Cultural Analytics:
The Computational Study of Culture

LLCU 614 – Winter 2017
T 2:35 - 4:25, Rm. 350 Arts

Professor Andrew Piper
Office: Rm 484, 688 Sherbrooke
Phone: 514-398-4400 x094504
Email: andrew.piper@mcgill.ca
Office Hours: T 12:30 – 1:30 pm

Course Description

This course will serve as a critical introduction into the new tools and techniques that are being developed to study literature and culture at a vastly greater scale. Questions we will be asking will include: How does the ability to analyze hundreds of thousands of documents give us new insights into the history and present of different cultural forms? How can we import key cultural theoretical categories like discourse, power, gender, the sociality, mediation, and authorship into the computational study of culture? And how might computation impact how we theorize culture? The aim of the seminar is to engage critically with exisiting methods and practices in the computational study of culture, including stylistics, sentiment analysis, topic modeling, social network analysis and geospatial tools, as well as offer a creative platform through which we can collectively develop new ideas and hypotheses about studying culture at large scale. No prior programming experience or knowledge of statistics is required, just open-mindedness and a willingness to learn.

Weekly Assignments
All readings are available on MyCourses.

Wk. 1 01.10   *Course Introduction: Some Beginnings*
                    - Lancashire, "Vocabulary Change in Agatha Christie."
                    - DeWall, "Tuning in to Psychological Change."
                         Response1: http://languagelog.ldc.upenn.edu/nll/?p=3080
                         Response2: http://languagelog.ldc.upenn.edu/nll/?p=1651
                    - Matt Daniels, "The Largest Vocabulary in Hip Hop":
                    http://rappers.mdaniels.com.s3-website-us-east-1.amazonaws.com
                    - Michel, "Quantitative Analysis of Culture Using Millions of
                    Digitized Books."

Wk. 2 01.17   *What is Culture? And Analytics?*
                    - Longhurst et al., *Introducing Cultural Studies*, pp. 1-57
                    - Piper, "There Will Be Numbers."
                    http://culturalanalytics.org/2016/05/there-will-be-numbers/
                    - Manovich, "The Science of Culture."
                    http://culturalanalytics.org/2016/05/the-science-of-culture-social-
                    computing-digital-humanities-and-cultural-analytics/

Wk. 3 01.24   *Gender 1*
                        - Argamon, "Gender, Genre, and Writing Style."
                        - Piper/So, "Gender Bias in Book Reviews":
                        https://newrepublic.com/article/132531/women-write-family-men-write-war
                        - Wagner, "It's a Man's Wikipedia?"
                        - Anderson, "Film Dialogue in 2,000 Screenplays":
                        http://polygraph.cool/films/
                        - Facebook and Gender Pronouns:
                        http://languagelog.ldc.upenn.edu/nll/?p=14856

Wk. 4 01.27   *Gender 2*
                        - *Theory*: Butler, *Gender Trouble*, p. 3-45.
                        - *Methodology 1*: Adam Kilgarriff, "Comparing Corpora."

Wk. 5 01.31   *Cultural Capital*
                        - *Theory*: Bourdieu, "The Field of Cultural Production."
                        - Piper/Portelance, "How Cultural Capital Works":
                        http://post45.research.yale.edu/2016/05/how-cultural-capital-works-prizewinning-novels-bestsellers-and-the-time-of-reading/
                        - Jurafsky, "Linguistic Markers of Status in Food Culture."
                        http://culturalanalytics.org/2016/10/linguistic-markers-of-status-in-food-culture-bourdieus-distinction-in-a-menu-corpus/

Wk. 6 02.07   *Methodology 2: Text Classification and Machine Learning*
                        - Ted Underwood, "The Life Cycles of Genres,"
                        http://culturalanalytics.org/2016/05/the-life-cycles-of-genres/
                        - Tangherlini/Mimno, "The Tell-Tale Hat: Surfacing the
                        Uncertainty in Folklore Classification," (forthcoming)

Wk. 7 02.14   *Political Belief*
                        - "Parallel Narratives": https://news.vice.com/story/journalists-and-trump-voters-live-in-separate-online-bubbles-mit-analysis-shows
                        - *The Electome*. http://www.electome.org/
                        - Barbera, "Birds of a Feather Tweet Together."
                        - Gardiner, "The Dark Side of Guardian Comments":
                        https://www.theguardian.com/technology/2016/apr/12/the-dark-side-of-guardian-comments

Wk. 8 02.21   *Methodology 3: Social Network Analysis*
                        - Long/So, "Network Analysis and the Sociology of Modernism."
                        - Piper/Ruths, "Communities of Detection."
                        - Schich, "A Network Framework of Cultural History."
                        - Newmann, "Co-Authorship Networks and Patterns of Scientific
                        Collaboration."
                        - *Methodology 3*: Newmann, *Networks*, Chap. 7

02. 28   ***Study Break***

Wk. 9 03.07   *Knowledge Structures*
                    - *Theory*: Foucault, "The Discourse on Language."
                    - Andrew Goldstone and Ted Underwood, "The Quiet
                    Transformations of Literary Studies."
                    - Vilhena, "Finding Cultural Holes."
                    - Dedeo, "Conflict and Computation on Wikipedia."
                    - Wellmon, "Publication, Power, Patronage."

Wk.10 03.14   *Methodology 4: Topic Modeling*
                     - Chang, "Reading Tea Leaves: How Humans Interpret Topic
                    Models."
                    - Mimno, "Optimizing Semantic Coherence in Topic Models."
                    - Jockers/Mimno, "Significant Themes in 19C Literature."

Wk.11 03.21   *Circulation*
                    - Smith, "Infectious Texts."
                    - Smith, "Computational Methods for Uncovering Reprinted
                    Texts."
                    - Cordell, "Reprinting, Circulation, and the Network Author."
                    - Long/So, "Literary Pattern Recognition."
                    - Leskovec, "Meme-Tracking." http://www.memetracker.org

Wk.12 03.28   *Geospatial Analysis*
                    - Wilkens, "The Geographic Imagination of Civil War Era
                    American Fiction."
                    - Beveridge, "The Development, Persistence, and Change of Racial
                    Segregation."

Wk.13 04.04   *Visual Culture*
                    - Manovich, http://selfiecity.net
                    - Manovich, http://phototrails.net
                    - Piper, "The Visibility of Knowledge": https://txtlab.org/?p=734
                    and http://txtlab.org/?p=395

Academic Integrity
McGill University values academic integrity. Therefore all students must understand the meaning
and consequences of cheating, plagiarism and other academic offences under the Code of Student
Conduct and Disciplinary Procedures (see http://www.mcgill.ca/integrity/ for more information).

Course Requirements

In accord with McGill University's Charter of Students' Rights, students in this course have the
right to submit in English or in French any written work that is to be graded.

Class Participation   20%

| Presentation | 15% |
| Final Paper | 65% |

Class Participation. You are expected to attend every class and **actively** participate in class discussions with observations and questions derived from close and thoughtful reading of each weeks' texts. Passive consumption of information is not welcome. Our aim is to engage critically with existing quantitative studies of culture and creatively with the new possibilities they initiate.

Presentation. The presentation will take the form of a hypothetical research study design. Given all the resources in the world, what would you want to study computationally and how? What are the steps necessary to undertake such a project, from hypothesis creation to data collection to data preparation to data analysis, and where do you see potential problems? Each presentation will consist of a 10-minute description of a proposed research study for which we will collectively provide feedback. The goal is to better understand the challenges and compromises involved in moving from a theory of culture to the implementation of the study of culture.

Final Paper. For the final paper you will write a critical review of a particular study that we have *not* read in class. This will involve, first, locating a significant paper in a particular field and, second, engaging with all the steps of the research process as they are presented in the paper. The point of this exercise is to have you learn to reflect on the choices that are made at each step of a study, to understand why those choices were made, explain your concerns as clearly and concisely as possible, and then offer possible alternative pathways or interpretations of the data, drawing on other research in the field to support your views. The paper should be between 12-15 pages in length and is due on **April 11, 2017**.

Late papers will lose a half-grade for every class late. Students who receive a grade of D,F, or J will not be allowed to do supplemental work. All papers will be submitted to the text-matching software per university policy. Three or more missed classes will result in a lowering of the student's overall grade. According to Senate regulations, instructors are not permitted to make special arrangements for final exams. Please consult the Calendar, section 4.7.2.1, General University Information and Regulations at www.mcgill.ca. In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change. © Instructor generated course materials (e.g., handouts, notes, summaries, exam questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow up by the University under the Code of Student Conduct and Disciplinary Procedures.