

Magic, Science, and Religion



Baptism, Trinidad [Photo by J.B. Crosson]

Instructor: Brent Crosson

Class Time: T/Th: 3:30-4:45 UTC 1.130

Email: brent.crosson@utexas.edu [Please use my utexas email address rather than the Canvas messaging system for a faster reply. Please put “Magic, Science, Religion” in the subject of the email.]

Office Hours: TH 1:30-3 in Burdine 514 and by appointment (just email me at the above email address)

Teaching Assistant: Megan Selander, meganselander@utexas.edu

Office Hours: TBA

Course Objectives

In this course, we will interrogate the concepts of magic, science, and religion as culturally and historically constructed categories. We will critically examine how the construction of science and religion, as well as the opposition of empirical knowledge and belief, were central to both the Enlightenment and the formation of the social and natural sciences. Drawing on recent critiques of these foundational distinctions, we will question common-sense understandings of these categories and their relations:

- How did the experimental sciences emerge out of practices of “natural magic,” hermeticism, or evidence law?
- How do our notions of religion reflect certain assumptions? What are other ways of categorizing practices we might deem as religion?
- How have the divisions between science, magic and religion, or between rationality and superstition, undergirded projects of modernity, colonization, and development?

Class Policies

Class Etiquette

No Cell Phone Policy (please don't use cell phones during class)

Electronic Etiquette: No Computer or iPad Policy. Please do not use computers in class. Unfortunately, due to abuse of screens in the past, I cannot allow computers in class as people

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tend to surf the internet. This has distracted other students, guest lecturers, and myself. Please print out readings or buy the books and **BRING THEM TO EVERY CLASS; do not rely on your computer (nor on your cell phone) for the readings.**

TARDINESS: If you have to leave class early or arrive in the middle of class please let me know beforehand. Please do NOT make a habit of entering or leaving in the middle of class.

Plus and minus grading will be used: A 95-100, A- 90-94, B+ 88-89, B 84-87, B- 80-83, C+ 78-79, C 74-77, C- 70-73, D+ 68-69, D 64-67, D- 60-63, F 59 and Below

VIOLATIONS OF CLASSROOM ETIQUETTE MERIT LOSS OF POINTS

Other General Policies

Canvas

Course information, handouts, assignments, review sheets, etc. will be posted on the class website on Canvas. To find the Canvas site, and go to <http://canvas.utexas.edu/> and log in with your EID and password.

University of Texas Honor Code and Academic Integrity

The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community. If you are uncertain about what constitutes plagiarism, or other violations, please feel free to ask me. Students who violate the University rules on scholastic dishonesty are subject to disciplinary penalties, including the possible failure in the course and/or dismissal from the University. The policies on scholastic dishonesty will be strictly enforced. For more information, you can talk with me or visit the Student Judicial Services Web site: <http://deanofstudents.utexas.edu/sis>.

Use of E-Mail for Official Correspondence to Students

Email is recognized as an official mode of university correspondence; therefore, you are responsible for reading your email for university and course-related information and announcements. You are responsible to keep the university informed about changes to your e-mail address. You should check your e-mail regularly and frequently to stay current with university-related communications, some of which may be time-critical. You can find UT Austin's policies and instructions for updating your email address at <http://www.utexas.edu/its/policies/emailnotify.php>.

Accommodations: Documented Disability Statement

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If you require special accommodations, you must obtain a letter that documents your disability from the Services for Students with Disabilities area of the Division of Diversity and Community Engagement (471-6259 voice or 471-4641 TTY for users who are deaf or hard of hearing). Present the letter to me at the beginning of the semester so we can discuss the accommodations you need. No later than five business days before an exam, you should remind me of any testing accommodations you will need. For more information, visit <http://www.utexas.edu/diversity/ddce/ssd/>.

Religious Holidays

By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, I will give you an opportunity to complete the missed work within a reasonable time after the absence.

Grading Components (100 Points Total)

Group Presentation (10 Points):

You will choose your first, second, and third preferences for presenting on one of the following topics:

1. Quantum Entanglement
2. Ectoplasm, Spiritualism, and Psychical Research
3. Isaac Newton and Alchemy
4. Fractals
5. Islamic Science
6. Giordano Bruno
7. Copernicus
8. Mesmerism
9. Zombies and Science in American Fantasy
10. Secularism
11. Scientific Buddhism
12. The Magic Lantern, the Camera Obscura, and the Powerpoint
13. Dutty Boukman and Pat Robertson

Groups of three to four persons will present on some aspect of these topics that is not fully elaborated upon (though it may be covered) in our readings. Groups should consult me after class or by appointment with their ideas for the presentation. **Group presentations should be 10-15 minutes long. Please do NOT go over 15 minutes. This is a requirement, so please prepare by timing yourself (generally people take more time than they think they will).**

Ethical Debates (30 Points):

We will conduct six in-class ethical debates in which students will be assigned a position on a particular issue of importance to the current theme of the readings. Each debate will count for five points of a student's grade. Three of these points will come from a short position paper (1.5 to 3 pgs. double-spaced) on the debate at hand, in which the student should detail the ethical consequences of that position. What are the outcomes, personal responsibilities, and moral consequences involved in enacting such a position? **In these papers you must cite the assigned class readings to support your assigned position. These papers must be submitted at the end of the class in which we will conduct the debate. You must, therefore, print out the paper and attend the entire class to receive credit.** The remaining two points for each debate assignment will derive from each student's participation in the in-class debate. All students must, therefore, attend the in-class debate to receive

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this credit. Participation in the debates will be graded based on the quality of your contributions. Simply saying something without having done the readings carefully will not gain credit (I can usually tell when this happens).

Reading Journal Response Essays (30 Points):

For most assigned readings, you will be given the option of writing a journal entry. Journal entries should briefly answer the reading guide questions posted on Canvas. These questions will also serve as guides for in-class discussion. The journal requires you to keep a record of your responses to the readings, and helps you sharpen critical thinking and writing skills.

Each entry counts up to 3 points. **Reading journals must be turned in at the end of the given class for which they are assigned (they cannot be submitted after this time). You must, therefore, print out the paper and attend the entire class to receive credit.** Journal entries must directly answer the questions in your own words. You can quote from the assigned reading, but you must explain or use the quote to demonstrate your own analysis. Journal entries should be between 1 and 2 double-spaced pages, concisely addressing the reading guide questions. Answers should be written in full and complete sentences that respond to the questions at hand; these responses should not simply be reading notes.

Points are cumulative, and you will need to successfully complete 10 reading journal entries to receive full credit for this assignment. Journal entries must **be turned in during the given class for which they are assigned (they cannot be submitted after this time). Please do NOT submit late entries via email. Please keep track of how many journal entries you have completed, as our TA will not grade any entries past ten.**

Reading Quizzes (30 Points):

I will give four reading quizzes over the course of the semester. These quizzes will simply make sure that you have read and understood the materials assigned up to that point in the course. The format will be short answer. I will drop your lowest quiz score. **Each quiz will be worth a total of ten points. There will be no makeup quizzes without an official excused absence. By dropping one quiz score, you can miss a quiz without any penalty.**

Plus and minus grading will be used: A+ 99-100, A 94-98, A- 90-93, B+ 88-89, B 84-87, B- 80-83, C+ 78-79, C 74-77, C- 70-73, D+ 68-69, D 64-67, D- 60-63, F 59 and Below

Texts

[To Be Acquired at a Local Book Store or Online]

Ronald Numbers, ed. *Galileo Goes to Jail and Other Myths About Science and Religion*. Cambridge, MA: Harvard University Press, 2009 **[Required]**

Karol Weaver. *Medical Revolutionaries: The Enslaved Healers of Eighteenth Century Saint Domingue*. Urbana: University of Illinois Press, 2006 **[Required-Make sure to order/buy in advance!]**

Harry West. *Ethnographic Sorcery*. Chicago: University of Chicago Press, 2007 **[Required]**

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Itinerary

Class 1: Tues. Jan. 22nd Introductions

Part ONE: Religion vs. Science

Class 2: Thurs. Jan. 24th

Religion vs. Science (1): Nonoverlapping Magisteria?

Readings:

Bruno Latour (2010), “Thou Shalt not Freeze Frame, Or How not to Misunderstand the Science vs. Religion Debate” {ON CANVAS}
Stephen Jay Gould (1997), “Nonoverlapping Magisteria” [Canvas]

Optional Reading: Whitney Bauman and Lucas Johnston (2014), *Science and Religion: One Planet, Many Possibilities* [Excerpts] {ON CANVAS}

Screening: *Religulous* [8:00 to 9:30, 38:22 to 39:11]
The Unbelievers [20:40 to 21:40]

Latour Discussion Questions: What is “Double Click Communication”? How does Latour redefine common-sense notions of the difference between science and religion? How do devotees of both Christianity and secularism utilize double-click communication in the film *Religulous*? Is there no overlap between science and religion as Gould asserts?

Class 3: Tues. Jan. 29th Religion vs. Science: Overlapping Domains?

“Introduction,” “Myth 10: That the Scientific Revolution Liberated Science from Religion” and “Myth 24: That Creationism is a Uniquely American Phenomenon,” in *Galileo Goes to Jail and Other Myths About Science and Religion* (Harvard University Press, 2009)

Debate 1: Are Science and Religion Nonoverlapping Domains?

Class 4: Thurs. Jan. 31st

Religion vs. Science (2): Creation, Science, and Secularism

“Myth 16: That Evolution Destroyed Darwin’s Faith in Christianity,” “Myth 23: That ‘Intelligent Design’ Represents a Scientific Challenge to Evolution,” and “Myth 25: That Modern Science has Secularized Western Culture,” in *Galileo Goes to Jail and Other Myths About Science and Religion* (Harvard University Press, 2009)

Screening: *Judgement Day: Intelligent Design on Trial* (NOVA Documentary) [1:17:30 to 1:30:22]

Discussion: How do some creationists share a sense of temporality, evidence, and scientific truth with the secularist viewpoint in this film? To what extent could we say that both of them subscribe to what Bruno Latour calls “Double Click Communication” (or what Feyerabend calls “naïve empiricism”)?

Further Reading: Ronald Numbers, “Introduction,” in *The Creationists: The Evolution of Scientific Creationism* (Harvard University Press, 1992)

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“Myth 15: That the Theory of Organic Evolution is Based on Circular Reasoning,” in *Galileo Goes to Jail and Other Myths About Science and Religion*

Class 5: Tues Feb. 5th

Sandra Harding, “Must Science be Secular?” *Objectivity and Diversity* (University of Chicago Press, 2015) {ON CANVAS}

Austin Chronicle, “Questions of Church-State Separation at Dell Seton Medical Center” by Mary Tuma

Group Presentation: Secularism

Class 6: Thurs. Feb. 7th

Climate Change, Religion, and Science

Debate 2: Should Science be Secular?

“The Faithful Skeptics: Evangelical Religious Beliefs and Perceptions of Climate Change,” The Journal for the Study of Religion, Nature, and Culture [Canvas]

“Evangelicals in Trump’s Cabinet,” Religion News Service [Canvas]

Additional Reading:

“Trump names Scott Pruitt, Oklahoma attorney general suing EPA, to head the EPA,” Washington Post [Canvas]

“Faith Leaders Back Trump’s EPA Pick in Open Letter,” <http://www1.cbn.com/cbnnews/politics/2016/december/faith-leaders-back-trumps-epa-pick-in-open-letter>

In-Class Debate 2: *Should Science be Secular?*

PART TWO: MAGIC VS. Religion and Science

Class 7: Tues. Feb. 12th

No Class

In lieu of class on Tues., please Attend N. Fadeke Castor’s lecture “The Spirit of Black Power” on Monday Feb. 11th at Noon in BUR 554 (I will take attendance there). This lecture will prepare you for the next readings on “magic” and the colonial regulation of religion.

If you are not able to attend the lecture, please read N. Fadeke Castor’s chapter “The Spirit of Black Power” (on Canvas) and write a 2-3 page reading response.

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Class 8: Thurs. Feb. 14th “Magic”

“General Introduction,” in *Defining Magic: A Reader*, pp. 1-13 [Canvas]
Jason Josephson-Storm, “Magic Never Vanished” [Canvas]

Optional Reading: Randall Styers. Excerpt from “Introduction,” pp. 3-21, in *Making Magic: Religion, Magic, and Science in the Modern World* (Oxford Univ. Press, 2004) {CANVAS}

First Reading Quiz

Class 9: Tues. Feb. 19th

The Limits of Magic and Science

Sandra Harding, “Do Micronesian Navigators Practice Science?” excerpt from *Objectivity and Diversity* (University of Chicago Press, 2015) [pp. 80-104] {CANVAS}

Optional Reading: Bronislaw Malinowski, “Magic, Science, Religion” in *Defining Magic: A Reader*

In-Class Debate 3: Do Micronesian navigators practice science?

Screening: *The Navigators* (0:00 to 5:48, 40:56 to 50:40)
<https://www.youtube.com/watch?v=uxgUjyqN7FU>
Sacred Vessels (1:01 to 4:58)
<https://www.youtube.com/watch?v=I7nXev2Jt7g>

PART THREE: History and Case Studies

Class 10: Thurs. Feb. 21st

Islamic Science: The Question of Origins

Howard Turner, “Roots,” *Science in Medieval Islam: An Illustrated Introduction* (UT Press 1997) {CANVAS} [Note: Please read only the short section entitled “Roots”]

George Saliba, “The Islamic Scientific Tradition: Question of Beginnings I” from *Islamic Science and the Making of the European Renaissance* (MIT Press 2007) {CANVAS}

Group Presentation: Islamic Science

Class 11: Tues. Feb. 26th

Islamic Science, Copernicus, and the Stars Above (“Medieval” Period)

George Saliba, “Islamic Science and Renaissance Europe: The Copernican Connection” from *Islamic Science and the Making of the European Renaissance* (MIT Press 2007) {CANVAS}

Myth 4: “That Medieval Islamic Culture was Inhospitable to Science,” in *Galileo Goes to Jail and Other Myths About Science and Religion*

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Screening: *Islam and Science*—BBC Documentary (2:21 to 9:20, 10:43 to 13:46)
<https://www.youtube.com/watch?v=qL41gX0fJng>

Group Presentation: Copernicus

Class 12: Thurs. Feb 28th

Renaissance Cosmologies: Hermeticism, Aristotelianism, and the Center of the Universe

“The Renaissance...had its roots in the Hermetic core of Renaissance Neo-Platonism and it is the Renaissance magus [magician], I believe, who exemplifies that changed attitude...to the cosmos which was the necessary preliminary to the rise of science”—Frances Yates

William Shea, “Hermes and Copernicus” [Canvas]

Kenelm Foster, “Giordano Bruno and the Hermetic Tradition” [Canvas]

“Myth 6: That Copernicanism Demoted Humans from the Center of the Universe,” and “Myth 8: That Galileo was Imprisoned and Tortured for Advocating Copernicanism” in *Galileo Goes to Jail and Other Myths About Science and Religion*

Further Reading:

Azfar Moin, “Akbar’s ‘Jesus’ and Marlowe’s ‘Tamburlaine’” [Canvas]

Hannah C. Wojciehowski, *Commentary on “Akbar’s ‘Jesus’ and Marlowe’s ‘Tamburlaine,’” by Azfar Moin*, <http://quod.lib.umich.edu/f/frag/9772151.0003.004/-commentary-on-akbars-jesus-and-marlowes-tamburlaine?rgn=main;view=fulltext>

Screening: Against Method vs. the Nova Galileo Documentary

Group Presentation: Giordano Bruno

Class 13: Tues. March 5th

The “Scientific Revolution” and Evidence

Steven Shapin, “Introduction,” in *The Scientific Revolution* [Canvas]

Orna Darr. “Experiments in the Courtroom: Social Dynamics and Spectacles of Proof in Early Modern English Witch Trials” {CANVAS}

Group Presentation: Isaac Newton and Alchemy

Screening:

Monty Python Witch Trial: <https://www.youtube.com/watch?v=X2xlQaimsGg>

The English Civil Wars: <https://www.youtube.com/watch?v=J9qwXoT8Yao>

Class 14: Thurs. March 7th

Hobbes vs. Boyle

Bruno Latour, “Constitution,” in *We have Never Been Modern* [Canvas], pp. 13-32 (Sections 2.1 through 2.8)

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Optional:

Steven Shapin and Simon Schaffer. Excerpts from *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life*.

Debate 4: Hobbes vs. Boyle—“Should we Abhor a Vacuum?” [Half of the class will take the position of Hobbes and the other half will take the position of Boyle in the debate over the social implications of the experimental method.]

Screening:

The Air Pump: https://www.youtube.com/watch?v=oManjfm8_Kw

Class 15: Tues. March 12th

The Enlightenment: Electricity, Obeah, and Techno-Science

Jill Casid, “His Master’s Obi: Machine Magic, Colonial Violence, and Transculturation” [Canvas]

Second Reading Quiz

Optional Readings:

Brent Crosson, “Oil, Obeah, and Science” {CANVAS}

Justine S. Murison, “Obeah and its Others: Buffered Selves in the Era of Tropical Medicine” {CANVAS}

Donald Hogg, ‘Magic and ‘Science’ in Jamaica” {CANVAS}

Group Presentation: The Magic Lantern, the Camera Obscura, and the Powerpoint

Class 16: Thurs. March 14th

Haiti: Science, Medicine and Technology

Haiti: An Introduction

Karol Weaver. *Medical Revolutionaries: The Enslaved Healers of Eighteenth Century Saint Domingue*. Pages. 1-29

Group Presentation: Dutty Boukman and Pat Robertson

Spring Break

Class 17 Tues. March 26th

Magnetists, Medical Knowledge, and the Haitian Revolution

Karol Weaver. *Medical Revolutionaries: The Enslaved Healers of Eighteenth Century Saint Domingue*. Chapter 4—Enslaved Herbalists [pp.61-75] and “Chapter 6--Magnetism in 18th Century Saint Domingue: The Case of Enslaved Magnetists and their Fight for Freedom” [pp.98-112]

In Class Debate 5: Is Western science a form of magic?

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Optional Reading:

Danny Burton and David Grandy. "Spirits, Science, and Pseudo-Science in the Nineteenth Century." In *Magic, Mystery, and Science* {CANVAS}

Group Presentation: Mesmerism

Screening: *The Fabulous Fraud* (1948)

Class 18: Thurs. March 28th

Zombie/Science

Laënnec Hurbon, "American Fantasy and Haitian Vodou" {CANVAS}

Group Presentation: Zombies and Science in American Fantasy

Screenings:

White Zombie

Night of the Living Dead

Zombie Science:

zombieresearchsociety.com

Class 19: Tues. April 2nd

"Scientific Buddhism"

Donald Lopez, "Preface" and "Introduction" in *Scientific Buddhism: A guide for the Perplexed*, pp. ix-38

Group Presentation: Scientific Buddhism

Class 19: Thurs. April 4th

Buddhism, Science, and Race

Donald Lopez, Chapter 2: "Buddhism and the Science of Race," in *Scientific Buddhism: A guide for the Perplexed*, pp. 73-104

Class 20: Tues. Apr. 9th

Race, Science, and "Biodiversity"

"American Tropics: The Caribbean Roots of Biodiversity Science"¹

"Panama Canal Forum." Please read Carse and Keiner, "Forum Introduction Abstract" p. 2; Megan Raby, "'The Jungle at our Door': Panama and American Ecological Imagination in the Twentieth Century," pp. 260-269; and Blake Scott, "From Disease to Desire: The Rise of Tourism at the Panama Canal," pp.270-277.

Guest Lecture(s): Megan Raby and Blake Scott

Reading Quiz 3

¹ Title of Megan Raby's book

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Class 21: Thurs. Apr. 11th

Anthropology as Science, Anthropology as Sorcery, Part 1

West, Harry. "Preface," "Misunderstanding," "In Search of the Forward-Looking Peasant," "This Must be Studied Scientifically," "Belief as Metaphor," and "The Problem May Lie There" In *Ethnographic Sorcery*, pp. ix-34.

Class 22: Tues. Apr. 16th

Anthropology as Science, Anthropology as Sorcery, Part 2

Ethnographic Sorcery, Pages 35-64.

Class 23: Thurs. Apr. 18th

Anthropology as Science, Anthropology as Sorcery, Part 3

Ethnographic Sorcery, Pages 65-94

In Class Debate 6: Are Social Sciences Sorcery (*uwavi*)?

Class 24: Tues. Apr. 23rd

Spiritualism, Séances, and the Birth of the Anthropology of Religion

George Stocking. "Animism in Theory and Practice: E. B. Tylor's Unpublished Notes on 'Spiritualism.'" {CANVAS}

Further Reading:

Peter Pels, "Spirits of Modernity: Alfred Wallace, Edward Tylor, and the Visual Politics of Fact" {CANVAS}

Stanley Jeyaraja Tambiah. "Sir Edward Tylor vs. Bronislaw Malinowski: Is Magic False Science or Meaningful Performance?"

Richard Noakes, "Spiritualism, Science, and the Supernatural"

Helen Tilley, "A Living Laboratory" in *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870-1950* [Canvas]

Class 25: Thurs. Apr. 25th

No Class: Please watch the remainder of Science and the Seance at home:

Part 1: <https://www.youtube.com/watch?v=sRMeJJrzEkc>

Part 2: <https://www.youtube.com/watch?v=qll2VdC-gfQ>

Part 3: <https://www.youtube.com/watch?v=GU-uXHeWIL8>

Part 4: https://www.youtube.com/watch?v=IJ_6-TVrgH4&pbjreload=10

Class 26: Tues. Apr. 30th

Ectoplasm and the Infinitely Little

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Richard Noakes, “‘The World of the Infinitely Little’: Connecting Physical and Psychical Realities Circa 1900” {CANVAS}

Excerpts from J.J. Thomson’s autobiography {CANVAS}

Group Presentation: Ectoplasm, Spiritualism, and Psychical Research

Guest Lecture: Joshua Roebke, Institute for Historical Studies, UT Austin

Joshua is currently authoring a book on the history of particle physics, entitled *The Invisible World*. He will speak about the scientist who discovered the electron, J.J. Thompson, and the ways that spiritualist seances influenced his research.

Class 27: Thurs. May 2nd

Quantum Mechanics and the Politics of Mysticism

Juan Miguel Marin, “‘Mysticism’ in Quantum Mechanics: The Forgotten Controversy” {CANVAS}

Group Presentation: Quantum Entanglement

Video: The Original Double Slit

<https://www.youtube.com/watch?v=Iuv6hY6zsd0>

Further Reading: “Myth 22: That Quantum Physics Demonstrated the Doctrine of Free Will,” in *Galileo Goes to Jail* and Mary Jane Rubenstein, *Worlds Without End*

Class 28: Tues. May 7th

Fractals, Computing, and African Divination

Ron Eglash. “Introduction to Fractal Geometry,” “Doubling Series in Africa,” *African Fractals* [pp. 1-19, 89-101]

Videos:

Ron Eglash’s TED Talk

Ifa Divination on the iPad

Binary counting and making a 5 bit computer with your bare hands:

<https://www.youtube.com/watch?v=9Mxn2Ckuc0w>

Further Reading: Helen Verran. *Science and an African Logic*.

Group Presentation: Fractals

Class 29: Thurs. May 10th [LAST CLASS]

The End of Certainty?

Ilya Prigogine and Isabelle Stengers, “Introduction: A New Rationality?” In *The End of Certainty*, pp. 1-8

Final Reading Quiz