

HONOR TO WHOM HONOR . . . MATTHEW FONTAINE MAURY (1806-1873)

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Abstract

Matthew Fontaine Maury achieved considerable respect in the middle of the nineteenth century for founding the science of oceanography. His mapping of the world's major ocean and wind currents for the benefit of sailing ships earned him the title "Pathfinder of the Seas." Other fields, such as meteorology, navigation, and ordnance, also profited from his methodical and inventive mind. Although largely forgotten outside his native Virginia, Maury endures in Bible-science literature as a credible scientist who took a literal view of Scripture. According to one common story, Maury's reading about the "paths of the seas" in Psalm 8:8 led him to discover ocean currents. Although various aspects of this legend fail historical scrutiny, Maury held strongly to the view that the Bible and science were in perfect harmony. For modern creationists, he represents a successful scientist who eschewed the modernistic trend to divide secular and biblical knowledge.

In the 1840s and '50s, Matthew Fontaine Maury reached the prime of his life, in both years and deeds. With no formal academic training, and confined to a desk job by a lame leg, this land-bound sailor set the fledgling studies of oceanography and meteorology on firm scientific foundations.

Yet these achievements in no way overshadow Maury's high regard for Scripture. He believed that the Bible's allusions to the natural world matched his observations precisely. Like Newton in the planets, and Paley in the living world, Maury believed that the ocean, atmosphere and land were in such perfect harmony that they could only be the product of an intelligent Creator. These convictions infused every part of his life during a time of rising skepticism and naturalism in the academic community.

While the secular world barely remembers Maury, creationists have enlisted him in the ranks of distinguished, Bible-believing scientists. He is put forward as a challenge to the popular notion that religious devotion precludes good science. Typically, these accounts are brief, and they focus almost exclusively on a story about the "paths of the seas" (Psalm 8:8) inspiring Maury to chart the ocean currents (a laudable exception being Meyer, 1982). Yet this story may seem to "preach" a little too well, and has attained such legendary status, that critics may wonder whether it is true at all. As we flesh out the story, however, we find that there was a lot more to Matthew Fontaine Maury than a short phrase from Psalms.

Enduring Achievement

Early Years

Matthew Fontaine Maury was born in Spotsylvania County, Virginia on January 14, 1806. Both his middle and last names reveal descent from a line of Huguenot refugees. He and his family moved to a farm six miles west of Franklin, Tennessee in 1810 (Wayland, 1930, p. 9). At the age of 12, a potentially tragic incident set his course away from the land to more scholarly pursuits. A fall injured his back, so his father, fearing that farm work might make matters worse, sent Matthew to school. Maury excelled in his studies, but his real desire lay toward the sea, perhaps egged on by the

adventures of his older brother John. With an appointment as midshipman secured by Sam Houston, the 19-year-old Maury set off to join the U.S. Navy.

Over the next few years, Maury honed his nautical experiences, while expanding his academic interests. The U.S. Navy did not have a training academy for its officers, yet its midshipmen were expected to take examinations, not only in naval matters, but in languages, literature, math, and philosophy. He passed, and went on to become the sailing master of the *Falmouth*. Perhaps this hands-on experience prodded his interest in refining the art of navigation (Lewis, 1927, p. 51).

Wielding the Pen

In 1834, after marrying Ann Hull Hemdon and settling in Fredericksburg, Virginia, the midshipman wrote two science articles: One on the navigation of Cape Horn, and the other on an invention or finding true lunar distance (Wayland, 1930, p. 40). He followed these with a critically acclaimed book on navigation, published in 1836, which would become a standard text for junior officers in the navy. In this period, he lectured on scientific subjects; studied mineralogy, geology and drawing; became superintendent of a government gold mine near Fredericksburg; and rose to the rank of lieutenant.

Maury's academic achievements were noticed in high quarters, and opened the door to further opportunities. In 1837 he added astronomy to his list of talents. Then, after withdrawing from what he saw as a badly managed expedition to the South Pacific, he commenced a campaign of naval reform via letters to newspapers and journals under various pseudonyms. These elicited such great grass roots support that Maury's brother officers reprinted them for wider distribution.

International Repute

As in his boyhood, Maury would experience another course-changing accident. On a rainy night in the summer of 1839, Maury was riding on top of a crowded stage coach. An embankment gave way on the road near Somerset, Ohio, overturning the coach. The accident dislocated Maury's knee and fractured his thigh bone. Unlike the earlier mishap this injury would plague him for the rest of his life. From 1840-1841,

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Maury resumed his pseudonymous but popular plea for reforms, while recuperating and seeking a return to active duty. However, the author's identity emerged in June 1841, and these articles, with Maury's scientific contributions and limited mobility, confined him to duty on land. On July 1, 1842, Lieutenant Maury took charge of his new post as Superintendent of the Depot of Charts and Instruments in Washington. This would later become the Naval Observatory.

Maury's primary goal was to produce charts that drew upon the vast experiences of sailors from around the world, so that a ship's captain could sail efficiently and safely on any route. No one, up to this point, had undertaken such a systematic and comprehensive study of the ocean.

Beginning with old log books, Maury compiled data from whaling, prevailing winds, sailing times, and other details. He combined this information with an understanding that there were vast "rivers in the sea," and made a special study of the Gulf Stream (Wayland, 1930, pp. 55, 81-83). The result, a "Wind and Current Chart of the North Atlantic," appeared in 1847. Maury and his staff constantly refined their work by adding thousands of new observations from ships that used the charts. In 1855, Maury suggested twenty-mile-wide "ocean lanes" as standard sailing routes across the busy North Atlantic, principally to avoid accidents. Maury's charts and lanes saved millions of dollars, dozens of sailing days, and many lives. These labors bore other fruits in the fifties:

- Maury recognized the need for a standard system of collecting meteorological information on both land and sea. In response he organized the International Meteorological Conference, convened in Brussels in 1853.
- He advanced the study of meteorology for agriculture. While the army had a system of information gathering already, it published the data infrequently, and well after the observations. Under Maury's plan, weather watchers would transmit the information by telegraph, so that farmers in specific counties could receive warning of impending storms (Caskie, 1928, pp. 96, 105).
- His surveys of the North Atlantic sea floor suggested the feasibility of a transatlantic telegraph cable, and he lent technical support to the cable-laying project.

Maury's most substantial written work also appeared in this decade. It began from "Sailing Directions" which Maury originally intended as a guide book on the use and interpretation of his charts (Lewis, 1927, p. 54). The German naturalist, Baron von Humboldt, was so impressed with the scientific information in these "Directions," that he proposed a name for this new field of study: *The Physical Geography of the Sea* (Lewis, 1927, p. 68). Finally, in 1855, Maury combined "Directions" and his other thoughts on oceanography, marine meteorology, and navigation into one source bearing Humboldt's suggested title. *The Physical Geography of the Sea* was an instant success, going through many printings and editions, and appearing in several languages.

Although Maury's trail-blazing work was largely obsolete by the beginning of the twentieth century, none but the severest critic could diminish its important

contribution. Francis H. Smith writes that the book was "intended rather for the educated many than for the scientific few," and "severely pruned" compared to other scientific works of the time (1909, p. 3439). While contemporaries objected to some of Maury's speculations, this left

unaffected the great facts which the author had reached. A fertile mind, like a vigorous tree, produces many germs that never fructify. Yet if one acorn brings an oak, we forget the rest (Smith, 1909, p. 3439).

Birthright Before Science

This flood of great achievements ended with the American Civil War. In April 1861, President Lincoln called on the Governor of Virginia to send troops to fight the rebelling states. Virginia promptly passed an ordinance of secession, and sided with the Southern Confederacy. Like fellow Virginian Robert E. Lee, Maury felt bound to serve his home state first (Smith, 1909, p. 3440). Although Maury opposed the slave trade and national division, he believed Virginia had rights to secession under the agreement it signed in 1788 upon joining the Union (Caskie, 1928, p. 132). Maury, having reached the rank of Commander, resigned his commission in the navy and left the Observatory. He immediately offered his services to Virginia and, later, to the Confederate navy.

During the war, Maury applied himself to the development of electric mines, and participated in outfitting the ironclad *Merrimac*. After a brief period in Mexico serving Emperor Maximilian, and self-exile in Europe, Maury returned home in July 1868, having accepted the chair of physics at the Virginia Military Institute. However, he spent most of his time outside the classroom directing the physical survey of Virginia, writing a series of textbooks on geography for children, and delivering public lectures and addresses.

So while Maury never ceased his labors, the war curtailed his research momentum. Illness overcame him in the winter of 1872, and he died at home in Lexington, Virginia, on February 1, 1873. At his request, the family took him through the Goshen Pass, and buried him in Richmond.

Mixed Honors

Today, Maury is largely forgotten by his native America. He appears most often in books about the ocean, but general texts hardly accord him the stature of a Benjamin Franklin or Thomas Edison. It is difficult to pinpoint the precise cause of this neglect, although there are a few possibilities. First, many in the South, particularly in Virginia, feel that the North penalized him as a "rebel." Smith complains:

Especially heavy has been the censure visited upon him, not so much by open rebuke as by silent neglect, by the victorious section in the Civil War. His name is carefully omitted in official records of the departments he created (1909, p. 3441).

Second, some may have been jealous of Maury's popularity and respect, both gained without formal training in science or lofty pedigree. Third, and perhaps related to the previous point, political machinations within the navy and in the scientific community may have worked

against him (Meyer, 1982, pp. 93-94). It is ironic that in 1855, at the height of Maury's career, a naval "Retiring Board" demoted Maury and put him on leave of absence with reduced pay. After three years of intense lobbying on the part of his friends and admirers, the President restored him to active service and elevated him to the rank of commander, retroactive to the time of his demotion (Lewis, 1927, p. 117).

While many of his American peers in science and the navy were stingy in their praise, others were prompt in recognizing his contributions. The Southern states, and many nations in Europe, gave Maury their highest accolades, not so much for his service as a naval officer, but for his scientific achievements (Caskie, 1928, p. 144). Several nations offered him scientific appointments following his resignation from the Naval Observatory. The University of North Carolina awarded him a Master of Arts in 1847, and a Doctor of Laws in 1852. Columbia University awarded him a Doctor of Laws in 1854, and Cambridge University honored him with a Doctor of Letters in 1868.

Recognition continued after his death, with several educational institutions founding buildings and schools in Maury's name (Wayland, 1930, pp. 182-183). In 1923, the State of Virginia erected a memorial in the Goshen Pass. A bronze plaque, attached to a granite shaft, reads (Lewis, 1927, p. 241 facing):

Matthew Fontaine Maury
Pathfinder of the Seas
The Genius who first Snatched
From Ocean & Atmosphere
The Secret of their Laws

Born January 14th, 1806
Died at Lexington, Va., February 1st, 1873
Carried through Goshen Pass To His Final
Resting Place in Richmond, Virginia.

Every Mariner
For Countless Ages
As he takes his Chart to Shape
His course across the Seas,
Will think of thee

His Inspiration Holy Writ
Psalms 8 & 107, Verses 8, 23, & 24
Ecclesiastes Chap. 1, Verse 8
A Tribute by his Native State
Virginia
1923

His Last Words
"Carry My Body Through The
Pass When the Rhododendron
is in Bloom"

In 1915, Mrs. E. E. Moffitt founded the Matthew Fontaine Maury Association, which raised \$60,000 to build an impressive monument in Richmond (Lewis, 1927, pp. 1 facing, 245; see also front cover, *Creation Research Society Quarterly*, September 1982). The whole piece, standing 28 ft high, includes a globe and figures atop a tall column, Maury sitting in a large chair against the column, with a compass and pencil in one hand and a chart in the other, a Bible next to the

chair, and an inscription below the statue that reads "Maury, Pathfinder of the Seas."

Maury on The Bible And Science

Religious Roots and Life

Maury was born into a deeply religious family. "As Matthew himself stated in later years, he was taught to respect women, to love the truth, and to remember God" (Wayland, 1930, p. 10). His grandfather, James Maury, was an Episcopal clergyman and teacher of some note (Caskie, 1928, p. 14). While lenient in some respects, Matthew's father "was strict as to their religious training in the home and gathered the children together morning and night each day to read the Psalter" (Lewis, 1927, p. 3).

This dedication to spiritual service stayed with Maury into his adulthood. In his daily life and writings, Maury "often quoted passages from Shakespeare, Byron, Dante, and the Bible" (Lewis, 1927, p. 131). His wife taught Bible lessons and the catechism to their children. While in Washington, and located some distance from their church building, Maury would lead the evening service for his family (Wayland, 1930, p. 138). A eulogy of the Temple Bar reads:

His religious feeling was deep and personal. He never obstruded [sic] his views upon others, though he died, as he lived, in open profession and full communion of the Protestant Episcopal Church" (as quoted in Caskie, 1928, p. 177).

In his final days, Maury surrounded himself with his family, Scripture reading, hymns, and prayer. The General Assembly of Virginia resolved the following:

In the general grief which pervades thousands of hearts in both hemispheres, we but give expression to the sentiment of all who knew him when we point to his noble, earnest, and unselfish life as a beautiful illustration of what the most ardent votary of science, animated by lofty Christian principle, may accomplish for humanity (as quoted in Caskie, 1928, p. 182).

Such praise could be exaggerated because (after all) it is polite to speak well of the departed. However, Maury's supporters were ready always to champion his cause. They came to his aid after the "Retiring Board" scandal and, following the Civil War, contributed money and letters of appeal for his repatriation. Such patronage speaks well of the man's character.

Two Books; One Divine Author

Maury went further than many of his peers in believing that science and the Bible were in total harmony. Lewis appreciated the extent to which this view influenced Maury:

He had very definite ideas about the relation between science and the Bible, and declared that it was his rule never to forget who was the Author of the great volume which Nature spreads out before men, and always to remember that the same Being was the author of the book which revelation holds forth for contemplation (1927, p. 71).

Not only were the Bible and science in harmony, but science could shed light on interpretation of certain

passages—even those misunderstood by defenders of orthodoxy in times past. Maury launches into this subject in the middle of discussing trade winds:

The Bible frequently makes allusions to the laws of nature, their operation and effects. But such allusions are often so wrapped in the folds of the peculiar and graceful drapery with which its language is occasionally clothed, that the meaning, though peeping out from its thin covering all the while, yet lies in some sense concealed, until the lights and revelations of science are thrown upon it: then its bursts out and strikes us with exquisite force and beauty.

As our knowledge of nature and her laws increased, so has our understanding of many passages in the Bible been improved. The Psalmist called the earth “the round world;” yet for ages it was the most damnable heresy for Christian men to say the world is round; and, finally, sailors circumnavigated the globe, proved the Bible right, and saved Christian men of science from the stake (1859, p. 79).

Whoever studies the sea, Maury contended, “must look upon it as a part of that exquisite machinery by which the harmonics of nature are preserved, and then will begin to perceive the developments of order and the evidences of design” (1859, p. 57). For the one who does this, Maury adds with shades of William Paley,

the sea, with its physical geography, becomes as the mainspring of a watch; its waters, and its currents, and its salts, and its inhabitants, with their adaptations, as balance-wheels, cogs and pinions, and jewels. Thus he perceives that they, too, are according to one design; that they are the expression of One Thought, a unity with harmonics which One Intelligence alone, could utter” (1859, p. 58; also see p. 100).

Physical Geography contains many allusions and direct quotations of Scripture, especially those passages that, in Maury’s opinion, agreed with new scientific findings. The following is a partial list of Bible references, with Maury’s application (book, chapter and verse have been added where Maury gave a quotation or allusion without specific citation).

- a. Job 38:4/Psalm 147:9 and Matthew 10:29/Luke 12:6—The carrying of nutrients by the Gulf Stream from the Gulf of Mexico to whales in the western North Atlantic portrays the “providential care of that great and good Being which feeds the young ravens when they cry, and caters for the sparrow!” (p. 74);
- b. Job 38:31—Only astronomy can answer the question, “Canst thou bind the sweet influences of Pleiades?” Astronomers have found that the Solar System is in motion around a point “in the direction of the star Alcyon, one of the Pleiades!” (p. 79);
- c. Ecclesiastes 1:6—“And as for the general system of atmospherical circulation . . . , the Bible tells it all” (p. 80);
- d. Ecclesiastes 1:7—The weather cycle matches biblical observations (pp. 85-86);
- e. Matthew 8:27/Mark 4:41—No matter how small the influence of the marine organism on oceanic

circulation, any influence is “by design, and according to the commandment of Him whose ‘voice the winds and the sea obey’ ” (p. 197);

- f. Genesis 1:9-10,2:6,10—As the dry land and waters appeared before rivers and the weather cycle, then the seas were salty. The geological record, “as to the early condition of our planet, indicates the same” (p. 203);
- G. Job 28:25—That the atmosphere exerts pressure (a “weight for the winds”) is “set forth as distinctly in the book of nature as it is in the book of revelation” (p. 213).

Maury may be employing these scriptures in three ways: (1) as evocative images of God’s handiwork in the creation (a, e); (2) as accurate observations of the natural world (c, d); and (3) as knowledge confirmed by modern science (b, f, g). Examples in this last category resemble claims of scientific foreknowledge—the idea that the Bible contains facts about science that ancient people could not possibly have known or understood without special revelation from God. It is hard to say how far Maury would take this principle. While he shows little concern for exegeting these passages, it seems unlikely that Maury would go as far as defenders a century later, who found scriptures anticipating nuclear physics, radios, submarines, and automobiles (Ramm, 1954, p. 89).

Whatever the case, Maury believed that the Bible contained scientific truths because nature and Scripture have a common Author. Further, the interaction went both ways: Science could illuminate Bible passages, and the Bible had something to contribute to science. He defended these views before 5000 people at the founding of the University of the South in 1860:

I have been blamed by men of science, both in this country and in England, for quoting the Bible in confirmation of the doctrines of physical geography. The Bible, they say, was not written for scientific purposes, and is therefore no authority in matters of science. I beg pardon! The Bible **IS** authority for everything it touches. What would you think of an historian who should refuse to consult historical records of the Bible, because the Bible was not written for the purposes of history? The Bible is true and science is true (as quoted in Lewis, 1927, p. 99, emphasis in original).

Maury reiterated these sentiments to a Cambridge audience eight years later, as summarized by Lewis: “the Bible and science do not conflict if each is rightly interpreted” (1927, p. 218).

A Man of His Time

Modern writers have also “blamed” Maury for including God in his observations. In Isaac Asimov’s judgment, *Physical Geography* “was marred by Maury’s refusal to consider evolutionary aspects of oceanography because of his insistence on accepting the literal words of the Bible” (1972, p. 319). Asimov probably means “uniformitarian,” rather than “evolutionary,” because Maury’s book appeared before a completely naturalistic view of origins dominated academia. Certainly, many of his colleagues in the earth sciences would have rejected Maury’s biblical literalism (Rudwick, 1985, p. 44). Still, most contemporaries

recognized *Physical Geography's* pioneering contribution to science.

Moreover, that Maury could defend his views at Cambridge (Darwin's alma mater) within a few years following the publication of the *Origin* should not seem surprising. While modernism in theology and naturalism in science was gaining popularity, the issues were far from settled. For example, *Essays and Reviews*, which appeared in 1860, catapulted German higher criticism into Anglican theology. Yet "the years following 1860 were a time of great religious revival in England" (Gregory, 1986, p. 373). Meanwhile, on the other side of the Atlantic, Louis Agassiz was attacking Darwinism to popular acclaim. It took several more years for Darwin's work to have an impact on American theology. When the challenge finally came, the torch passed to Charles Hodge, who was already a champion of conservative theology (Ahlstrom, 1972, pp. 462-463). In this context, Maury's respect for the Bible was typical of Protestant beliefs in mid-nineteenth century America. As Dupree reminds us, "Darwin and Darwinism came out of a profoundly Christian culture" (1986, pp. 351-352).

The Psalm 8 Legend

Lewis, at the very close of his biography, quotes a lengthy passage from the Richmond *Times* written by Virginia Lee Cox. After describing the soon-to-be-completed monument, Cox wrote the following:

The story goes that once when Maury was ill he had his son read the Bible to him each night. One night he read the eighth Psalm, and when he came to the passage—"the fishes of the sea and whatsoever walketh through the paths of the sea"—Maury had him read it over several times. Finally he said, 'If God says there are paths in the sea I am going to find them if I get out of this bed.' Thus the Psalm was the direct inspiration for his discoveries (as quoted in Lewis, 1927, p. 252).

Lewis says nothing more about this story, and other detailed biographies do not mention this incident. Nonetheless, the story has received wide distribution in various forms through popular articles and books on the Bible and science. For example, DeHoff (1939, p. 53) and Morton (1978, p. 121) follow the essential elements of the Cox story, although neither mentions Lewis' source.

Other accounts do not mention the son's involvement, but attach significance to the verse. According to biographer Francis Leigh Williams, Maury told his family that the words of Psalm 8:8 came to him frequently, and convinced him that he was "right in his belief that there were natural paths through the seas, even as there were natural paths through mountain passes, if man would but persist until he discovered them" (as quoted in Meyer, 1982, p. 98). Gish (1991, pp. iii-iv), who wrote the "Foreword" to Morton's book, has Maury, not the son, reading Psalm 8. Morris (1988, p. 49) and Barfield (1988, pp. 173-174) simply link Maury's work to Psalm 8:8. Some of these accounts contain inaccuracies. For example, DeHoff says that the Richmond statue has Maury holding a Bible in one hand (the Bible is next to the chair), and Morris refers to a nonexistent tombstone at the U.S. Naval Academy

(perhaps he is confusing this with the Goshen Pass monument).

Varied readings and factual mistakes may lead us to wonder whether we may connect Maury with this passage at all. Only a comprehensive search of original documents (a privilege not available to this writer) could shed light on this question. The main difficulties with Cox's version center on timing. Maury's eldest son, Richard Lancelot, was born on October 9, 1840, which means that unless he was a particularly gifted boy, the reading had to occur in the middle or final stages of Maury's work on the first chart. By this time, Maury had an extensive knowledge of ocean and wind currents. So, if he viewed the "paths" as currents, and if there is any basis for the reading incident, then Psalm 8:8 could have been an inspiration to continue his work, but not the "direct inspiration for his discoveries" as stated by Cox. As an alternative, we could speculate that the "paths" refer to Maury's standard shipping routes. This brings the incident forward another seven or eight years and allows us to consider older children. In this case, we might suppose that the reading inspired Maury to create his shipping lanes. Again, this differs from the idea of discovery suggested by Cox. With these difficulties, neither explanation seems plausible, and we must conclude that Cox's version contains hagiographic embellishments.

Having subtracted a questionable basis for this story, we must now address a dubious application of the story. Many accounts cited previously suggest that the "paths of the sea" were hidden from human understanding until Maury's discoveries. For example, Barfield notes that while ancient seafarers and early investigators had little or no idea of ocean currents, Maury based his search not on "physical evidence but a reference in the Bible" (1988, p. 174). Even Williams' seemingly objective account suggests that Psalm 8:8 led Maury to discover ocean currents. However, Benjamin Franklin and Baron von Humboldt had studied ocean currents several decades earlier (the Gulf Stream and Humboldt or Peru currents, respectively). Maury's achievement was to add detail, and expand these studies on a global scale.

Further, biblical interpretation does not seem to support the idea that the passage contains special or pre-scientific knowledge about the natural world, or about ocean or air currents in particular. In context, the chief concern of Psalm 8:6-8 is humanity's relationship with God's creation of animals, and it reiterates the stewardship grant of Genesis 1:26, 28 (Schaeffer, 1972, pp. 49-50). The psalmist praises God for giving humankind ("the son of man," verse 4) the preeminent place among His creative acts, even extending dominion to creatures dwelling in the alien environment of the sea. In poetic form, the language emphasizes the totality of this domain: all animals on the land, whether wild or domesticated; all birds in the sky; and all creatures of the sea, including fish and "whatsoever passeth through the paths of the seas" (Leupold 1959, pp. 105-107; Dahood, 1965, pp. 51-52). Delitzsch suggests that these words "may be a comprehensive designation of that portion of the animal kingdom which is found in the sea" (1982, p. 156). Although "paths" (Hebrew, *orach*) has a wide range of meanings in the Hebrew Scriptures (Harris, 1980, p. 71), the context does not suggest any-

thing as specific as sailing routes, fish migration patterns, or ocean currents.

Nonetheless, like many legends, the Cox story and other accounts mentioned previously contain an element of truth: that Psalm 8:8 figured significantly in Maury's world view. As a biblically-minded man with a deep interest in navigation, it seems that Maury could not help but be intrigued by the "paths of the seas." It is possible that he read ocean currents into this phrase, but this does not diminish the resulting scientific contributions. Moreland described this process precisely:

Sometimes scientists do not adduce an idea from tacit knowledge of a domain of study. Frequently in the history of science, they have derived their conceptual ideas from the metaphysical aspects of philosophical or theological theories. Philosophical or theological frameworks can motivate scientific investigation, guide research by suggesting lines of testing, provide conceptual problems to be solved, enable scientists to see data they could not see before, and determine, in part, what counts as veridical data (1989, p. 69).

Conclusion

Matthew Fontaine Maury drew no artificial boundary between his knowledge of science and his knowledge of the Bible. In his mind, they were integrated perfectly. To a great degree, the Bible inspired Maury's scientific work. It gave him a sense of purpose and fulfillment to give whoever would listen a deeper insight into the works of the Creator. He believed that God was the Author of Scripture and Nature, and was in no way surprised that the Bible should have something to say about the natural world, or should complement recent scientific discoveries.

Despite the diminished respect for a theistic world view among modern scientists, Maury's achievements bear considerable merit. Indeed, his systematic mapping of large-scale wind and ocean currents earned him the epithet, "Pathfinder of the Seas." Several Bible-science works suggest that Maury launched this venture after reading about the "paths of the seas" in Psalm 8:8. As his *Physical Geography* shows, this is quite possible because the Bible was an integral part of Maury's approach to science. However, exactly when or how this reading occurred is not clear. Some writers go further in suggesting that no one knew about these currents until Maury's (or his son's) fortuitous reading, and thus credit him with uncovering a scientific truth previously unknown apart from Scripture. Despite the apparent reliability of the source for a popular version of the Psalm 8 story (Lewis' quote of Virginia Lee Cox), neither history nor biblical interpretation will support some of its claims.

Maury's labors may have brought forth many more fruits, if it had not been for the American Civil War. Yet the man's character withstood even this sad incident, and he is worthy of emulation by Bible-believing scientists of today.

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TAPE REVIEW

Powerhouse Christian Tape and Book Series. Powerhouse. PO. Box 859, Clayton, CA. \$3.95. per tape.

Reviewed by Jerry Bergman*

The growing proliferation of alternative sources of information, including tapes, CD rom, and videos, is now also being exploited by Christian publishers. Powerhouse is a new company which carries a large number of tapes related to Christian topics. Fortunately, the Powerhouse editors have seen fit to include a large selection of useful tapes on creation/evolution, many by Dr. Norman Geisler. I recently reviewed several dozen of the tapes on creation and found them all excellent. The quality of the recording is high, and the presentations are easy to follow, and free of static or disruptions.

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