

MYTH AND SCIENCE
HPS 0427/CLASS 0330
FALL TERM 2007

Instructor: Benny Goldberg
Class Time: Tuesday 6—8:30 p.m.
Location: 249 Cathedral of Learning

Office: 901 Cathedral of Learning
Office Hours: Wednesday 4:30-6 p.m. or by
appointment
Dept. Office: HPS Dept., 1017 CL, 624-5896
E-mail: **(best way to reach me)**

Course Description: In contemporary Western culture, we typically turn to science to gain an understanding of ourselves and our surrounding world. Yet, there are alternative modes of understanding to which we might turn. We find such alternatives in the mythologies of ancient and modern peoples. In this course we will begin by identifying the similarities and differences between scientific and mythological thought. We will then turn to an analysis of the writings of some of the most celebrated Ancient Greek scholars and discover historically how the scientific approach as we know it today slowly emerged out of mythological thought itself.

Each class will be structured as follows:

Questions about previous material (~5-10 minutes as needed)

Lecture and discussion (~1 hour)

Break (~15 minutes)

Discussion continued / group work (~1 hour)

Learning Objectives: Students who successfully complete this class will have developed skills that will enable them to:

- (1) think critically about the structure of science and the nature of scientific method and explanation;
- (2) analyze the structure of Greek myths and the nature of mythological explanation;
- (3) recognize the mythic and scientific components in ancient Greek thought;
- (4) identify in what ways rational-scientific thinking emerged from and was initially continuous with mythological thinking and
- (5) describe the ways in which scientific and mythological thinking differ.

Required Texts: The *Myth and Science Course Packet* and *The Greek Myths* edited by Robert Graves; both of these should be available at the campus bookstore. **Please bring the assigned reading with you to class.**

Policies and Grading: You are expected to adhere to the standards of academic integrity. Cheating or plagiarism, in any form, are strictly forbidden and will be punished to the extent that University policy allows. Information about the University policy on academic integrity can be found at the following URL: <http://www.fcas.pitt.edu/academicintegrity.html>.

(1) **Midterm exam** (October 16): (20%). The midterm exam will consist of a multiple choice section, a short answer section and an essay section.

(2) **Final exam** (December 4): (20%). The final exam will NOT be cumulative—it will only cover material from the second half of class. It will have the same overall format as the midterm.

If enough students wish, I can hold a study session sometime before these exams. If there is not enough interest for such a meeting, I am always available during office hours or by appointment to discuss any problematic material.

Make-up exams for the midterm and final will only be rescheduled in the case of a serious emergency. Requests for make-up exams must consist of (1) one typed, double-spaced page explaining the reason for missing the exam, and (b) the relevant corroborating documentation such as a doctor's note. Both items must be submitted to me either before or within one week after the scheduled exam date. No exceptions.

(3) **Homework:** (30%) Each class you will be required to have read the assigned readings and to have completed a short writing assignment. The readings for each day come with a set of questions for that reading. In the writing assignment I want you to briefly answer at least one of those questions using examples from the readings. These assignments are short and should be no more than 2 pages double-spaced (please turn in papers stapled together). These questions will serve for the basis of discussion in the second half of the class.

Homework *cannot* be emailed to me. Even if you are unable to attend class, please place a paper copy in my mailbox.

(4) **Attendance and Participation:** (30%). Attendance and participation are mandatory. Class time will be primarily dedicated to discussing the issues raised in the readings. Good discussions require that you do the readings, attend lecture and actively participate. Additionally, we may do some in class activities and group exercises and these will count for your participation grade.

I understand that not everyone is comfortable talking in class. If you don't feel comfortable talking in class, a good solution to ensure you get full credit for participation is to come to office hours and have a chat with me about the material. Plus you will find I'm a pretty awesome guy.

Additional Policy – Special Consideration. I recognize that some students might need special accommodations. If you have a disability that requires special testing accommodations or other classroom modifications, please notify me as well as Disability Resources and Services by the second week of the term. You may be asked to provide documentation of your disability to determine the appropriateness of the accommodations. To notify Disability Resources and Services, call 648-7890 (Voice or TDD) to schedule an appointment. The Internet address is: <http://www.pitt.edu/~oasweb/drs/drs.html>. The office is located in the William Pitt Union Room 216.

Useful Reference Web Sites:

Greek Mythology web site:

<http://www.maicar.com/GML/>

Stanford Encyclopedia of Philosophy:

<http://plato.stanford.edu/>

Schedule of Classes

- 08/28 – **Course Introduction.** What is science? What is myth? In what ways do they differ?
- 09/04 – What is science? How have philosophers of science answered this question?
Readings: (1) Kosso, *Reading the Book of Nature*; (2) Salmon, “The Importance of Scientific Understanding”
- 09/11 – What is myth? How did the Greeks conceive of and represent creation and divinity in myth? How did they employ myth to explain natural and social phenomena (according to you and to Graves)?
Readings: Graves “Introduction,” 11-24; (4) Homer, *Iliad Book I*, (5) Hesiod, selections from *Theogony*
- 09/18 – (Part I) In what ways did the Presocratics incorporate both mythical and rational elements into their modes of thought?
Readings: (6) Wheelwright, ed., *The Presocratics* including: *The Scientist-Philosophers of Miletus*, pp. 40-47, 52-55, 60-63; *Heraclitus*, pp. 64-73; *The Eleatic School*, 90-109.
- 09/25 – (Part II) In what ways did the Presocratics incorporate both mythical and rational elements into their modes of thought? In what ways were the Presocratics “scientific” according to Popper? :
Readings: (6) Wheelwright, ed., *The Presocratics* including: *Qualitative Pluralism* 120-137; 154-165; *Atomism*, 175-183; 186-191, (7) Popper, “Back to the Presocratics”
- 10/02 – Do mythical worldviews differ fundamentally across different cultures? In what ways are they similar? Are there scientific elements in creation myths? What differences, if any, do you see between Greek creation myths and others?
Readings: (3) *Essential Sacred Writings from around the World*, M. Eliade; Graves ‘Creation Myths’ 27-37 (not ‘The Castration of Uranus’); see also: <http://www.maicar.com/GML/MythsCreation.html>
- 10/09 – What reasons does Plato offer for emphasizing the importance of studying science and mathematics? How does he account for the creation of the universe? What kinds of residual mythical elements remain in Plato’s thought and in what way do his ideas differ from the Presocratics? How does the *Timeaus* differ from other Greek ideas about creation?
Readings: (8) Plato, *Timeaus*, 3-24; 46-65; (9) Plato, *Republic*, 167-191
- 10/16 – **MIDTERM**
- 10/23 – What do myths reveal about ancient Greek people and society? What do myths reveal about the roles of men and women? What do they reveal about proper (and improper) ways to act? Do myths perhaps play a different role than science for Greek society? What other sorts of things might we learn from these myths?
Readings: Graves, look over introduction again, “Zeus and Metis,” 45-48; “Zeus and Hera,” 53; “Apollo’s Nature and Deeds,” 76-83; “Artemis’s Nature and Deeds,” 83-86; “Dionysus’s Nature and Deeds,” 103-111; “Orpheus,” 111-115; “The Alphabet, 182-185; “Sisyphus,” 216-220; “Narcissus,” 286-288; “Oedipus,” 371-377.
- 10/30 – In what ways did ancient Greek physicians adopt a ‘scientific’ approach to the study of medicine? In what ways did their viewpoints differ from those of the ancient Greek philosophers? How did they understand health, disease and the body?
Readings: (11) *Hippocratic Writings*, 67-86, 237-251, 260-271
- 11/06 – What is the fundamental structure of the natural world according to Aristotle? How does Aristotle use the distinction he draws between form and matter to understand creation? What four causes does he identify and how do they factor into his explanations of natural phenomena? How does he conceive of

divinity? In what ways does his conception of divinity factor into his explanations of natural phenomena?

Readings: (10) Aristotle, *Physics Book II*, 93-110, 127-131; *On the Heavens*, 132-142

11/13– In what ways did the Hellenistic Philosophers reject divinity and purpose from the world and what alternatives did they offer instead to explain natural phenomena?

Readings: (12) *The Hellenistic Philosophers*, 25-65

11/20– Where do mythical elements fit into Ptolemy's scientific thought? In what ways are his views similar and in what ways do they differ from Aristotle's?

Readings: (13) Ptolemy, *Tetrabiblos*, 35-41, 255-257; (14) *Almagest*, 35-47, 140-141, 144-145

11/27– The writing assignment for this class is to think of at least 2 modern myths and 2 modern scientific discoveries/accomplishments and compare them with ancient myths and science. Then think about a scientific theory that has now been superseded (such as Newtonian mechanics). Where do these theories fit, that is, are they myth or science or something different from both? What is similar between modern and ancient versions of these two ways of understanding the world? Has one way (myth or science) become more prevalent? Is this a good thing? Remember to use examples from earlier readings!

Readings: TBA

In class we will revisit what you guys wrote on the first day of class about myth and science and discuss any changes in your opinions. Any remaining time can be spent studying for the exam.

12/04– **FINAL EXAM** (not cumulative)