of theory construction and theory testing. This enterprise arose only once”—in western Europe, in the sixteenth and seventeenth centuries (2003, 146). Why western Europe?—“Christianity depicted God as a rational, responsive, dependable, and omnipotent being and the universe as his personal creation, thus having a rational, lawful, stable structure, awaiting human comprehension” (147).

²⁶ Here Stark quotes from Bonaventura's *De reductione artium ad theologiam*, “*The Reduction of the Arts to Theology*.” Stark gives the title incorrectly. This thirteenth century work explores the relation of the liberal arts and the natural sciences to Christian theology.

Lady Wisdom's Call to a Humbler Science

The question now arises, have we Christians created Frankenstein's monster? Do we Christians *want* to be credited with the rise of natural science, even in this weaker, humbler form of the argument? Here I direct attention to the outraged crowds of that post-nuclear holocaust world created by the philosophically-informed author of the science fiction novel, *A Canticle for Leibewitz* (Walter Miller 1959). In that dusky world, nearly all the scientists have been lynched—the raging crowds hold *them* accountable for nuclear destruction. Will our world come to the point where all the Christians will be lynched for their complicity in the rise of that destructive force known as natural science? Despite the enormous good science has produced—vaccines against once-terrifying diseases, vastly improved infant mortality rates, longer lifespans for countless millions, to name just a few—perhaps we ought not to want the credit!

Alister McGrath calls us to an alternative future, a future marked by what he calls “the reenchantment of nature” (2002b). “Christianity . . . affirms what many others believe to be the case: that humanity is not entitled to think of itself as ‘possessing’ nature. It has been loaned to us” (2002b, 185). “To reenchant nature is to accept and cherish its divine origins and signification, not least for what it implies for our own nature and ultimate destiny. We dwell in this world, cherishing it while knowing it to be the staging post to something even more wonderful” (185).²⁷ Hence, we see even in Israel's wisdom literature expression of the mystery of the world:

Three things are too wonderful for me;
four I do not understand:

²⁷ See also the chastening strictures offered by William F. May in his perceptive chapter on “The Engineer: From Nature's Adversary to Nature's Advocate” (2001, 89-125).

the way of an eagle in the sky,
the way of a snake on a rock,
the way of a ship on the high seas,
and the way of a man with a maid.
(Proverbs 30:18-19)

Some things in this world defy all rational explanation, and ought to.

Israel's Lady Wisdom, we have seen, is the voice of the Lord. That voice calls to us "in, with, and under" (Fretheim 2005, 219) the world of nature and human experience, to live "in tune with the creation as God intended it" (213), searching out what God in his glory has hidden. A humbler science is one that deals with the created order as a fellow partner, one that recognizes mystery, while undertaking but a partial mastery. Such a way is the way not of death, but of life. Wisdom literature inculcates a radical openness to the world that reveres the world because it more deeply reveres the God who made the world. "Whoever finds me," says Wisdom, "finds life!" (Prov 8:35).

Dramatis Personae: Who's Who in this Paper

James Barr of Scotland (1924-2006) stunned the exegetical world forty-some years ago with his groundbreaking book, *The Semantics of Biblical Language* (London: Oxford University Press, 1961), which demolished long-held opinions about the alleged dichotomies between Greek and Hebrew language and thought-forms. His work has focused upon Semitic philology, lexical semantics, hermeneutics and biblical theology. He held distinguished professorships at Manchester, Oxford, and Vanderbilt universities.

Karl Barth (1886-1968) held professorships in theology at the universities of Göttingen, Munster, Bonn, and, after being expelled by the Nazis in 1934, Basel, in his native Switzerland. No modern theologian was as widely cited in the twentieth century as Karl Barth, who devoted himself to the destruction of the old liberal theology, with its confidence in the human power to perceive the immanent God, and to the erection of a radical alternative rooted in the perception of the otherness of God, the sinfulness of the human, and the profound need for divine grace and revelation. He became the leading figure of Neo-orthodox theology. He is best known for his 1919 *Commentary on the Epistle to the Romans*, which was said to have “exploded like a bombshell on the playground of the theologians”; his principal authorship of the 1934 *Theological Declaration of Barmen*, in which he and other pastors and theologians in Germany expressed their opposition to Nazism; and his massive multi-volume *Church Dogmatics* (1932-1968), which he left unfinished at his death. Barth considered himself to be a Reformed theologian, but he was far from the orthodoxy of Calvin. His radical stance against natural theology found expression in his 1934 article, “Nein!,” directed against his fellow Neo-orthodox scholar, Emil Brunner.

Walter Brueggemann, McPheeters Professor of Old Testament Emeritus at Columbia Theological Seminary, Decatur, Georgia, is author of many works, including *In Man We Trust: The Neglected Side of Biblical Faith* (1971), *The Message of the Psalms: A Theological Commentary* (1984), *Hopeful Imagination: Prophetic Voices in Exile* (1986), *The Prophetic Imagination* (2nd edition 2001), *The Book That Breathes New Life* (2004), and the postmodern experiment in theological pluralism, *Theology of the Old Testament: Testimony, Dispute, and Advocacy* (1997).

Emil Brunner (1889-1966), like Barth, a Swiss, is considered the second leading light of the Neo-orthodox movement. He served as Professor of Theology at the University of Zurich, and later at the Christian University of Tokyo. Whereas Barth reveled in paradoxical expression, Brunner prized clarity of thought. Against Barth, Brunner championed a positive, Christological, natural theology. Less radical than Barth, he is clearer than Barth, and it is often to Brunner that one turns when one wishes to know what—precisely—the Neo-orthodox hold concerning X, Y, or Z.

James L. Crenshaw is the Robert L. Flowers Professor Emeritus of Old Testament at Duke University, and previously taught at Vanderbilt. He is well known for his works on prophecy and wisdom literature, several of which operate around the issue of theodicy, which he sees as the key to OT wisdom literature. He has authored *Old Testament Wisdom: An Introduction* (second edition, 1998), *Education in Ancient Israel: Across the Deadening Silence* (1998), and most recently, *Defending God: Biblical Responses to the Problem of Evil* (2005).

Edward Grant is Distinguished Professor Emeritus of History and Philosophy of Science and Professor Emeritus of History at Indiana University. He has published ten books and more than eighty articles. His 1996 book, *The Foundations of Modern Science in the Middle Ages: Their Religious, Institutional and Intellectual Contexts* (1996), argues that modern science culminated from the combined heritage of Greco-Roman antiquity, Christianity, Islamic scholarship, and the Medieval synthesis found especially in that distinctively European institution, the Medieval university.

Colin E. Gunton is United Reformed Professor of Systematic Theology at King's College, University of London, and is best known for his work in Trinitarian theology and his uncanny ability to write in such a way that he is read with appreciation by conservatives and liberals alike.

Terence E. Fretheim is the Lovell Professor of Old Testament at Luther Seminary in St. Paul, Minnesota. He is best known for his works on creation theology and on the suffering of God in the Old Testament.

Alister E. McGrath (1953-), one of the world's foremost evangelical theologians, is professor of historical theology at Oxford University, director of the John Templeton Oxford Seminars on Science and Christianity, and principal of Wycliffe Hall, Oxford. His best known works are his two volume *Iustitia Dei*, a history of the doctrine of justification (1986), and *A Scientific Theology* (2001-2003). He holds doctorates both in theology and molecular biophysics.

William McKane (1921-2004) was Professor of Hebrew and Oriental Languages at St Andrews University in Scotland and a former principal of its St Mary's College. He published widely in the field, was expert in his handling of text critical problems in Hebrew and in the ancient versions, and is best known for his works in the study of OT prophecy and wisdom literature. Raised among Seceder Presbyterians, he was ordained in the Church of Scotland.

Roland E. Murphy (1917-2002), a Roman Catholic priest and Carmelite monk, was George Washington Ivey Professor of Biblical Studies at Duke University and Adjunct Professor of Biblical Studies at Washington Theological Union. He was the author of many important works on wisdom literature and served as OT editor for the *Jerome Biblical Commentary* (1968), the *New Jerome Biblical Commentary* (1990), and the *New Oxford Annotated Bible* (NRSV, 1991).

Gerhard von Rad (1901-1971) was Professor of Old Testament at the University of Heidelberg for many years. His two-volume *Old Testament Theology* (1957, 1960; English translation, 1962, 1965) is almost universally regarded as one of the foundational works in that field. His later book *Weisheit in Israel* (1970; English translation, *Wisdom in Israel*, 1972) was hailed by *Christianity Today* as "perhaps the most important work on biblical wisdom to appear for many years."

Hans Heinrich Schmid was Professor of Old Testament at the University of Zurich. He is best known for his work on *Gerichtigkeit als Weltordnung* (1968), "righteousness as world order," a work that has unfortunately never appeared in English. His work is widely regarded as making valuable points but pushes the exegesis about world order "over the edge of plausibility (so Roland E. Murphy 2002, 117).

Rodney Stark, a rather public agnostic, was until recently Professor of Sociology and Comparative Religion at the University of Washington. His most recent book credits Christian theism with the rise of science, witch-hunts, and the abolition of slavery. His often controversial books include *The Rise of Christianity: A Sociologist Reconsiders History* (1996) and, with Williams Sims Bainbridge, *A Theory of Religion* (1985), which sets forth “rational choice theory” for the rise and continuation of religions. Stark now teaches at Baylor.

Alfred North Whitehead (1861-1947) was a British-American philosopher, physicist and mathematician best known for his collaborative work with Bertrand Russell in the *Principia Mathematica* (1913), and for his role in developing “process philosophy” (the precursor to “process theology”), which he expounded in the 1929 book *Process and Reality*, a view that denies the omnipotence and aseity of God, in favor of a deity who lives in flux with his creation. His book *Science and the Modern World* was based on his Lowell Lectures at Harvard in 1925. He also gave the Gifford Lectures at Edinburgh in 1927. He held professorships at Cambridge, the University of London, and Harvard.

Walther Zimmerli (1907-1984) was Professor of Old Testament at the University of Göttingen. He is best known for his *Old Testament Theology in Outline* (German original, 1972; English translation, 1978; reprinted 2002), and his magnificent two-volume commentary on Ezekiel in the prestigious *Hermeneia* series.

Bibliography of Works Consulted

- Anderson, Bernhard W.
 1994 *From Creation to New Creation: Old Testament Perspectives*. Overtures to Biblical Theology. Minneapolis: Fortress.
- Anderson, Bernhard W., editor
 1984 *Creation in the Old Testament*. Philadelphia: Fortress.
- Bacon, Francis
 1952 [1620] *Novum Organum*. Pages 103-195 in *Francis Bacon*. Volume 30 in *Great Books of the Western World*. Edited by Robert Maynard Hutchins. Chicago: Encyclopaedia Britannica.
- Barbour, Ian
 1997 *Religion and Science: Historical and Contemporary Issues*. San Francisco: HarperCollins.
- Barr, James
 1993 *Biblical Faith and Natural Theology: The Gifford Lectures for 1991*. Oxford: Clarendon Press.
- Barth, Karl
 1973 "No!" Pages 131-37 in *The Living God: Readings in Christian Theology*. Edited by Millard J. Erickson. Grand Rapids: Baker. [1934 German original; republished in English with Brunner's reply as *Natural Theology*, 1946].
- G. C. Berkouwer
 1955 *General Revelation*. Grand Rapids: Eerdmans.
- Blenkinsopp, Joseph
 1995 *Wisdom and Law in the Old Testament: The Ordering of Life in Israel and Early Judaism*. Oxford: Oxford University Press.
- Brueggemann, Walter
 1996 The Loss and Recovery of Creation in Old Testament Theology. *Theology Today* 53:177-90.
- Brunner, Emil
 1950 *The Christian Doctrine of God*. Volume 1 of *Dogmatics*. Translated by Olive Wyon. Philadelphia: Westminster Press. [1946 German original].
- Brunner, Emil and Karl Barth
 1946 *Natural Theology*. London: Bles.

Calvin, John

- 1960 *Institutes of the Christian Religion*. Translated by Ford Lewis Battles. Edited by John T. McNeill. Library of Christian Classics. Philadelphia: Westminster Press. [1559 Latin original]

Charlesworth, James H.

- 1983 *Old Testament Pseudepigrapha*. Two volumes. Garden City, NY: Doubleday.

Clagett, Marshall

- 2004 Some Novel Trends in the Science of the Fourteenth Century. Pages 275-302 in *Art, Science, and History in the Renaissance*. Edited by Charles S. Singleton. Baltimore: The Johns Hopkins Press.

Clifford, Richard J.

- 1995 *Proverbs*. Old Testament Library. Louisville: Westminster John Knox.

Collins, C. John

- 1997 *kabed*. Pages 577-87 in volume 2 of *New International Dictionary of Old Testament Theology and Exegesis*. Edited by Willem A. VanGemeren. Grand Rapids: Zondervan.

Collins, John J.

- 1997 *Jewish Wisdom in the Hellenistic Age*. Richmond: Westminster John Knox.
- 1998 Natural Theology and the Biblical Tradition: The Case of Hellenistic Judaism. *Catholic Biblical Quarterly*. 60:1-15.
- 2005 *Introduction to the Hebrew Bible*. Minneapolis: Fortress.

Crenshaw, James L.

- 1978 *Gerhard von Rad*. Series: *Makers of the Modern Theological Mind*. Edited by Bob E. Patterson. Waco: Word.
- 1998 *Old Testament Wisdom: An Introduction*. Second edition. Louisville: Westminster John Knox.

Dawkins, Richard

- 1986 *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design*. London: Norton.

Demerest, Bruce

- 1982 *General Revelation: Historical Views and Contemporary Issues*. Grand Rapids: Zondervan.

Drake, Stillman

- 1999 *Mathematics, Astronomy, and Physics in the Work of Galileo*. Pages 305-30 in *Art, Science, and History in the Renaissance*. Edited by Charles S. Singleton. Baltimore: The Johns Hopkins Press.

Drake, Stillman. Editor

- 1957 *Discoveries and Opinions of Galileo*. Translated with an introduction and notes by Stillman Drake. Garden City, NY: Doubleday Anchor.

Fretheim, Terence

- 2005 *God and World in the Old Testament: A Relational Theology of Creation*. Nashville: Abingdon.

Galilei, Galileo

- 1613 *Letters on Sunspots*. Pages 87-144 in Stillman Drake (1957).

Gould, Stephen J.

- 1999 *Rocks of Ages: Science and Religion in the Fullness of Life*. NY: Ballentine.

Grant, Edward

- 1996 *The Foundations of Modern Science in the Middle Ages: Their Religious, Institutional and Intellectual Contexts*. Cambridge: Cambridge University Press.

Hannam, James

- 2005 "The Effects of Religion on the Modern World." Review of Rodney Stark, *For the Glory of God. Bede's Library*. Online. Cited 11 August 2005.
<http://www.bede.org.uk/stark.htm>

Harrington, Daniel J.

- 1996 *Wisdom Texts from Qumran*. New York. (not seen)

Hauerwas, Stanley

- 2001 *With the Grain of the Universe: The Church's Witness and Natural Theology* [Gifford Lectures for 2001]. Grand Rapids: Brazos.

Henry, Carl F. H.

- 1976 *The God Who Speaks and Shows*. Volume two of *God, Revelation and Authority*. Waco, TX: Word.

James, William

- 1992 [1882] "On Some Hegelianisms." Pages 653-79 in *William James: Writings 1878-1899*. Selected and annotated by Gerald E. Myers. NY: The Library of America.

Johnson, Dennis E.

- 1998 Between Two Wor(l)ds: Worldview and Observation in the Use of General Revelation to Interpret Scripture, and Vice Versa. *Journal of the Evangelical Theological Society* 41:69-84.

Jones, Brian C.

- 2005 Review of C. Marvin Pate, J. Scott Duvall, et alia, *The Story of Israel: A Biblical Theology* (Downers Grove, IL: InterVarsity Press, 2004). *Review of Biblical Literature* 06/25/2005. On-Line. <http://www.bookreviews.org> Accessed 20 October 2005.

Kennedy, D. J.

- 1910 St. Albertus Magnes. *Catholic Encyclopedia*. On-line. Cited 11 August, 2005. <http://www.newadvent.org/cathen/01264a.htm>

Kiefer, James

- 2002 "Robert Grosseteste." *The Lectionary*. On-line. Accessed 10 August, 2005. http://www.satucket.com/lectionary/Robert_Grosseteste.htm

Lindberg, David C.

- 1992 *The Beginnings of Western Science: The European Scientific Tradition in Philosophical, Religious, and Institutional Context, 600 B.C to A.D. 1450*. Chicago: University of Chicago Press, 1992,

Lang, Bernhard

- 1997 *Wisdom and the Book of Proverbs: An Israelite Goddess Redefined*. New York: Pilgrim Press.

Matthews, Victor H. and Don C. Benjamin

- 1997 *Old Testament Parallels: Laws and Stories from the Ancient Near East*. Second edition. New York: Paulist Press.

May, William F.

- 2001 The Engineer: From Nature's Adversary to Nature's Advocate. Pages 89-125 in *Beleaguered Rulers: The Public Obligation of the Professional*. Louisville: Westminster John Knox.

McGrath, Alister

- 2001 *Nature*. Volume 1 of *A Scientific Theology*. Grand Rapids: Eerdmans.
- 2002a *Reality*. Volume 2 of *A Scientific Theology*. Grand Rapids: Eerdmans.
- 2002b *The Reenchantment of Nature: The Denial of Religion and the Ecological Crisis*. New York: Doubleday.
- 2003 *Theory*. Volume 3 of *A Scientific Theology*. Grand Rapids: Eerdmans.

McKane, William

1970 *Proverbs*. Old Testament Library. Philadelphia: Westminster.

Miller, Walter Jr.

1959 *A Canticle for Leibowitz*.

Mouw, Richard

2003 *He Shines in All That's Fair*. Grand Rapids: Eerdmans.

Murphy, Roland E.

1981 *Wisdom Literature: Job, Proverbs, Ruth, Canticles, Ecclesiastes, and Esther*. Series: *The Forms of the Old Testament Literature*. Edited by Rolf Knierim and Gene Tucker. Grand Rapids: Eerdmans.

1985 "Wisdom and Creation." *Journal of Biblical Literature* 104:3-11.

1998 *Proverbs*. Word Biblical Commentary 22. Nashville: Thomas Nelson.

2002 *The Tree of Life: An Exploration of Biblical Wisdom Literature*. Grand Rapids: Eerdmans.

Norris, Richard A., translator and editor

1980 *The Christological Controversy*. Sources of Early Christian Thought. Philadelphia: Fortress.

O'Connor, J. J. and E. F. Robertson

1996 "Robert Grosseteste." *History/Mathematicians*. Online. Accessed 10 August 2005.
<http://www-groups.dcs.st-and.ac.uk/~history/Mathematicians/Grosseteste.html>

2003 "St. Albertus Magnus." *History/Mathematicians*. Online. Accessed 11 August, 2005.
<http://www-groups.dcs.st-and.ac.uk/~history/Mathematicians/Albertus.html>

Origen

[n.d.] *First Principles. Fathers of the Third Century*. Volume four of *The Ante-Nicene Fathers*. Edited by A. Roberts. Reprint: Grand Rapids: Eerdmans, 1988. Online. Cited 12 August, 2005.
http://www.ccel.org/fathers2/ANF-04/anf04-45.htm#P6279_1122053

Pascal, Blaise

1983 "Memorial." Pages 37-38 in *Conversions*, edited by Hugh T. Kerr and John M. Mulder. Grand Rapids: Eerdmans. [1654 original].

1995 *Pensées and Other Writings*. Translated by Honor Levi. New York: Oxford University Press. [1662 original].

- Pate, C. Marvin, J. Scott Duvall, *et alia*
 2003 *Israel's Story: A Biblical Theology*. Downers Grove, IL: InterVarsity Press.
- Pemberton, Glenn D.
 2005 The Rhetoric of the Father in Proverbs 1-9. *Journal for the Study of the Old Testament* 30:63-82.
- Perdue, Leo G.
 1994 *Wisdom and Creation: The Theology of the Wisdom Literature*. Nashville: Abingdon.
- Perkins, Pheme
 1990 *The Gospel According to John*. Pages 942-85 in *The New Jerome Biblical Commentary*. Edited by Raymond E. Brown, Joseph A. Fitzmyer, and Roland E. Murphy. Englewood Cliffs, NJ: Prentice-Hall.
- Pritchard, James B.
 1969 *Ancient Near Eastern Texts Relating to the Old Testament*. Third edition. Princeton: Princeton University Press.
- Ringren, Helmer
 1947 *Word and Wisdom: A Study in the Hypostatization of Divine Qualities and Functions in the Ancient Near East*. Lund: Ohlssons.
- Rogers, Cleon L.
 1997 The Meaning and Significance of the Hebrew Word חָכְמָה in Proverbs 8,30. *Zeitschrift für die alttestamentliche Wissenschaft* 109:208-21.
- Schmid, Hans Heinrich
 1984 "Creation, Righteousness, and Salvation: 'Creation Theology' as the Broad Horizon of Biblical Theology." Pages 102-17 in *Creation in the Old Testament*, edited by Bernhard W. Anderson. Philadelphia: Fortress.
 1968 *Gerechtigkeit als Weltordnung*. Tübingen: Mohr Siebeck. (not seen)
- Schnabel, E. J.
 2000 "Wisdom." Pages 843-48 in *New Dictionary of Biblical Theology*. Edited by T. Desmond Alexander, Brian S. Rosner, *et alia*. Downers Grove, IL: InterVarsity Press.
- Schreiner, Susan E.
 1991 *The Theater of His Glory: Nature and the Natural Order in the Thought of John Calvin*. Studies in Historical Theology 3. Durham, NC: Labyrinth Press.

Singleton, Charles S., editor

1967 *Art, Science, and History in the Renaissance*. Baltimore: The Johns Hopkins Press.

Smith, Dean R.

1995 The Role of the Bible Department in a Church Controlled Christian Liberal Arts College. Unpublished faculty integration paper. Geneva College, Beaver Falls, PA.

Sobel, Dava

2000 *Galileo's Daughter: A Historical Memoir of Science, Faith, and Love*. New York: Penguin.

Stark, Rodney

2003 *For the Glory of God: How Monotheism Led to Reformations, Science, Witch-hunts, and the End of Slavery*. Princeton: Princeton University Press.

Tertullian

192 *On Repentance*. Translated by S. Thelwall. *Ante-Nicene Fathers*, Volume 3. Edited by Alexander Roberts and James Donaldson. Edinburgh: T & T Clark. Online. Accessed 9 August 2005.
http://www.ccel.org/fathers2/ANF-03/anf03-47.htm#P11266_3191112.

The Theological Declaration of Barmen

1991 Section 8, *The Book of Confessions*. Louisville: Office of the General Assembly of the Presbyterian Church (U.S.A.). [1934 German original].

Urquhart, F. F.

1910 Robert Grosseteste. *Catholic Encyclopedia*. Online.
<http://www.newadvent.org/cathen/07037a.htm>. Cited 10 August, 2005.

VanGemeren, Willem A., editor

1997 *New International Dictionary of Old Testament Theology and Exegesis*. Five volumes. Grand Rapids: Zondervan.

Vermes, Geza

1998 *The Complete Dead Sea Scrolls in English*. New York: Allen Lane/Penguin.

Waltke, Bruce K.

2004 *The Book of Proverbs, Chapters 1-15*. Volume 1. New International Commentary on the Old Testament. Eerdmans: Grand Rapids.

2005 *The Book of Proverbs, Chapters 15-31*. Volume 2. New International Commentary on the Old Testament. Eerdmans: Grand Rapids.

Westermann, Claus

1971 Biblical Reflection on Creator-Creation. Pages 90-101 in *Creation in the Old Testament*. Edited by Bernhard W. Anderson. Philadelphia: Fortress.

White, Lynn, Jr.

1967 The Historical Roots of our Ecological Crisis. *Science* 155:1203-07; 156:737-38.

Williams, R. J.

1981 The Sages of Ancient Egypt in the Light of Recent Scholarship. *Oriental Wisdom: Six Essays on the Sapiential Traditions of Eastern Civilizations*. Edited by Jack Sasson. *Journal of the American Oriental Society* 101:1-19.

Wilson, Edward O.

1998 *Consilience: The Unity of Knowledge*. New York: Vintage.

Wolfson, Harry

1947 *Philo: Foundations of Religious Philosophy in Judaism, Christianity and Islam*. Two volumes. Cambridge, MA: Harvard University Press.

Wolters, Albert M.

1985 *Creation Regained: Biblical Basics for a Reformational Worldview*. Grand Rapids: Eerdmans.

Wright, Addison G.

1990 Wisdom. Pages 510-22 in *The New Jerome Biblical Commentary*. Second edition. Edited by Raymond E. Brown, Joseph A. Fitzmyer, and Roland E. Murphy. Englewood Cliffs, NJ: Prentice-Hall.

Zimmerli, Walther.

1976 The Place and Limit of the Wisdom in the Framework of the Old Testament Theology. Pages 314-26 in *Studies in Ancient Israelite Wisdom*. Edited by James L. Crenshaw. New York: KTAV. [*Scottish Journal of Theology* 17 (1964):146-58.]

2000 *Old Testament Theology in Outline*. Translated by David Green. Edinburgh: T & T Clark. [Richmond: John Knox Press, 1978.]

