

Science, Nature, and Society

hsci 1003 || fall 2009

mon/wed 12:30-1:20

gaylord hall 2020

plus discussion sections at either
th 10:30-11:20 or fri 12:30-1:20

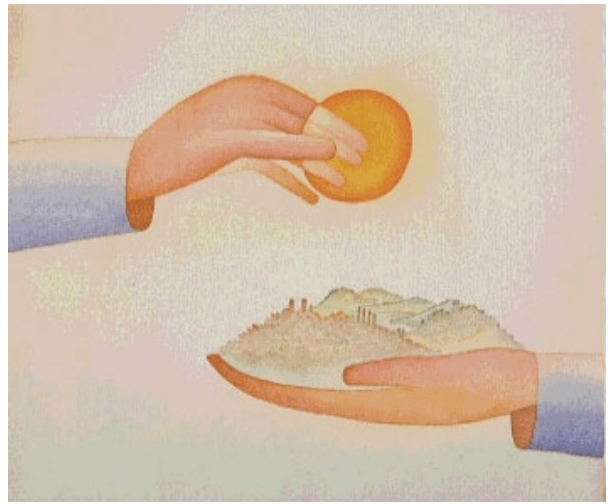
assoc. prof. katherine pandora

office hours: mon/wed 1:45-2:45, wed 10:45-11:45
and by appt.

office: phsc 619

tel./voice: 325.3427

email: kpandora@ou.edu



t.a.: henry zepeda

office hours: mon 10:00-12:00, wed 10:45-11:45 and by appt.

office: phsc 611

tel: 626.660.8450

email: henry.t.zepeda-1@ou.edu

What happens when you study science, technology, medicine, and views of nature by bringing perspectives from the humanities (including history, literature, art, and philosophy) into the discussion? The answer: you make discoveries about the origins and transformations in the story of who we were, who we have become, and who we might be in the future. In this introduction to how past experiences of science, medicine, technology, and nature have shaped the world we live in, we'll guide you in taking a look at some of the "big questions" that mark the rise of the modern world, and we'll pay attention to some of the "ways of knowing" that became part of our cultural tool-kits as a result.

As an introduction, we don't expect you to have any special prior knowledge, and students who are working on any potential major will find a home with us here. We're here to help provide the background information to your reading through lectures and discussion, and we'll also take the opportunity to see where history of science turns up on campus by adding in some "field trips." We've picked out some thought-provoking books, provided some useful websites along the way, and will also be viewing some films that will provide interesting windows on the past and present. In a series of short, take-home essay assignments you'll practice forming your own analyses to the issues at hand, strengthen and add to your writing skills, and gain a solid foundation for a wide array of courses in the sciences, engineering, and humanities in your future semesters.

We're here to help you develop new perspectives, uncover information that goes beyond the ordinary, and sharpen your understanding of the past, the present, and the future. We're glad you'll be joining us, and we look forward to seeing you in class and having you drop by our offices as well – whether it's for advice, assistance, or just to share ideas.

Assignments/Grading

1. Mini-Assessment Papers [m.a.p.s] / 10% of total grade: Typically, during one of the class meetings or discussion sections each week, we will ask you to write one or two paragraphs about some of the work we are doing (this will take about 10-15 minutes). We may ask you to reflect on your own responses to the material, or to speculate about some of the historical circumstances we will be studying, or even ask you to tell us what part of a lecture or reading may be confusing to you. These brief writing assignments help introduce you to the process of generating ideas about the material you are studying, assist you in identifying key points, and give you practice in analyzing the topics at hand. Each m.a.p. is graded s/u and is worth one point – with one exception noted below, which is a 2-point m.a.p. that requires a bit more preparation than usual and is done outside of class. You will need to acquire 10 m.a.p. points over the course of the semester in order to receive the **10% allotment for this part of your grade.**

two-point m.a.p.: Please write a 1- to 1-½ page essay on a childhood experience with science, technology, or nature (**due week 3 in your discussion section; bring original + 3 copies**)

2. Website Reports / 10% of total grade: One-page essay reports, similar to the m.a.p. exercises. Each report is worth 2 pts. and is graded s/u. Of the thirteen websites that are part of the schedule, you will make your choice about which five to write about (five webreports at 2 points each = 10 pts.). Individual website reports are due in your discussion section by the week they are assigned (they can be turned in that week or earlier, but not after their assigned week). You need to complete all five to receive the **10% allotment for this part of your grade.**

3. Discussion Section Participation / 5%: Showing up, being prepared, working productively in pairs and small groups, contributing to discussion.

4. First Take-Home Essay Assignment: 3-page take-home reflection essay question on the medieval era and time (draws on the first part of our reading from *Time's Pendulum*, other assigned reading, lectures, and discussion) (**due week 5 on 9/21**) / **10%**

5. Second Take-Home Essay Assignment: 3-page take-home reflection essay question on “what is life?” (draws on the second part of our reading from *Time's Pendulum*, other assigned reading, lectures, and discussion) (**due week 8 on 10/12**) / **15%**

6. Third Take-Home Essay Assignment: 3-page take-home reflection essay question on “what is disease?” (draws on *The Ghost Map*, other assigned reading, lectures, and discussion) (**due week 11 on 11/2**) / **15%**

7. Fourth Take-Home Essay Assignment: 3-page take-home reflection essay on “what is natural?” (draws on *The Beast in the Garden*, other assigned reading, lectures, and discussion) (**due week 13 on 11/18**) / **15%**

8. Final Take-Home Essay Assignment: 4-5 page take-home reflection essay on “inventions and social change” (draws on *The Victorian Internet*, portion of reading from *Time's Pendulum*, other assigned reading, lectures and discussion) plus one semester overview question (**due finals week on the date/time assigned for our final exam – Tuesday, December 15th from 1:30-3:30, in our classroom**) / **20%**

Books

Jo Ellen Barnett, *Time's Pendulum: From Sundials to Atomic Clocks, the Fascinating History of Timekeeping & How Our Discoveries Changed the World* (Harcourt, Brace & Co., 1988)

Steven Johnson, *The Ghost Map: The Story of London's Most Terrifying Epidemic – and How It Changed Science, Cities, and the Modern World* (Riverhead, 2007)

David Baron, *The Beast in the Garden: The True Story of a Deadly Predator's Return to Suburban America* (W.W. Norton & Co., 2004)

Tom Standage, *The Victorian Internet: The Remarkable Story of the Telegraph and the Nineteenth Century's On-line Pioneers* (Walker & Co., 2007)

Supplementary Material

Primary Sources (Handouts)

- Excerpt from Adelard of Bath, *Natural Questions* (circa 1137)
- Excerpt from Denis Diderot, *d'Alembert's Dream* (1769)

Secondary Sources (on e-reserve)

- Excerpt from Martin Rudwick, *Scenes from Deep Time*
- "Disrupting God's Plan," from Anita Guerrini, *Experimenting on Humans and Animals*

Films

- "Theodoric of York, Medieval Barber" (Saturday Night Live, 1978)
- "Wilderness and the American West" (from PBS' *American Visions*)
- *The Creek Runs Red* (KERA/ITVS, 2006)
- *Modern Times* (dir., Charles Chaplin, 1936) / excerpt

Websites

the two cultures: students speak their minds

<http://web.archive.org/web/20040616083910/www.colorado.edu/ptsp/retreatspring2004/five.html>

a walk through time <http://physics.nist.gov/GenInt/Time/time.html>

the aberdeen bestiary <http://www.abdn.ac.uk/bestiary/>

paper dinosaurs, 1824-1969

http://www.lindahall.org/events_exhib/exhibit/exhibits/dino/index.shtml

animal, vegetable and mineral <http://naturalhistory.mse.jhu.edu/splash.html>

the diary of samuel pepys [8/13/1664; 8/14/1664; 1/2/1665; 1/21/1665; 3/1/1665; 4/19/1665]

<http://www.pepysdiary.com/>

dream anatomy www.nlm.nih.gov/dreamanatomy/

safe drinking water is essential <http://www.drinking-water.org/flash/splash.html>

commentary on the creek runs red <http://www.pbs.org/independentlens/creekrunsred/talkback.html>

univ. of oklahoma fleischaker collection

<http://www.ou.edu/artcollections/collections/collections-fleischaker.html>

david quammen on man-eating predators

<http://dir.salon.com/story/books/int/2003/09/24/quammen/index.html>

the once and future web <http://www.nlm.nih.gov/onceandfutureweb/home.html>

mr. lincoln's t-mails <http://www.mrlincolnstmails.com/index.php>

Rules of the Road

Attendance: Attendance is required. Four unexcused absences for lecture and two unexcused absences for discussion section are allowed; if this number is exceeded the course grade will be lowered by one letter grade. Students are expected to use the allowed unexcused absences for an illness or injury not serious enough to receive medical attention, or for personal or family considerations. Three tardies equals one absence.

Electronic Devices: During classtime, all external communication devices should be turned off. Computers are to be used for note-taking only; if used for any other purpose this privilege will be revoked.

Academic Misconduct: **Cheating will not be tolerated.** Cheating includes, but is not limited to, copying the work of another student, using the written work of another author without attribution, or any conduct that seeks to compromise the evaluation process. *Such conduct will result in an automatic F on that assignment and the student can be referred to the Dean for disciplinary action.* We will discuss the academic integrity requirements in class together. For reference, see the “Student’s Guide to Academic Integrity” on the Provost’s website at: <http://www.ou.edu/provost/integrity/>

Due Dates: Assignments will not be accepted if turned in late.

Religious Holidays: It is the policy of the University to excuse the absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required class work that may fall on religious holidays. Please see me in advance.

Students with Disabilities: Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me as soon as possible, so we can discuss accommodations necessary to ensure your full participation and to facilitate your educational opportunities.

Grading Scale: The letter grades for assignments in this course conform to a 4 point scale, as follows:

4.0-3.5 = A (A=4.0, A- = 3.7, A-/B+=3.5)
3.49-2.5 = B (B+ = 3.3, B = 3.0, B- = 2.7, B-/C+=2.5)
2.49-1.5 = C (C+ = 2.3, C = 2.0, C- = 1.7, C-/D+=1.5)
1.49-0.5 = D (D+ = 1.3, D= 1.0, D- = 0.7)
0.5 and below = F

University of Oklahoma ConocoPhillips Writing Center

Writing Center Introductory Statement from their Website: “Most universities have a writing center, a place for students, faculty, and staff to meet and talk about writing. As a writer you will want to seek feedback from many different readers. The writing consultants at the writing center are able to talk with you about your writing—at any stage in the process and for any course you are taking. You can make an appointment (online or by phone) and you can drop in whenever they are open.” For more information, visit their website at: www.ou.edu/writingcenter

date	topic	assignments/ reading	discussion section
<p>week 1</p> <p>mon 8/24</p> <p>wed 8/26</p>	<p>getting started</p> <p>welcome / orientation / first assignment instructions</p> <p>preview of our themes: big questions; closer looks; ways of knowing; internet visits; academic integrity</p>	<p>assignment: one to 1-1/2 -page essay on childhood experiences with science, nature, or technology / due week 3 in discussion section: bring original + 3 copies</p> <p>reading: handout</p>	<p>Getting acquainted</p>
<p>week 2</p> <p>mon 8/31</p> <p>wed 9/2</p> <p>internet</p>	<p>science from the outside in and the inside out: discoveries from the humanities</p> <p>Humanities and the Sciences</p> <p><i>Panel Discussion: "Are There Two Cultures?"</i> [Guest Professors from Arts, Sciences, Humanities, & Engineering]</p> <p><i>the two cultures: students speak their minds</i> http://web.archive.org/web/20040616083910/www.colorado.edu/ptsp/retreatspring2004/five.html</p>	<p>reading: Barnett, <i>Time's Pendulum</i> (pp. 3-51)</p>	<p>Discussion of two-cultures question</p>
<p>week 3</p> <p>mon 9/7</p> <p>wed 9/9</p> <p>internet</p>	<p>big questions: what is time?</p> <p>No Class – Labor Day Holiday</p> <p>Preview of themes in <i>Time's Pendulum</i> & <i>A Closer Look</i>: Clocks and culture in the medieval period</p> <p><i>a walk through time</i> http://physics.nist.gov/GenInt/Time/time.html</p>	<p>reading: Barnett, <i>Time's Pendulum</i> (pp. 52-94)</p> <p>assignment: first take-home reflection essay question passed out on 9/9; due 9/21</p>	<p>Discussion of childhood experiences / childhood essays due in discussion section</p>
<p>week 4</p> <p>mon 9/14</p> <p>wed 9/16</p> <p>internet</p>	<p>ways of knowing: let us reason together</p> <p>Medieval questiones and disputationes [Guest Enactment of a Disputation]</p> <p>But what about the flat earth and dragons and witches? Film: "Theodoric of York, Medieval Barber"</p> <p><i>the aberdeen bestiary</i> http://www.abdn.ac.uk/bestiary/</p>	<p>reading: Barnett, <i>Time's Pendulum</i> (pp. 161-229)</p> <p>Excerpt from Adelard of Bath, <i>Natural Questions</i>/ Handout</p>	<p>Oral reading and discussion of Adelard of Bath's <i>Natural Questions</i></p>

<p>week 5</p> <p>mon 9/21</p> <p>wed 9/23</p> <p>internet</p>	<p>big questions: what is time (con.)?</p> <p><i>A Closer Look</i>: scenes from deep time</p> <p>The battle of the geologists, the physicists, and the biologists</p> <p><i>paper dinosaurs, 1824-1969</i> http://www.lindahall.org/events_exhib/exhibit/exhibits/dino/index.shtml</p>	<p>reading: Excerpt from Martin Rudwick, <i>Scenes from Deep Time</i> / e-reserve</p> <p>Johnson, <i>Ghost Map</i>, pp. 1-79</p> <p>assignment: first reflection essay question due on 9/21</p>	<p>Natural History Museum Visits</p>
<p>week 6</p> <p>mon 9/28</p> <p>wed 9/30</p> <p>internet</p>	<p>big questions: what is life?</p> <p>Consider the Polyp</p> <p><i>A Closer Look</i>: Oral Reading of <i>d'Alembert's Dream</i> (excerpt)</p> <p><i>animal, vegetable and mineral</i> http://naturalhistory.mse.jhu.edu/splash.html</p>	<p>reading: Johnson, <i>Ghost Map</i>, pp. 81-156</p> <p>Excerpt from Denis Diderot, <i>d'Alembert's Dream</i> / Handout</p> <p>assignment: second take-home reflection essay question passed out on 9/28; due on 10/12</p>	<p>Discussion of <i>d'Alembert's Dream</i></p>
<p>week 7</p> <p>mon 10/5</p> <p>wed 10/7</p> <p>internet</p>	<p>ways of knowing: the circulation of knowledge</p> <p>Voyages of discovery and endless forms most beautiful</p> <p>Scientific societies, salons, traveling exhibits and coffeehouse culture</p> <p><i>the diary of samuel pepys</i> [8/13/1664; 8/14/1664; 1/2/1665; 1/21/1665; 3/1/1665; 4/19/1665] http://www.pepysdiary.com/</p>	<p>reading: "Disrupting God's Plan," from Anita Guerrini, <i>Experimenting on Humans and Animals</i> / e-reserve</p>	<p>History of Science Collections Visits</p>
<p>week 8</p> <p>mon 10/12</p> <p>wed 10/14</p> <p>internet</p>	<p>big questions: what is disease?</p> <p>Themes from <i>The Ghost Map</i></p> <p>Questions of life and death; questions of medicine and religion</p> <p><i>dream anatomy</i> www.nlm.nih.gov/dreamanatomy/ (If you choose this website for a report, it is due in next week's discussion section)</p>	<p>reading: Johnson, <i>The Ghost Map</i>, pp. 158-228</p> <p>assignment: second reflection essay question due 10/12</p>	<p>No discussion sections due to OU/Texas Football Holiday</p>

<p>week 9</p> <p>mon 10/19</p> <p>wed 10/21</p> <p>internet</p>	<p>big questions: what is disease?</p> <p>the search for a killer: the cholera mystery</p> <p>religion, medical science, and disease</p> <p><i>safe drinking water is essential</i> http://www.drinking-water.org/flash/splash.html</p>	<p>reading: Johnson, <i>The Ghost Map</i>, pp. 231-256</p> <p>Baron, <i>Beast in the Garden</i>, pp. 5-78</p> <p>assignment: third reflection take-home essay question passed out on 10/19; due 11/2</p>	<p>Discussion of epidemics past and present: cholera and influenza</p>
<p>week 10</p> <p>mon 10/26</p> <p>wed 10/28</p> <p>internet</p>	<p>ways of knowing: surveying & observing</p> <p>politics, medical science, and disease</p> <p><i>A Closer Look: Environment and Illness</i> Film: <i>The Creek Runs Red</i></p> <p>commentary on <i>the creek runs red</i> http://www.pbs.org/independentlens/creekrunsred/talkback.html</p>	<p>reading: Baron, <i>The Beast in the Garden</i>, pp. 81-166</p>	<p>Discussion of <i>The Creek Runs Red</i></p>
<p>week 11</p> <p>mon 11/2</p> <p>wed 11/4</p> <p>internet</p>	<p>big questions: what is natural?</p> <p>Preview of themes in <i>The Beast in the Garden</i></p> <p>Film: <i>Wilderness and the American West</i></p> <p><i>univ. of oklahoma fleischaker collection</i> http://www.ou.edu/artcollections/collections/collections-fleischaker.html</p>	<p>reading: Baron, <i>The Beast in the Garden</i>, pp. 169-240</p> <p>assignment: third reflection essay question due on 11/2</p> <p>assignment: fourth reflection take-home essay question passed out on 11/2; due 11/18</p>	<p>Visit to Fred Jones, Jr. Museum of Art / landscape paintings</p>
<p>week 12</p> <p>mon 11/9</p> <p>wed 11/11</p> <p>internet</p>	<p>big questions: what is natural?</p> <p>Changing ideas of wilderness, nature, and the human presence</p> <p><i>A Closer Look: Shark Week!</i> on the Discovery Channel</p> <p><i>david quammen on man-eating predators</i> http://dir.salon.com/story/books/int/2003/09/24/quammen/index.html</p>	<p>reading: Standage, <i>The Victorian Internet</i>, pp. 1-91</p>	<p>Discussion of <i>The Beast in the Garden</i></p>

<p>week 13</p> <p>mon 11/16</p> <p>wed 11/18</p> <p>internet</p>	<p>big questions: inventions & social change</p> <p><i>A Closer Look:</i> The Telegraph</p> <p>The Telegraph vs. the Internet</p> <p><i>the once and future web</i> http://www.nlm.nih.gov/onceandfutureweb</p>	<p>reading: Standage, <i>The Victorian Internet</i>, pp. 92-163</p> <p>assignment: fourth reflection essay question due on 11/18</p> <p>assignment: final take-home essay questions passed out on 11/18; due 12/15</p>	<p>Discussion of the Telegraph and the Internet</p>
<p>week 14</p> <p>mon 11/23</p> <p>wed 11/25</p>	<p>big questions: inventions & social change</p> <p>The changing culture of space and time in the 19th and 20th centuries</p> <p>No Class – Thanksgiving Holiday</p>	<p>reading: Standage, <i>The Victorian Internet</i>, pp. 164-213</p>	<p>No discussion section: Thanksgiving Holiday</p>
<p>week 15</p> <p>mon 11/30</p> <p>wed 12/2</p> <p>internet</p>	<p>big questions: inventions & social change</p> <p><i>A Closer Look:</i> God's Time or Mr. Vanderbilt's Time?</p> <p><i>A Closer Look:</i> Mr. Lincoln's T-Mails</p> <p><i>mr. lincoln's t-mails</i> http://www.mrlincolnstmails.com/index.php</p>	<p>reading: Barnett, <i>Time's Pendulum</i> (pp. 114-145)</p>	<p>Film Excerpt: <i>Modern Times</i> (dir., Charles Chaplin, 1936)</p>
<p>week 16</p> <p>mon 12/7</p> <p>wed 12/9</p>	<p>ways of knowing: the university of 2009 and all of us</p> <p>What we did: how did we do? where to now? Light lunch provided / wrap-up discussion</p> <p>review session for final papers (optional)</p>	<p>assignment: final essay questions due during Finals Week / tuesday, dec. 15th, from 1:30-3:30, in our regular classroom</p>	<p>review session for final papers (optional)</p>