

Spring 2016
Prof. Pamela Gossin
Email: psgossin@utdallas.edu

Office: JO5.404
Office Hrs: Thr. 3-345 in ATC, 2nd flr
+ other times, WRF by appt – just ask!

HUSL 6355
Literature, Science, and Culture: Gothic to SciFi
Friday: 10-12:45pm, JO 4.708

Course Description:

This course offers a broad survey of the interrelations of “literature and science” as they were expressed within literary, philosophical and natural historical inquiry produced in Great Britain during the long nineteenth century. We will examine diverse forms of prose fiction and verse – ranging from short stories, novellas and novels to great (BIG!) Victorian nonfiction “sensation” narratives (Robert Chambers and Darwin). The texts will include many styles and modes of prose narrative including the gothic, realism and naturalism, fantasy and detection, melodrama and science fiction. In the process of reading and discussing these works, we will explore late-18th C to end-of-the-19th-century ideas about human and social “progress,” gender, race, class, aesthetic and moral values in relation to co-developing concepts of God, nature, human nature, the Industrial Revolution, heredity and evolution, astronomy and cosmology.

The class is designed to encourage open, friendly discussion and participation, enhanced with informational background lectures and extra credit / enrichment activities (lectures and films). The required texts should be of equal value to both beginning and advanced graduate students interested in developing a broader understanding of the development of late 18th and 19th-c prose fiction and the interdisciplinary relations between the history of science, literature and the humanities.

* NOTE: Although the historical contexts of scientific and technological change will inform our reading and discussion, no previous background in science or technology is required. *

Course objectives/Student Learning Outcomes:

Students will read and discuss a wide variety of literary forms and genres, demonstrating the ability to interpret and analyze themes and issues using various critical methods, including formal, historical, biographical and cultural approaches. Students will produce 1 or more brief critiques or book reviews and 1 “conference-length” paper that applies original investigation, interpretation and analysis to both primary and secondary texts. Students will also present these papers in class as “conference-style” talks.

Grading:

- * Attendance/participation (A&P): requires minimum of 2 in-class literary/scientific “background” presentations, 2 “Enhancement” activities w/brief write-ups and 2 film critiques: = 1/3rd
- * 2 in-class scholarly presentations w/ accompanying 2 pp single-spaced critical brief of 1 book chapter from the *Ashgate Research Companion to Thomas Hardy* (or another pre-approved article) + 2pp single-spaced (1,000 word) “book review” of one book-length critical perspective/scholarly study on some aspect of 19th-c “literature and science” averaged to = 1/3rd
- * 10 - 12 pp “conference style” paper and presentation, on topic discussed in class and selected in consultation with Prof. = 1/3 (more advanced students will have the option of writing a longer “article-length” essay).

REQUIRED TEXTS:

1. Horace Walpole, *The Castle of Otranto*, Oxford (2009)
ISBN-10: 9780199537211 ISBN-13: 978-0199537211
2. Emily Bronte, *Wuthering Heights* Penguin
ISBN-10: 0141439556 ISBN-13: 978-0141439556
3. Mary Shelley, *Frankenstein*, Penguin
ISBN-10: 0143105035 ISBN-13: 978-0143105039
4. Robert Chambers, *Vestiges of Creation*, ed. Secord. U Chicago
ISBN-13: 978-0226100739 ISBN-10: 0226100731
5. Charles Darwin, *Origin of Species* and *Descent of Man* (selections) as in:
Appleman, Philip, ed., *Darwin*, 3rd ed., W. W. Norton & Company (2000)
ISBN-10: 0393958493 ISBN-13: 978-0393958492
6. Thomas Hardy, *Far From the Madding Crowd*. Norton; 1st edition (1986)
ISBN-10: 9780393954081 ISBN-13: 978-0393954081
7. --- *Two on a Tower*. Penguin Classics (2000)
ISBN-10: 0140435360 ISBN-13: 978-0140435368
8. H.G. Wells, *Time Machine*. Penguin (2005)
ISBN-10: 0141439971 ISBN-13: 978-0141439976

REQUIRED WEB READING:

Alfred. Lord Tennyson, *The Princess*

<http://www.victorianweb.org/authors/tennyson/kincaid/ch4.html>

ELECTRONIC RESERVE: selections from:

Brian Baigrie, *Scientific Revolutions: Primary Texts in the History of Science*

Thomas Hankins, *Science in the Enlightenment*

Laura Otis, ed. *Literature and Science in the Nineteenth Century*

Richard Holmes, *Age of Wonder*

T.H. Huxley, "Science and Culture" (1880)

Matthew Arnold, "Literature and Science" (1882)

Pamela Gossin, "The *Other* 'Terrible Muse': Astronomy and Cosmology from Prehistory through the Victorian Period," pp. 57-102 in *Thomas Hardy's Novel Universe*, 2007.

Rosemarie Morgan, ed, *The Ashgate Companion to Thomas Hardy*

→ **WRITE DOWN PASSWORD HERE:** _____

HAND-OUTS/pdfs:

Pamela Gossin, "The Stellar Dynamics of Star-Crossed Love in *Two on a Tower*" pp. 155-195 in *Thomas Hardy's Novel Universe*, 2007.

Hankins, Chp 3: *Experimental Physics*, pp. 46-80

RECOMMENDED TEXTS:

Students will select 1 scholarly/critical text from this list or choose another similar text (with professor's prior approval) for use in their in-class critique, accompanying brief and final "conference-style" paper.

Holmes, Richard, *The Age of Wonder*

Gossin, Pamela, *Thomas Hardy's Novel Universe: Astronomy, Cosmology and Gender in the Post-Darwinian Universe*

Keen, Suzanne, *Thomas Hardy's Brains*

Radford, Andrew. *Thomas Hardy and the Survivals of Time*

Caldwell, Janis McLaren. *Literature and Medicine in Nineteenth-Century Britain: From Mary Shelley to George Eliot.*

Graham, Peter W. *Jane Austen and Charles Darwin: Naturalists and Novelists*

Knellwolf and Goodall, eds., *Frankenstein's Science: Experimentations and Discovery in Romantic Culture, 1780-1830*

Hall, Dewey W. *Romantic Naturalists, Early Environmentalists: An Ecocritical Study, 1789-1912*

Murphy, Patricia, *In Science's Shadow: Literary Constructions of late Victorian Women*

Henson, Cantor et al, eds., *Culture and Science in the Nineteenth-Century Media*

Ruse, *Darwinism and its Discontents*

Levine, George. *Darwin and the Novelists*

Keynes, Randall, *Creation: The True Story of Charles Darwin*. Riverhead Trade (2009)

Riskin, Jessica, *Science in the Age of Sensibility: The Sentimental Empiricists of the French Enlightenment*

Secord, James. *Victorian Sensation*

Lightman, Bernard, multiple titles (check w/ Prof G.)

Young, Kay. *Imaging Minds: The Neuro-Aesthetics of Austen, Eliot, and Hardy*

Mousoutzanis, Aris, *Fin-de-Siècle Fictions, 1890s/1990s: Apocalypse, Technoscience, Empire*

FILM Suggestions for 2 required film critiques; you may also do others for extra credit!

* *Frankenstein*: Boris Karloff classic, 1931; *Mary Shelley's Frankenstein*, w/Kenneth Branagh, 1994; *Young Frankenstein*, others . . .

* *Wuthering Heights*: Prof's personal fave: 1939 w/ Laurence Olivier and Vivien Leigh; 1992 w/Juliette Binoche and Ralph Fiennes; 1998 Masterpiece Theater version.

Middlemarch (PBS adaptation)

Bleak House: any episode(s) of the PBS adaptation (with Gillian Anderson) – you may do multiple episodes for extra credit.

Sherlock Holmes: classic films with Basil Rathbone; Prof's choice: any episode with Jeremy Brett or Benedict Cumberbatch; also Rupert Everett (*Case of the Silk Stockings*); *Young Sherlock Holmes*; Robert Downey Jr. or Jonny Lee Miller.

Importance of Being Earnest or *Ideal Husband*

* *Time Machine*: classic 1960 version is better than Guy Pearce's 2002 one, imho (great for a "retro" night party!) but either is ok.

COURSE CALENDAR/ DAILY ASSIGNMENTS

*Note: Please have the readings for each day's discussion completed BY the date they are listed.
We will take a 10-15 min. break each day, although time may vary.*

Wk 1: F. Jan 15: Introduction to the class

A. Introduction to the course: call roll; discuss class structure, syllabus; course objectives and themes;

15 min Break

B. Discuss Historical and Literary Background to the class, esp. methods relevant to literary analysis and interpretation from "Literature and Science" perspectives.

*** A&P ENHANCEMENT OPPORTUNITY: write 1 page single-spaced response, connecting the content of this talk to issues/ideas we've read about and/or discussed so far in class.

Wed. Jan 20 @ 7:30 p.m. Center for Values Presents: Fire in the Blood: Documentary Film Jonsson Performance Hall / Free

Fire in the Blood documents the mass casualties in Africa and the global South brought about by Western pharmaceutical companies and governments who blocked access to low-cost antiretroviral drugs used for treating people with HIV/AIDS in the '90s. With contributions from Bill Clinton, Desmond Tutu and Joseph Stiglitz, the film delves into the lethal decision-making process that led to a humanitarian catastrophe. Essential viewing for anyone concerned with inhumane patent policies in developing nations, this screening will be followed by a discussion featuring Dr. Mark Tschaepe, assistant professor of philosophy at Prairie View A&M University, and a Board Director for the AIDS Foundation in Houston. Dr. Tschaepe is also a guest lecturer on HIV/AIDS discrimination at Baylor College of Medicine.

Wk 2: F. Jan 22: Literary Narrative as World-building: Natural & Supernatural Explanatory Models

A: Discuss biographical background on Walpole and *Castle of Otranto*. What are Gothic conventions and how/why do they become "conventional"?

WALPOLE BIO (life/work): _____

GOTHIC CONVENTIONS: _____

GOTHIC LIT "CURRENT STATE OF THE FIELD": _____

15min. Break

B: General discussion of *Castle*, including social and economic importance of concepts and control of "heredity" and "inheritance." Discuss text in relation to its scientific background in **Electronic Reserves**: as in **Baigrie**: Linneaus, *The Sexual System*, pp. 151-156 and Priestley, *The Principle of Fire*, pp. 157-164.

SELECTED "Lit and Sci" criticism about *Castle of Otranto*: _____

*** A&P ENHANCEMENT OPPORTUNITY: write 1 page single-spaced response, connecting the content of this talk to issues/ideas we've discussed so far in class.

Wed., Jan 27 @ 7:30 p.m. Center for Values presents a Discussion Forum:
"Epidemics, Public Health and Race in Historical Perspective" JO Performance Hall / Free

Focusing on the late 19th and early 20th centuries, Nils Roemer, Natalie Ring, Sabrina Starnaman and other local historical scholars discuss the connections between racial thinking, epidemics and public health.

Wk 3: F. Jan 29: It's Alive!: Literary Narrative as Life Creation and 19th-c Life Sciences

A: Discuss biographical background on Mary Shelley and *Frankenstein*.

SHELLEY BIO (life/work): _____

CURRENT STATE OF LS studies of *Frankenstein*: _____

Break

B: Discuss *Frankenstein* against scientific background of 19th-c Life Sciences and Experimental Physiology as in ***Electronic Reserves (and/or hand-outs): Baigrie:*** Volta, *The Artificial Electric Organ*, pp. 195-208; **Hankins**, Chp 3: *Experimental Physics*, pp. 46-80 (get handout) and Chp 5: *Natural History and Physiology*, pp. 113-157; **Otis:** Galvani and Davy, pp. 135-143; **Holmes**, Chp 7: 305-336.

SELECTED FILM CRITIQUE of *Frankenstein*: _____

Wk 4. F. Feb 5: Narratives of Human Generation and Inherited Characteristics before Darwin

A: Discuss biographical background on Emily and Bronte family

BRONTE BIO (life/work): _____

Discuss *Wuthering Heights* within context of "human" animal husbandry, breeding and the family tree; narratives of "natural history".

CURRENT LS studies of *Wuthering Heights*: _____

Break

B: Discuss *Wuthering Heights* in relation to ***E-Reserves readings: Baigrie:*** Van Leeuwenhoek, *Human Reproduction*, pp. 125-131 and Lamarck, *Directed Variation*, pp. 216-225.

SELECTED FILM CRITIQUE of *Wuthering Heights*: _____

🔊 **REQUIRED A&P ENHANCEMENT:** write 1 page single-spaced response, connecting the content of this talk to issues/ideas we've discussed so far in class.

Wed. Feb 10 @ 7:30 p.m: Center for Values Presents:

Adia Benton, "Keywords: Ebola, Global Health and Humanitarianism"

Jonsson Performance Hall / Free

Nearly 40 years ago, Welsh novelist Raymond Williams penned *Keywords*, in which he provided an "exploration of the vocabulary of a crucial area of social and cultural discussion, which has been inherited within precise historical and social conditions and which has to be made at once conscious and critical — subject to change as well as to continuity." Following activists who used Williams' framework to evaluate the shifting meanings of words used in news media, scientific discourse and everyday language to describe the AIDS epidemic in the '80s, Dr. Adia Benton will identify some of the keywords associated with the West African Ebola outbreak and their shifting political, social and cultural meanings. She'll also discuss how the epidemic engenders, reflects and reimagines the inequalities shaping global health and humanitarian practice.

About the speaker:

Adia Benton is an assistant professor of anthropology at Northwestern University and a visiting assistant professor in the Department of Global Health and Social Medicine at Harvard Medical School. Her recent book, *HIV Exceptionalism: Development through Disease in Sierra Leone*, explores the personal, professional and moral stakes of vertical funding for HIV and the social, political and interpersonal relationships that are premised on the notion of HIV as a valued resource. Her work has appeared in *Medical Anthropology*, the *African Studies Review*, *Dissent*, *The New Inquiry* and "The Monkey Cage" blog at The Washington Post. She has provided commentary on global health politics and the West African Ebola outbreak on radio, television and other public venues.

Wk 5. F. Feb 12: NO REGULAR CLASS TODAY! INSTEAD, PLEASE ATTEND Adia Benton's presentation on Wed. evening instead (see above)

* 1 page, single-spaced write-up connecting to this talk to our readings and discussion is due next week *
This counts as 1 of the required "A&P enrichment" – If you have another class or work at this time, please get pre-approval from Prof G for an alternate activity/assignment.

HINT: use this week off from our in-class meeting to begin reading *Vestiges of Creation* – you'll need all the time you can get . . . !

Wk 6. F. Feb. 19: *The Pre-Darwinian Darwinian* . . .

A: Discuss biographical background on Robert Chambers

CHAMBERS BIO (life/work): _____

Discuss *Vestiges* within context of pre-Darwinian evolutionary ideas and "natural history."

Break

B: Discuss *Vestiges* in relation to: Appleman, pp. 31, 33-81 and **E-Reserves readings in Baigrie:** Hutton, *The World Machine*, 209-215; Cuvier, *Geology and Genesis*, 239-246; Lyell, *Deep Geological Time*, 251-265; and **Otis:** selections from Lamarck, *Zoological Philosophy*; Lyell, *Principles of Geology*; Whewell, *Philosophy of the Inductive Sciences*, pp. 240–255.

CURRENT LS studies of *Vestiges*: _____

Wk 7. F. Feb 26: *Poetic Visions of Evolutionary Change . . . Alfred, Lord Tennyson*

A: Discuss biographical background on Tennyson

TENNYSON'S BIO (life/work): _____

Discuss *The Princess* within context of pre-Darwinian evolutionary ideas and "natural history."

Break

B: Discuss *The Princess* in relation to **E-Reserves, Otis:** "Individual and Species, pp. 283-306.

CURRENT LS studies of *The Princess* and *In Memoriam*: _____

Wk 8. F. Mar. 4: *Narratives of Human / Nature: Thomas Hardy's Far From the Madding Crowd*

A: Discuss biographical background on Hardy

HARDY'S BIO (life/work): _____

Discuss *FFMC* within context of pre-Darwinian evolutionary ideas and "natural history."

Break

B: Discuss *FFMC* in relation to **E-Reserves: Otis,** "Sexual Selection," pp. 306-324.

CURRENT LS studies of *FFMC*: _____

Wk 9. F. Mar 11: STUDENT PRESENTATION WEEK: Present 10-12 min. critiques of your selected secondary text (hand-in 1,000 word "book review")

Wk 10: SPRING BREAK: ENJOY NATURE CAREFULLY!



***** A&P ENHANCEMENT OPPORTUNITY:** write 1 page single-spaced response, connecting the content of this talk to issues/ideas we've discussed so far in class.

Wed. March 23 @ 7:30 p.m: Center for Values Presents:

Joan Slonczewski, "The Good Viruses: How Viruses Enhance Life and Improve our

Genomes" Jonsson Performance Hall / Free

Bad viruses like measles and Ebola get all the attention. Yet, there are other viruses that circulate in our blood and gut with health benefits that scientists are just beginning to understand. Our own human DNA is full of sequences from ancient viruses that contributed genes we need. Today, we are engineering the HIV virus, the cause of AIDS, for gene therapies to cure cancer and treat genetic defects.

About the speaker:

Joan Slonczewski is a professor of biology at Kenyon College where she holds the Robert A. Oden, Jr. Professorship and studies the evolution of bacteria and viruses. She conceived the Mitochondrial Singularity hypothesis — that humans are becoming the "mitochondria" of their own machine. Besides authoring numerous research articles, Slonczewski also writes science-fiction novels that explore the concepts of biology and artificial intelligence such as *A Door into Ocean* and *The Highest Frontier*. She also authors the leading microbiology textbook, *Microbiology: An Evolving Science*.

Wk 11 F. Mar. 25: Did Darwin Do it? In His Own Words . . .

A: Discuss biographical background on Darwin

DARWIN'S BIO (life/work): _____

Discuss selections from *Origin of Species* and *Descent of Man*, as in Appleman, pp. 3-20; 87-94; 95-135; 175-213; 243-254.

Break

B: View excerpts from *Creation* (film)

CURRENT LS studies of Darwin / Darwinian ideas: _____

Wk 12 F. Apr. 1: Cosmic Worldview - Beyond Biology: Thomas Hardy's *Two on a Tower*

A: Discuss astronomical background in relation to *Two on a Tower* as in **E-Reserves: Gossin**, pp. 57-102 in *Thomas Hardy's Novel Universe*; **Morgan**, Chps 11-13: 217-268; **Baigrie**: W. Herschel, *The Construction of the Heavens*, 175-188. **Hand-out:** Gossin, pp. 155-195, "The Stellar Dynamics of Star-Crossed Love in *Two on a Tower*."

Break

B: Discuss CURRENT LS studies of Victorian astronomy: _____

Wk 13 F. Apr 8: Evolution meets Astrophysics . . . Utopia Then or Apocalypse When?

A: Discuss biographical background on H. G. Wells

WELLS BIO (life / work): _____

Discuss *Time Machine* in relation to **E-Reserves: Baigrie**: Faraday, *Lines of Force*, pp. 273-278; Lowell, *Martian Engineers*, 351-358.

Break

B: Discuss CURRENT LS studies of *Time Machine*: _____

Discuss FILM adaptations of *Time Machine*: _____

*** A&P ENHANCEMENT OPPORTUNITY: write 1 page single-spaced response, connecting the content of this talk to issues/ideas we've discussed so far in class.

Wed. Apr 13 @ 7:30 p.m: Center for Values presents:

Maya Goldenberg, "You Can't Change an Anti-Vaxxer's Mind: Cognitive Dissonance, Cultural Cognition and Conspiracy Theories"

Jonsson Performance Hall / Free

Public health professionals, political pundits and concerned members of the public struggle to make sense of community resistance to scientific claims such as the safety and efficacy of childhood vaccinations. Commentators have combed through the psychology literature in search of a reason to explain the resistance to ideas backed by overwhelming scientific evidence. Recent research from political scientists

suggests educational interventions are ineffective in changing anti-vaccine beliefs. While poor understanding of vaccine science and misinformation about vaccine safety could presumably be corrected by educational interventions the cognitive barriers purportedly at play are thought to indicate that anti-science convictions are too deeply entrenched. Dr. Goldenberg will discuss vaccine safety pundits' recent adoption of this framework for understanding vaccine hesitancy and how psychology suggests productive means for overcoming psychological barriers to changing deeply held beliefs.

About the speaker:

Maya Goldenberg is an associate professor of philosophy at the University of Guelph (Canada). She works in philosophy of medicine, philosophy of science and feminist philosophy, with particular attention to how scientific knowledge and value claims interact in the healthcare context. She has written extensively on the epistemology of evidence-based medicine with her articles appearing in publications such as *Theoretical Medicine and Bioethics*, *Perspectives in Medicine and Biology* and *Social Science and Medicine*. She is currently working on a book on vaccine hesitancy as a problem of public trust in scientific institutions.

AND / OR ...

Thursday, Apr 14 @ 7:30 p.m: ATEC Lecture Series presents:

Chris Johns, National Geographic photographer

“America's Best Idea”

7:30 p.m. - 9 p.m. Location: ATC 1.102 Ticket Fee (see below)

CHRIS JOHNS serves as chief content officer of the National Geographic Society, overseeing the organization's editorial content across its media platforms. Johns began his affiliation with National Geographic magazine in 1985 as a contract photographer, and joined the staff full time basis 10 years later. From 2005 to 2014, he served as editor in chief of the magazine. His efforts to focus on excellence in photojournalism and reporting earned the publication 21 National Magazine Awards from the American Society of Magazine Editors. As a photographer, he produced more than 20 articles for the publication, eight of which were cover stories.

His defining images capture Africa and its wildlife, taking readers down the Zambezi River, examining the Bushmen's ongoing struggle for cultural survival and providing important documentation of Africa's endangered wildlife. He was named one of the world's 25 most important photographers by American Photo magazine in 2003.

Johns' published works include *Valley of Life: Africa's Great Rift*, *Hawaii's Hidden Treasures* and *Wild at Heart: Man and Beast in Southern Africa*. He also wrote the foreword for *In Focus: National Geographic Greatest Portraits* and the introduction to *100 Days in Photographs: Pivotal Events That Changed the World*. He studied photography at the University of Minnesota, holds a bachelor's degree in technical journalism with a minor in agriculture from Oregon State University and was awarded an honorary doctorate from Indiana University in 2010. Tickets at: <http://www.utdallas.edu/lectureseries/johns/index.html>

Wk 14 F. Apr 15: Works in Progress / Thematic Wrap-up

A. (3-4?) 15 min. STUDENT “works-in-progress-style” PRESENTATIONS by established PhD students, with Q and A

B. Discuss: E-Reserves: T.H. Huxley, “Science and Culture” (1880) and Matthew Arnold, “Literature and Science” (1882)

Discuss: Sherlock and Wilde in film: _____

Wk 15. F. Apr 22: : Research / Revision / Individual Consultations [NO in-class activity this week]

Wk 16. F. Apr 29: *Student “Conference” (MA and beginning PhD students)*

A and B: (7-8?) 15 min. STUDENT “conference-style” PRESENTATIONS, with Q and A

**** FINAL POLISHED 10-12 pp PAPER DUE: _____ (listen in class TBA) ****
 * 5 “bonus” points will be added to your Final Paper grade if you turn it in April 29th *

Instructor’s Policies and Class Philosophy

Please inform the professor *in advance* (via utd email) of any possible absences or situations that may keep you from submitting assignments on time. I’ll try to help in any way I can. Late assignments will not be accepted nor absences excused *without such prior notice*. Because attendance and participation count as a substantial part of your grade in this course, unexcused absences, tardy arrivals, early departures will count against this portion of your grade.

All assignments must be submitted in class, in person to the professor in hardcopy. Never turn in papers or assignments via email or “under the office door” (my office is the TARDIS – Who knows where your stuff could end up!).

In accordance with university policy, this is a drug-free, alcohol-free, smoke-free, barrier-free classroom. In the interests of promoting a comfortable learning environment, all students and the professor pledge to respectfully consider the expression of ideas and opinions by others regardless of political, philosophical, religious, intellectual, cultural, racial, generational or gender differences.

Any student found guilty of plagiarism (using another person's thoughts, words, ideas, terminology etc. without properly acknowledging them with footnotes, endnotes, or parenthetically in the text with a bibliography) will be subject to disciplinary action under the policies of the University of Texas-Dallas. See the university's student code, MLA style sheet or Chicago Manual of Style for more information.

All syllabus info., descriptions and timelines are subject to change at the discretion of the Professor. Students are responsible for listening for in-class announcements/changes and checking their UT-Dallas email account for additional messages or postings (which may supercede info. on this syllabus).

**NOT ALL CHANGES WILL BE IN WRITING,
 SO PAYING ATTENTION IN CLASS WILL BE VITAL**

FOR ADDITIONAL APPLICABLE UTD POLICY STATEMENTS SEE:

<http://go.utdallas.edu/syllabus-policies>