
7-21-2012

Altruism and the Administration of the Universe: Kirtley Fletcher Mather on Science and Values

Edward Davis
Messiah University, tdavis@messiah.edu

Follow this and additional works at: https://mosaic.messiah.edu/bio_ed

 Part of the [History of Science, Technology, and Medicine Commons](#), and the [Religion Commons](#)

Permanent URL: https://mosaic.messiah.edu/bio_ed/187

Recommended Citation

Davis, Edward, "Altruism and the Administration of the Universe: Kirtley Fletcher Mather on Science and Values" (2012). *Biology Educator Scholarship*. 187.
https://mosaic.messiah.edu/bio_ed/187

Sharpening Intellect | Deepening Christian Faith | Inspiring Action

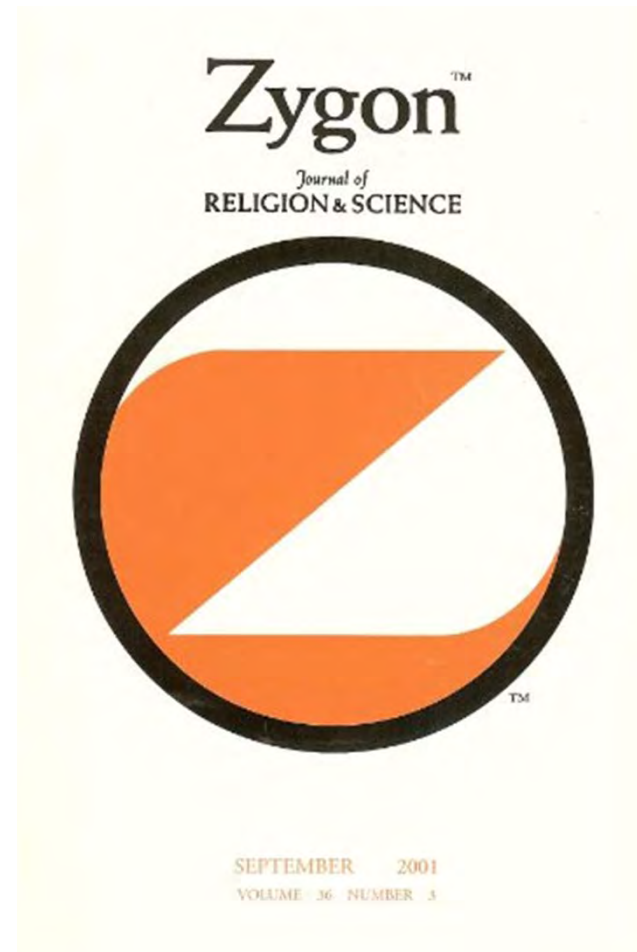
Messiah University is a Christian university of the liberal and applied arts and sciences. Our mission is to educate men and women toward maturity of intellect, character and Christian faith in preparation for lives of service, leadership and reconciliation in church and society.

Altruism and the Administration of the Universe:

**Kirtley Fletcher Mather (1888-1978)
on Science and Values**

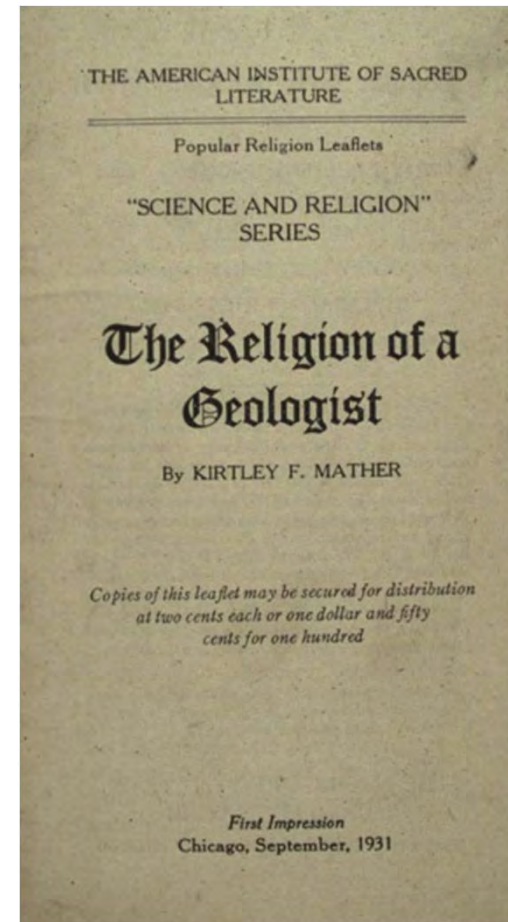
Introduction: Preliminaries

- This paper is an edited version of “Altruism and the Administration of the Universe: Kirtley Fletcher Mather on Science and Values.”
Zygon 46.3 (Sept 2011): 517-35
- To request a copy, please speak to me after the session



Introduction: Preliminaries

- My work on Mather is part of a larger project about the religious lives and beliefs of several prominent American scientists from the period between the wars
- Members of the group all contributed to a series of tracts on “Science and Religion,” published between 1922 and 1931 by the American Institute of Sacred Literature, an arm of the University of Chicago Divinity School



Introduction: Preliminaries

- Similar studies of four other scientists have already been published—physicists Robert Andrews Millikan (Caltech), Michael Idvorsky Pupin (Columbia) & Arthur Holly Compton (Chicago), and naturalist Samuel Christian Schmucker (West Chester State Normal School)
- The project as a whole was summarized in a short article in *American Scientist* (May-June 2005)

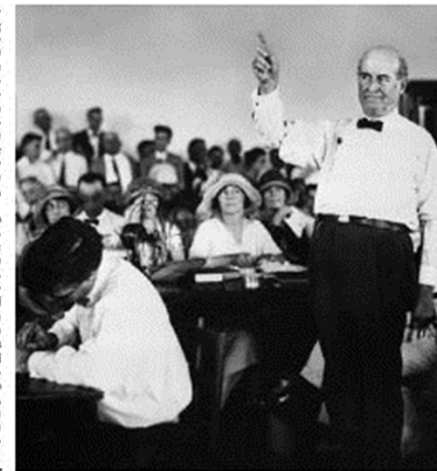
Science and Religious Fundamentalism in the 1920s

Religious pamphlets by leading scientists of the Scopes era provide insight into public debates about science and religion

Edward B. Davis

Recent controversies in Kansas, Ohio, Pennsylvania and other states over the teaching of evolution have raised fundamental questions about science, its public image and its role in a religious society. Although debate has focused on our nation's constitutional disestablishment of religion, the underlying issues are far broader. How is science related to religion and morality? Can scientists and religious authorities cooperate in educating the public about the content and limits of scientific knowledge, or are they separated by contrary views of what knowledge is? What are the role and responsibility of religious scientists in such conversations?

These questions are not new. Americans have been concerned about the religious implications of scientific knowledge since at least the early 18th century when Cotton Mather's *The Christian Philosopher* (1721) brought Enlightenment natural philosophy to the New World. Sophisticated theological discussions of the relation between science and religion were an important part of many science textbooks before the Civil War. Even textbooks written for nonsectarian public schools at the end of the 19th century often employed religious language, although references to specific doctrines had largely disappeared. Since the early 20th century, public school textbooks have become increasingly secular yet it is still remarkable to find mention of creation stories, especially

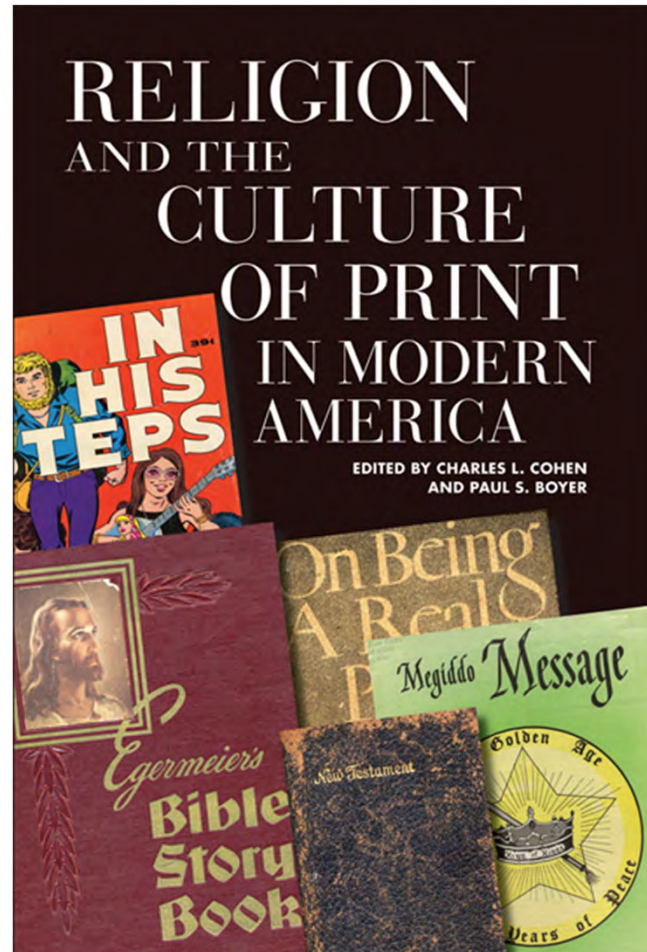


Edward B. Davis is Distinguished Professor of the History of Science at Messiah College. He received his Ph.D. in the history and philosophy of science in 1984 from Indiana University. He is known for his work on Robert Boyle and early modern science. His current research focuses on the religious beliefs of American scientists in the 17th and 18th centuries. Support for his research has been provided by the National Science Foundation and the John Templeton Foundation. Address: Messiah College, Box 3030, One College Avenue, Chatham, PA 17022. E-mail: edavis@messiah.edu

Figure 1. In July 1925, the attention of the American public was fixed on Dayton, Tennessee. The trial of John Scopes, assumed for teaching evolution in a public school, began as a public event, but the involvement of William Jennings Bryan (above) as lead prosecutor and Clarence Darrow as defense attorney helped turn it into a confrontation between Protestant fundamentalism and modern science. This was not at all what either theologian and scientist had intended in Scopes's defense was prepared. Pamphlets written by leading scientists of the 1920s in response to the anti-evolution movement illustrate a different dimension of the controversy. These texts sought to convince the public of the compatibility of science and Christianity.

Introduction: Preliminaries

- For a more detailed overview, see “Fundamentalist Cartoons, Modernist Pamphlets, and the Religious Image of Science in the Scopes Era.” In *Religion and the Culture of Print in Modern America*, ed. Charles L. Cohen and Paul S. Boyer, (Madison: University of Wisconsin Press, 2008), pp. 175-98
- I am now completing the final product: an annotated edition of all 10 of the AISL pamphlets on “Science and Religion,” including a lengthy introduction



Introduction: Kirtley Mather

http://farm6.static.flickr.com/5192/5857269353_d442591414.jpg

Science Service, Records, 1920s-1970s, Smithsonian Institution Archives, SIA Acc. 90-105 [SIA2008-5934]

- Mather's activities and writings over a period of six decades advanced the mutual relevance of religion and science for the modern age



Introduction: Kirtley Mather

IF
YOU WANT TO HEAR A GOOD
SPEAKER AND

IF he were an author and had written "Science in Search of God" (chosen by the Religious Book of the Month Club last year) and "Old Mother Earth," and besides had recently founded the Scientific Book Club with Harland Stetson, the Ohio Astronomer—

IF he had delivered a series of Lowell Institute Lectures in 1930—

IF he had debated with Bertrand Russell and John Roach Stratton—

IF he had been an expert witness at the famous "Scopes Trial"—

IF he had explored the Andes and the sources of the Amazon in a search for oil and more recently had conducted a geological expedition through the Kamishak region of Alaska, for three months out of touch with civilization—

IF he were a Geologist with the United States Geological Survey and consultant in the Government oil investigations—

IF he were retained by some of the greatest oil companies to conduct geological oil surveys for them—

IF he were in charge of the seismological apparatus at Harvard, supervising earthquake allocation and research—

IF he were Professor of Geology at Harvard University and Chairman of its Geology and Geography Department (and also Professor at Tufts and Radcliffe Colleges)—

IF he were a Captain in the Engineer Officers' Reserve Corps, U.S.A.—

IF he were a Fellow in seven Scientific Associations, including the American Academy of Arts and Sciences and the Royal Geographical Society of Great Britain—

IF he were President of the Twentieth Century Club (of Boston)—

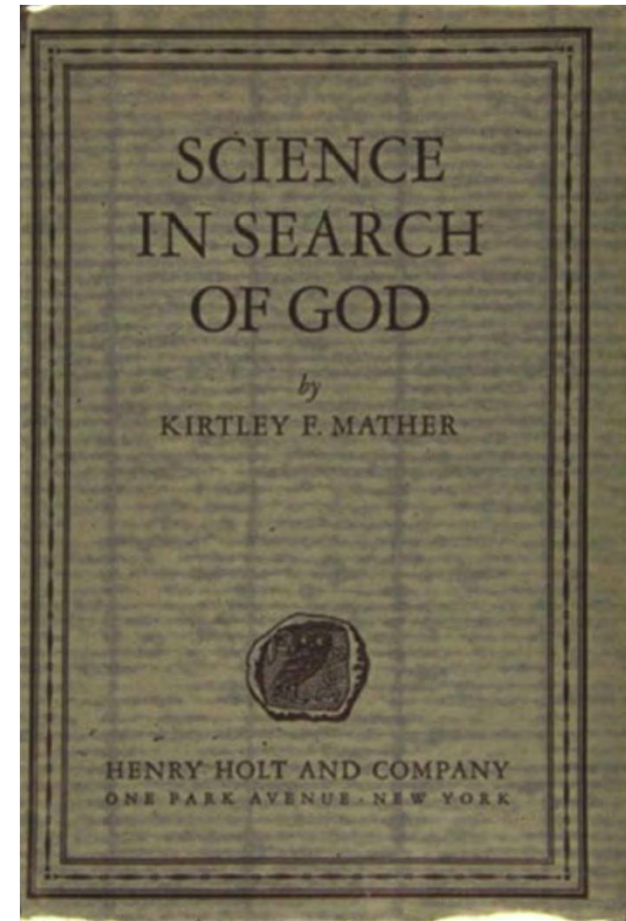
IF he were going to speak in Newton Centre—

WOULD YOU GO TO HEAR HIM?

YOU CAN! SUNDAY—in the Newton Centre Woman's Club House, under the auspices of The First Baptist Church of Newton Centre—

HEAR DR. KIRTLEY F. MATHER
AT 9.50 A.M. AT THE MATHER CLASS FORUM
EVERY SUNDAY

(Signed) PUBLICITY COMMITTEE OF THE MATHER CLASS.



Kirtley Mather: Family & Education

www.masshist.org/database/images/mather1.gif

Woodcut attributed to John Foster (ca. 1665), American Antiquarian Society, Worcester, Massachusetts

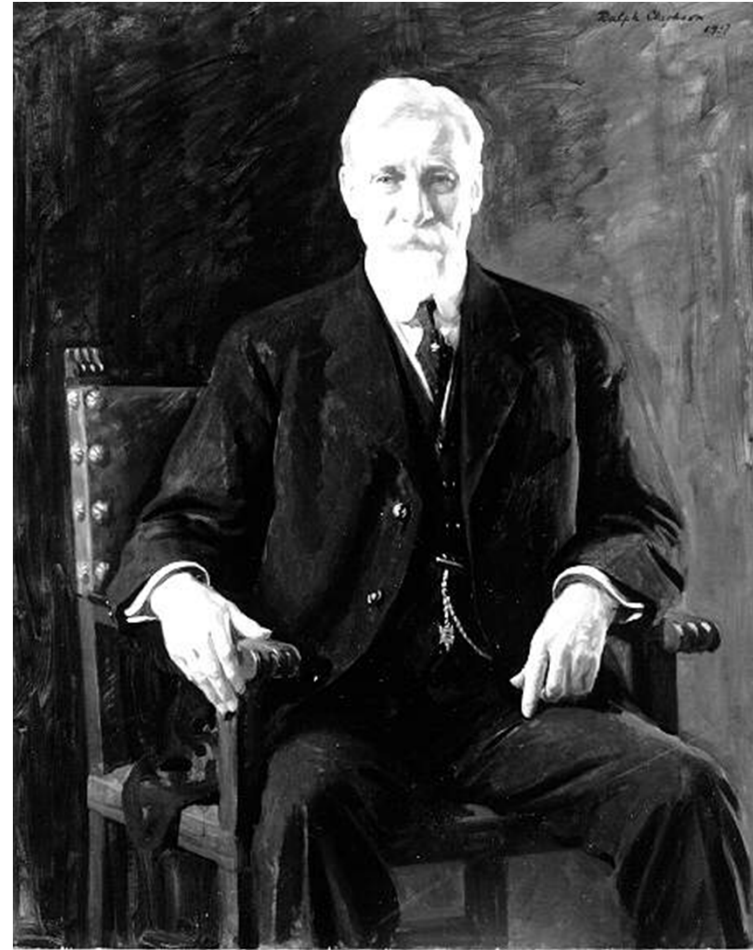
- A direct descendent of **Richard Mather** (father of Increase Mather & grandfather of Cotton Mather), Kirtley Mather was born in Chicago on February 18, 1888
- Awarded a full scholarship for his first year at the University of Chicago
- Studied with physical geographer Wallace Walter Atwood



Kirtley Mather: Family & Education

<http://www.beloit.edu/reason/images/242041.png>
Thomas Chrowder Chamberlin (unknown date)

- **Thomas Chrowder Chamberlin** (1843-1928) influenced Mather profoundly
- Mather later said that a portrait of Chamberlin “is the only picture of any individual that hangs over my desk in my study at home”
- “man’s future career is chiefly a matter of his own making. We may, then, rationally regard the study of the earth’s existing resources, as well as the development of man’s capacities to use them in making the most of himself, as one of the potential factors in his own destiny” (*Science*, 1924)



Kirtley Mather: Family & Education

http://farm4.static.flickr.com/3456/3196425229_9ff2b18543.jpg?v=0

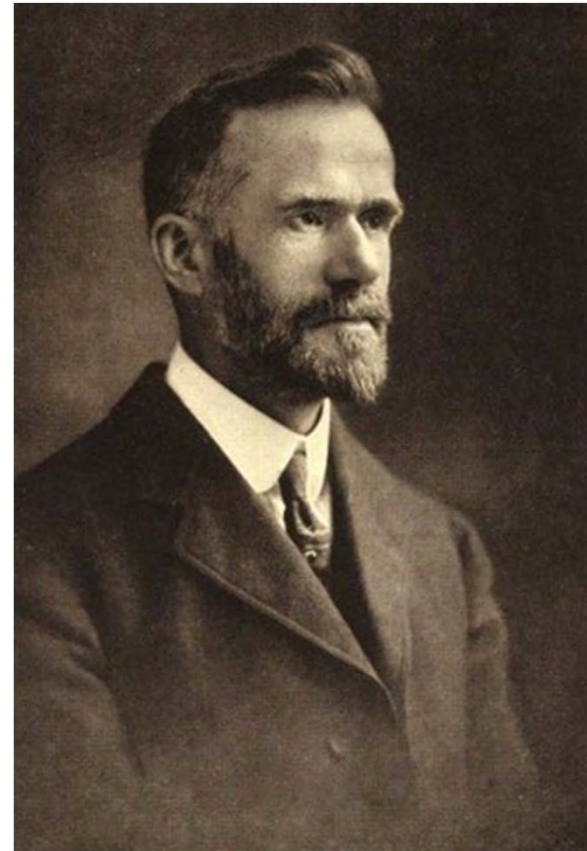
- Hyde Park Baptist Church, a very liberal congregation; many members were faculty at the U of Chicago, including William Rainey Harper, George Burman Foster, Gerald Birney Smith, Shailer Mathews—and (later) Arthur Holly Compton



Kirtley Mather: Family & Education

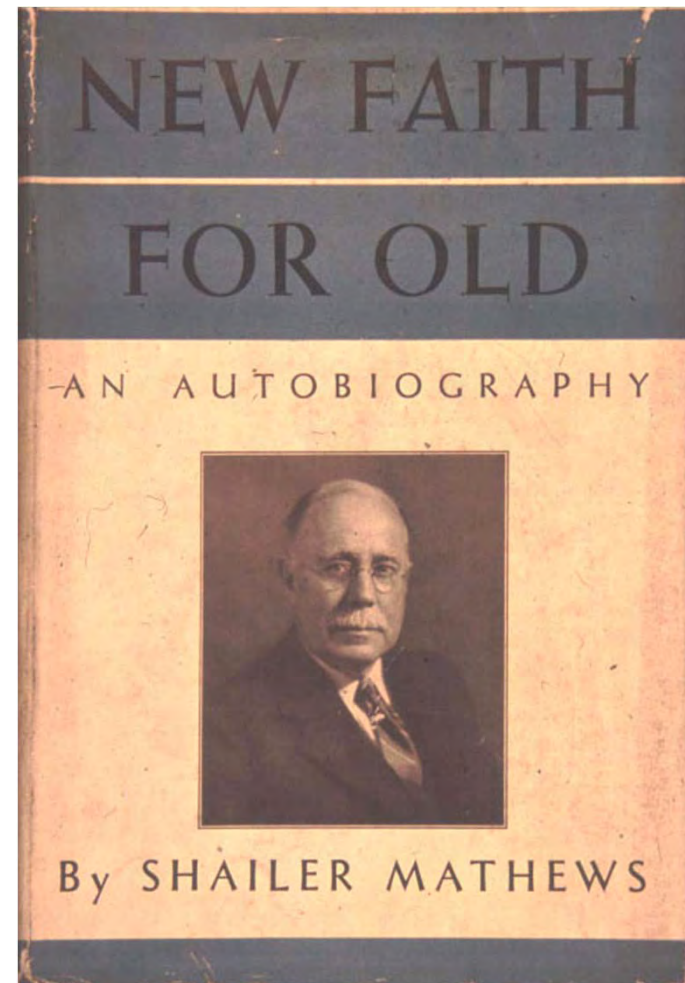
<http://pics.librarything.com/picsizes/08/3a/083a2d6a4ae3ba8637577744167434b41716b42.jpg>
from Walter Rauschenbusch, *Dare We Be Christians* (1914)

- A Baptist minister, theologian **Walter Rauschenbusch** (1861-1918), was instrumental in founding the Social Gospel movement
- Mather must have encountered the Social Gospel as part of his involvement with the Baptists on the South Side of Chicago



Kirtley Mather: Family & Education

- Mather described theologian **Shailer Mathews** as one of “my mother’s heroes. Occasionally he offered a special course on Sunday mornings, for students in the Arts and Sciences, on the study of the Bible. At Mother’s suggestion, I took that course during a quarter in 1906 or 1907. His approach was that of a ‘modernist’ rather than a ‘fundamentalist’ and I found it highly informative and fascinating.”



The Administration of the Universe

http://upload.wikimedia.org/wikipedia/commons/thumb/5/51/PSM_V51_D808_Thomas_Chrowder_Chamberlin.jpg/414px-PSM_V51_D808_Thomas_Chrowder_Chamberlin.jpg
Thomas Chrowder Chamberlin (1897)

- Mather sat through from **Chamberlin's** course on “Principles and Theories of Geology” three times
- “I began to comprehend more fully his rubric, ‘**The administration of the universe**’ – a term that I later used, with due acknowledgment to him”



The Administration of the Universe

http://farm3.staticflickr.com/2754/5857269201_377ac9a804.jpg

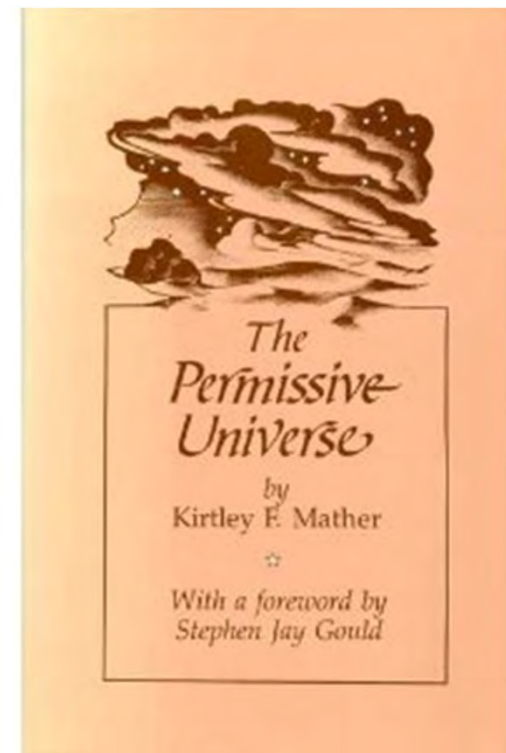
Photo by Bachrach (1947), Science Service, Records, 1920s-1970s, Smithsonian Institution Archives, SIA Acc. 90-105 [SIA2008-5930]]

- According to Mather, Chamberlin used it to mean “that the universe is under some kind of administrative regulation, whatever the administrative power may be. It implies only one thing about the nature of the administration: that it is unitary; *administration* not *administrations*. Significantly, administration is not spelled with a capital A in ordinary usage; nor is there any suggestion that *administrator* is an appropriate synonym.”



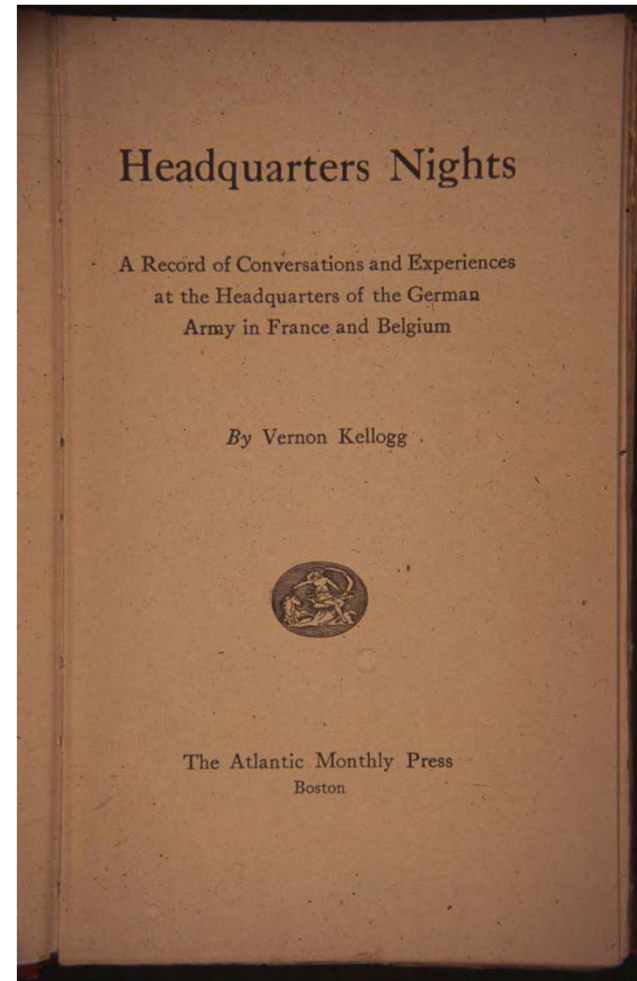
The Administration of the Universe

- “the administrative directive toward orderly organization of increasingly complex systems transcends the urge for survival.”
- “the conclusion seems clear that evolution has resulted in progress toward the attainment of ‘the good, the true, and the beautiful’ ” —Mather, *The Permissive Universe* (1986)



Vernon Kellogg, *Headquarters Nights* (1917)

[http://upload.wikimedia.org/wikipedia/commons/thumb/a/a6/Vernon_Lyman_Kellogg_\(1867-1937\).jpg/180px-Vernon_Lyman_Kellogg_\(1867-1937\).jpg](http://upload.wikimedia.org/wikipedia/commons/thumb/a/a6/Vernon_Lyman_Kellogg_(1867-1937).jpg/180px-Vernon_Lyman_Kellogg_(1867-1937).jpg)



The Administration of the Universe

Mather in the San Juan Mountains, Colorado (1912), from Kennard Bork, *Cracking Rocks and Defending Democracy* (1994)

- “Underneath the ancient warfare between theology and science there is an unvoiced, but very real, fear that in the last analysis the doctrine of the survival of the fittest in the struggle for existence is diametrically opposed to the conception of the brotherhood of man; that evolution according to Darwin and [Hugo] Devries and [August] Weissmann is the antithesis of Christianity according to Christ and John and Paul” — “Parables from Paleontology,” *Atlantic Monthly* (1918)



The Administration of the Universe

Mather lecturing on geology at Harvard (1934), from Kennard Bork, *Cracking Rocks and Defending Democracy* (1994)

- One might very well conclude from natural history “that no good thing could ever come from out this welter of selfishness and greed, of worldly lusts and brute rivalry.”
- Once the higher mammals appeared, however, “The triumph of intelligence, agility, and brainpower over brute strength, massive bulk, and sluggish mentality was complete.”

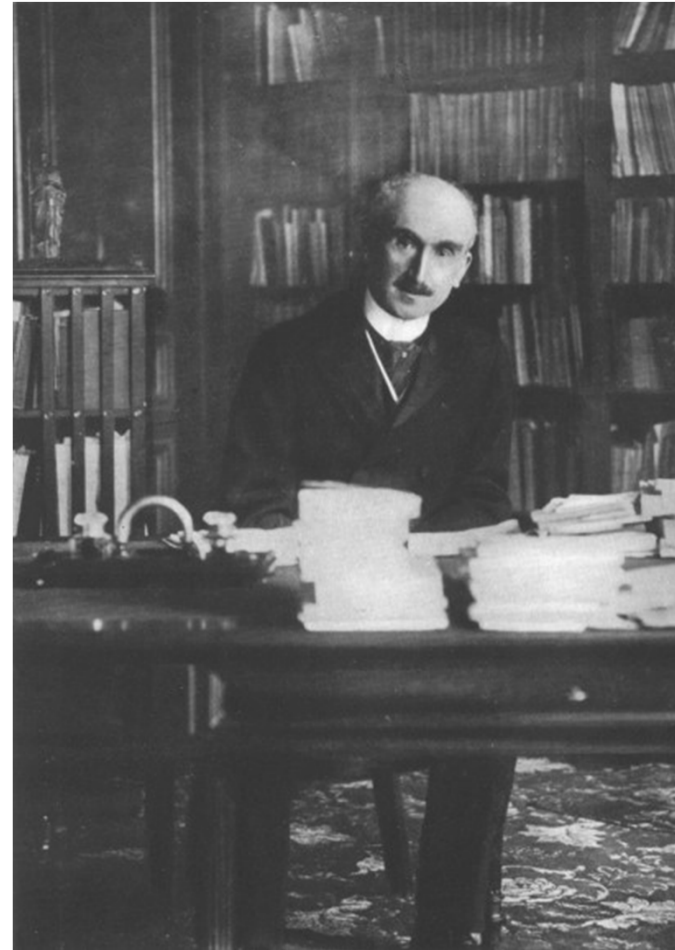


The Administration of the Universe

<http://www2.warwick.ac.uk/fac/soc/philosophy/news/archive/creative-evolution/bergson1.jpg>

Henri Bergson (unknown date)

- Mather's optimism derived partly from the French philosopher **Henri Bergson**, *Creative Evolution* (1907):
- “in the evolution of life, just as in the evolution of human societies and of individual destinies, the greatest successes have been for those who have accepted the heaviest risks”



The Administration of the Universe

<http://www2.warwick.ac.uk/fac/soc/philosophy/news/archive/creative-evolution/bergson1.jpg>

Rembrandt, *Head of Christ* (ca. 1650), State Museum, Berlin

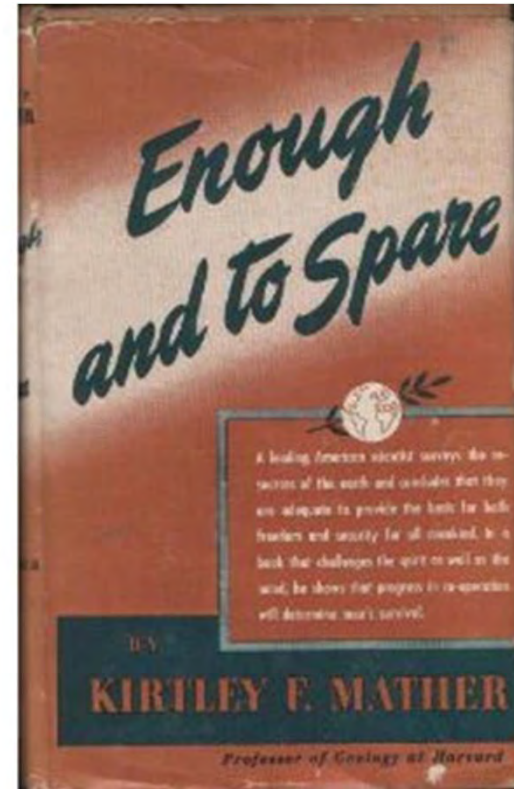
- In order to take “the next great upward step in the progress of life,” Mather said, we must develop “race-consciousness and love. The type of the new variety of the human species was presented to us nineteen hundred years ago.” (1918)
- “the Christian has assumed that Jesus of Nazareth displayed the true character of the Administration of the Universe” (1928)



The Administration of the Universe

Mather, *Enough and to Spare* (1944)

- “the data now available point unmistakably” to the following conclusion:
- “There is enough and to spare to provide every human being likely to appear on the face of the earth with all that is required to make life comfortable, at least for several thousand years to come” —Mather, “The Natural History of Righteousness,” *The Crozer Quarterly* (1939)



Kirtley Mather's Significance

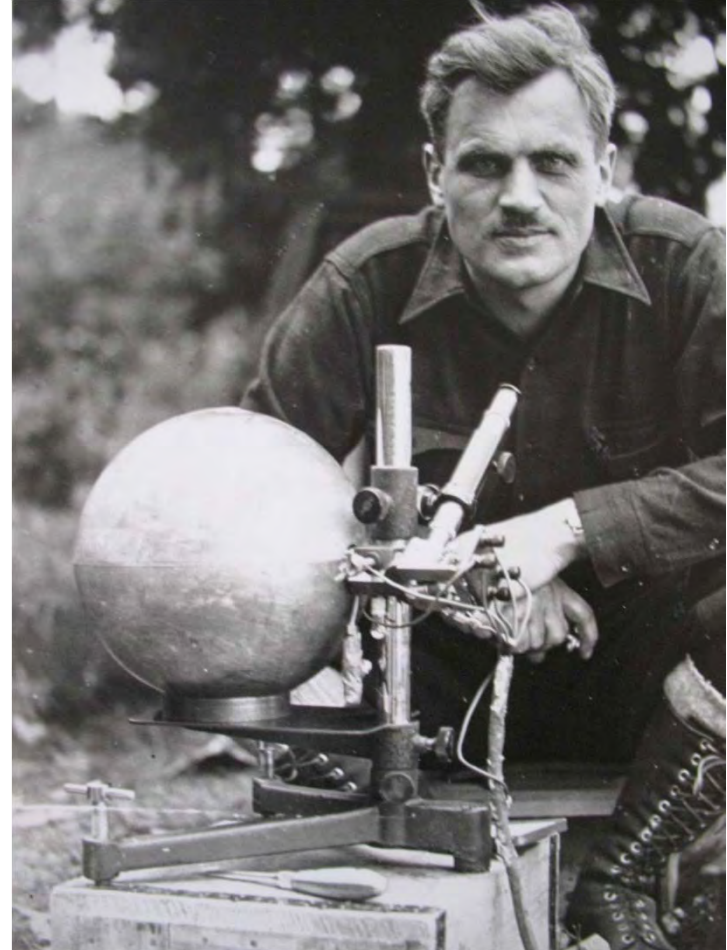
http://farm3.staticflickr.com/2754/5857269201_377ac9a804.jpg

Mather and Cornell president Edmund Ezra Day (1947), Science Service, Records, 1920s-1970s, Smithsonian Institution Archives, SIA Acc. 90-105 [SIA2008-5929]

- Mather served as President of the American Association for the Advancement of Science in 1951 and President of the American Academy of Arts and Sciences from 1957 to 1961



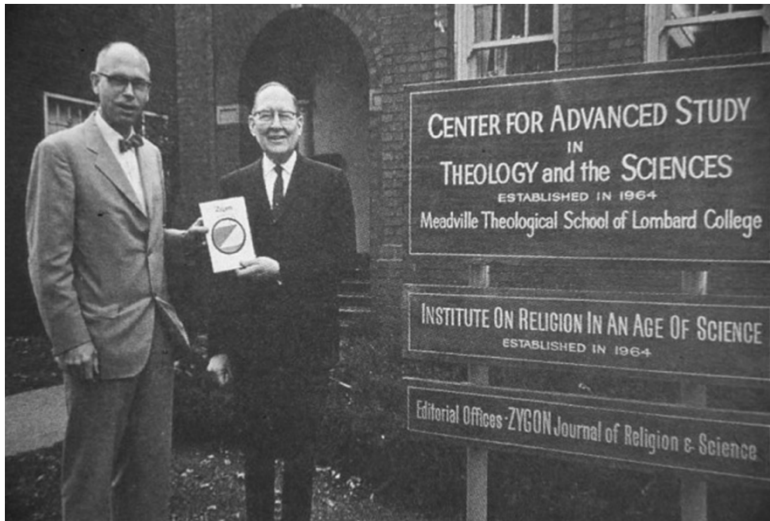
Kirtley Mather's Significance



Kirtley Mather's Significance

L: Ralph Burhoe and Ralph Fuchs with first issue of *Zygon* (1966), from James Gilbert, *Redeeming Culture* (1997)

R: Mather with Harlow Shapley (May 1956), from Kennard Bork, *Cracking Rocks and Defending Democracy* (1994)



Kirtley Mather's Significance

Mather at age 88 (July 1976), from Kennard Bork, *Cracking Rocks and Defending Democracy* (1994)

- The late Stephen Jay Gould shared Mather's emphasis on cooperation rather than competition in evolution
- Gould: Mather was “perhaps the finest man I have ever known”
- “one of those rare men ‘of enlarged curiosity’ (a description applied by Josiah Wedgewood to Charles Darwin) who grace our planet from time to time and who try to integrate the many compartments of our too-specialized world into a coherent vision of life worth living”

