Barrigar argues that his account of things shows how the problem of evil and human suffering is not so big a problem after all. Since God did not (perhaps could not?) create human freedom directly, God had to deploy indirect means to evolve human freedom and, of course, evolution depends upon random physical, biological, and evolutionary forces that always bring with them waste, suffering, and tragedy. Consequently, the good of human freedom as well as the *agape*-capable beings who depend upon it, could not be separated from nasty human suffering. Barrigar believes this blend of the free will defense and a greater-good account of natural evil in the world sits comfortably upon the foundation of his *agape*-probabilistic account of things.

Chapters four and five examine the nature of the *agape*-love that God engineered to emerge in creation. Questions such as "what do the scriptures have to say about God's *agape*-love for humanity?" and "how is God's *agape*-love manifested in his creation, in the lives of those who bear his agapic image, and in him who is the incarnated icon of God's *agape*-love?" are addressed and analyzed in detail and to rich effect. In the concluding portion of chapter five, Barrigar speculates about the relation of the *imago Dei* to the evolutionary emergence of humanity. His suspicion is that the emergent forces of genetic and cultural coevolution operative in the evolution of *Homo sapiens* established them (*Homo sapiens*) as responsible agents whom God elected to bear the divine image as agapic agents in charge of overseeing the well-being of their home bio-niches.

Chapters six and seven lay out Barrigar's version of the life that *agape*-capable beings are called to enact: lives of agapic freedom as *imago*-bearing individualities and as image-bearing makers of society and culture. These two chapters offer stimulating discussions of how "agapic freedom" differs from "autonomous freedom," how form and boundaries can actually enhance existential freedom, and how the implications of agapic freedom should shape the intellectual life of human cultures.

The final chapter (chap. eight) returns to the original issues of meaning and nihilism discussed in chapter one. Barrigar argues here that in reality, the materialists' battle with impending nihilism is more problematic than the theists' struggles with the inevitable sufferings in the world. He contends that the *agape*-probability account laid out in chapter two and the notions of freedom-all-the-way-up, *imago*-bearing individuality, and agapic freedom discussed in chapters four through seven reveal that God and science belong together as the basis for humanity's flourishing and deepest realization of meaning.

In the remaining space apportioned to this review, I will offer what I consider the most important failures of this significant and provocative book before I conclude with some praise.

I think that Barrigar's book would have benefitted enormously from an early, if only brief, discussion of (1) the degree of realism with which he takes scientific and mathematical theories; (2) how he conceives of the distinction between God's creating and God's sustaining of the universe[s] brought into being; and (3) how these distinctions articulate the relation of divine causation to causations arising within creation. Setting up his positions on these matters early on would enable the reader to discern the conceptual coherency (or its absence) of many of the scientific, philosophical, and theological speculations making up the core of this book, for example, his claims that God frontloaded creation with all the forces, fields, laws, and entities that populate contemporary scientific theories' ontologies; that human first-person agency emerged from third-person physical mechanisms; that robust human freedom is ultimately based on randomness; and that moral evil and natural evil are the same because they both arise from natural goods. Philosophically and theologically, all of these claims merit careful interrogation to underwrite their credibility, which is not really possible without knowing the broader theological and metaphysical commitments that Barrigar presumes.

The foregoing discussion does not do justice to the originality of Barrigar's integration of materials from all over the cognitive map, nor to his rich array of examples, speculations, and breath-taking inferences deployed to impress the plausibility of his narrative on the reader. His book is not limited to the abstract and airy concerns of science-religion integration, but also provides the reader with much practical and wise pastoral import to savor. For these reasons alone, the book merits attention from Christians who wish to dig deeper into their faith's relationship to the contemporary scientific consensus and its implications for a meaningful life well lived.

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MADNESS: American Protestant Responses to Mental Illness by Heather H. Vacek. Waco, TX: Baylor University Press, 2015. xii + 271 pages. Hardcover; $39.95. ISBN: 9781481300575.

Heather Vacek is a professor of church history at Pittsburgh Theological Seminary. Her volume on Protestant reactions to mental illness in America is part of a new series: Studies in Religion, Theology,

and Disability, edited by Sarah J. Melcher and Amos Yong. Vacek aims to inform Christians about mental maladies through a historical examination of such; in particular she desires to dispel the myths that mental illness is a sin and that it is not the church's problem. Madness (the title representing only one of many historical appellations) focuses on five diverse individuals who exemplified a Christian response to mental illness, in contrast to the indifference or theological misunderstanding that has typically characterized American culture.

The book is well researched and the author's attention to detail and inclusion of personal accounts enhances its readability. Vacek examines the efforts of two clergy, one social activist, and two physicians; situates each individual in their complex and evolving social, religious, and medical contexts; and considers both historical and theological perspectives on mental illness. She incorporates views of illness causation, definitions of mental illness, and the changing relationship between church and state.

The first figure Vacek discusses is Puritan minister Cotton Mather (1663–1728). Influenced by American Colonialism and Calvinist theology, he believed sickness to be a result of sin and that all illness had a divine purpose, encouraging people to turn to God. Prayer and conversion to Christ could heal the mind. Nevertheless, Mather also encouraged care for one's own and others' health and even endorsed vaccination against smallpox. His book, *The Angel of Bethesda*, detailed remedies for multiple types of illness including madness.

The second individual is revolutionary-era physician Benjamin Rush (1746–1813), whose work in categorizing and proposing treatments for mental illness is legendary. He wrote one of the first scientific books on mental illness, *Medical Inquiries and Observations upon the Diseases of the Mind*, and founded the Philadelphia Humane Society to educate the public on preventive health. A Presbyterian, his faith guided his action, but Rush challenged the prevailing Christian view, arguing that biology, not sin, could better explain mental illness. He also argued that kindness and compassion were better treatments than being chained in a cold filthy cell, for example.

The third individual is social activist Dorothea Dix (1802–1887). This educated woman was appalled by the squalid conditions she found in mental asylums and, like Rush, advocated for change, travelling widely to educate others and to encourage Christians to be empathetic and work to ameliorate the suffering of the insane. Dix continued to see a role for sin and religious meaning in illness, but focused on cure, not cause. Her efforts in social reform, not always easy, are laudable. Vacek describes her as "part prophet, part moral authority, part civic expert" (p. 75).

The fourth figure is Presbyterian minister Anton Boisen (1876–1965), who personally experienced mental illness and was hospitalized (despite previous efforts, these institutions had deteriorated, were still stigmatized, and were more custodial than curative in nature). He reflected on his experience in *The Exploration of the Inner World: A Study of Mental Disorder and Religious Experience*. Boisen divided mental illness into two classes, organic and functional, and criticized psychiatrists for failing to recognize this difference. The church was equally culpable for failing to care for the suffering, ceding this role to medicine. He believed that some illness had religious meaning, but noted that when spiritual conflict was resolved well, it was labeled religious experience, but when it was not, it was labeled insanity. Boisen made inroads for clergy working in hospitals and began the Clinical Pastoral Education program.

The final person Vacek examines is psychiatrist Karl Menninger (1893–1990). A pioneer in his field and the author of several books, Menninger's medical work was fueled by his sense of Christian vocation and his belief in God's loving work in the world. With his brothers, he founded the Menninger sanatorium and clinics, and contributed to the new field of pastoral counseling. Menninger argued against the current medical use of diagnostic labels and viewed mental malady as a "state of functioning or way of behaving" (p. 141), not illness. And, against some Christian views, he rejected the supernatural and immorality as the cause of such suffering. Menninger, along with many others, championed both church and state to increase awareness of mental suffering, improve conditions in institutions, treat mental problems at an early stage, and exemplify compassionate care.

Of particular interest to those interested in the dialogue between science and faith are the threads evident in these individuals of the beginnings of a positive relationship between the two. Mather's desire to understand creation explained his interest in medicine. Dix viewed "science as a study of God's handiwork and providence" (p. 59). Boisen sought a new relationship between the church and psychiatrists. Menninger saw psychiatry and religion as part of a same whole, encouraged cooperation between church and state, and worked on integrating the two. He noted similarities in that both psychiatrists and clergy were aware of suffering and used similar tools, such as listening, reassuring, and correcting. In the centuries that witnessed the evolution of a separation between medicine and religion, these pioneers

argued for and exemplified a collaborative and mutually beneficial relationship between the two.

Vacek laments that despite the biblical calling to "love your neighbor," the church generally has not done better than society in understanding and caring for those who suffer mentally. There is often a gap between belief and practice; this is exacerbated by stigma, which not only limits care but is also contrary to biblical teachings on inclusion. In her concluding chapter, Vacek suggests using the concept of hospitality (e.g., Rom. 12:13), implied by the five individuals studied, as a way forward. A practical theology approach considers God's redemptive mission and informs a Christian response. We need to be conscious of suffering and work in solidarity with those who suffer. Hospitality includes welcoming and incorporating all people into fellowship, showing compassion, and exercising patience.

Vacek's work is thorough and thoughtful, but at times her conclusions extend beyond the evidence she presents. In particular, she neglects the many developments that have occurred in mental health care and the medicine-religious dialogue in the last few decades. Despite this weakness, *Madness* is a fascinating read and of particular interest to historians, mental healthcare practitioners, and those researching the intersection between medicine and religion. And, since the "poor in spirit" will always be with us, it also calls for action on the part of all Christians.

Reviewed by E. Janet Warren, MD, PhD, President of the Canadian Scientific and Christian Affiliation. ✦

Letters

Old Age at Lake Suigetsu, Japan, and Glacial Tillites, Geologic History, and Biblical Chronology

The fine article by Gregg Davidson and Ken Wolgemuth explains how we can have confidence in age dating, based on comparisons of independent data sets ("Testing and Verifying Old Age Evidence: Lake Suigetsu Varves, Tree Rings, and Carbon-14," *PSCF* 70, no. 2 [2018]: 75–89). It takes a unique approach of comparing raw carbon-14 data (no use of calibration curves) with tree-ring counts back to 14,000 years (most from Europe), and annual sediment layer (varve) counts covering 50,000 years of sediment deposition in Lake Suigetsu, Japan, to show how assumptions such as constant radioactive decay rates, annual growth of tree rings, and annual deposition of layered sediments can be tested and verified. Lake Suigetsu is well suited for radiocarbon studies, because storm water first enters an adjacent lake where the coarser sediment deposits, and then water flows into Lake Suigetsu with mostly very fine sediment. Bits of leaves and twigs washed in and deposited with these sediments contain carbon-14 derived directly from the atmosphere, preserving a historical record of atmospheric carbon-14 in each successive layer.

The article is simply fabulous for effectively communicating the reliability of radiocarbon dating to a reader interested in science. Instead of using a logarithmic scale for exponential decay of carbon-14, the authors used a graph with the scale of percent modern carbon: it shows visually the decrease of carbon-14 with the passage of time, due to radioactive decay (see fig. 1).

To my knowledge, no one else has ever plotted these data in this visually dramatic way to communicate with nonscientists. These tree-ring data and varve data from leaves are simply excellent to tie together the varve data to tree-ring data, because there are 4,000 years of overlap. The alignment of tree-ring and varve carbon-14 with conventional expectations, and the utter failure to align with young-earth expectations, is stunning. Furthermore, the research team found an ash from a known volcanic eruption at the depth where the carbon-14 content was equal to that of tree rings ~10,200 years. The Ar-Ar age of the ash was 10,000 ± 300 years, an excellent confirmation from a completely different radiometric dating method.

Then the authors went above and beyond merely writing a paper for a journal, by adding six call-out sections, referred to as "Casting Doubt," such as the topic of Circular Reasoning. Young-earth writers and advocates typically do not appreciate or understand radiocarbon dating correctly, so they can only raise doubt about the reliability of the results. These six sections address the various doubts and claims made

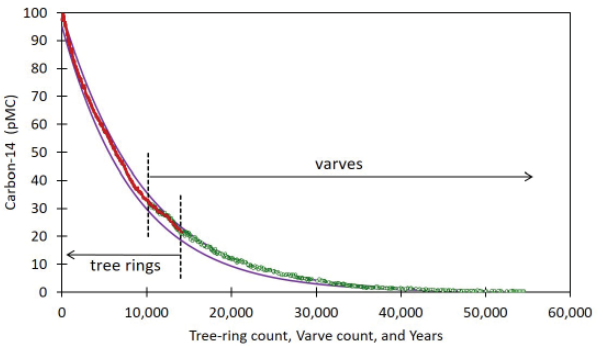

Figure 1. Tree ring and varve count vs. carbon-14 content. Solid lines represent the window for conventional expectations.