

Syllabus

Graduate Seminar in Algorithmic Composition (206b)

(DANM 217)

UC Santa Cruz, Winter, 2016

Polansky

Revision: 2/18/16

Wednesday, 4–7, DARC 340

Class website:

<http://eamusic.dartmouth.edu/~larry/classes.html>

Schedule (tentative, will be revised as class progresses)

1/5: Introduction to class, texts, assignments

- Some thoughts about “algorithmic” composition: What is it? What might it include?
 - What’s the difference between “algorithms” and “theory”, algorithms and “methods”?
 - Style simulation; compositional algorithms; emulations of preexisting bodies of knowledge (mathematics, sonifications, information networks, cognition).
 - Music that draws its “appeal” (that is, it “appeals” to, not in the sense of gratifying, but in drawing justification) from something else: nature, mathematics, musical style, visions, principles of perception, etc.
 - Programming or !programming?
- Some examples from my own work (Four Voice Canons, harmonic trajectory pieces, time distortion, work in progress)
 - Assignment for next week (1/12):*
 - 20-minute in-class presentation about an algorithmic work of your choice, not your own, and preferably, one you were not previously familiar with.
 - Student led discussion of the readings: to be assigned
 - Assigned readings* (all class readings from Tenney book on reserve in McKinley, class website, or JSTOR)
 - Tenney, *From Scratch, Writings in Music Theory* (on reserve in main library),

- Chapters: 2 (*Meta+Hodos*), 6 (“Form in 20th Century Music”), 9 (“Hierarchical Temporal Gestalt...”), Appendix 1 (“Pre—*Meta+Hodos*”)
- Optional reading: “Introduction”

1/13: Student Presentations, Algorithmic Pieces

(Readings: General readings on computer-assisted work)

- Discussion of the readings: What is form, how might it be determined? Discussed?
- Parametric, perceptual, cognitive formal determinants.
- Gestalt principles.
- The use of parametric curves and statistical/morphological reductions.
- Basic principles of Tenney’s approach. Issues in need of further exploration?

Assignment for 1/27:

- *Short composition*: a “purely” algorithmic work (due 1/27)
- Student led discussion of the readings: (student will be assigned in previous class)

Assigned readings

- Ames, “Automated Composition in Retrospect,” *Leonardo* 20/2, 1987 (on class website and JSTOR)
- Tenney, Chapters: 3, “Computer Music Experiences: 1961–64,” 1 (“...Early Nontonal Music of Arnold Schoenberg”), Appendix 2
- Polansky, “Distance Musics I–VI for Any Number of Programmer/Performers and Live Programmable Computer Music Systems,” *Perspectives of New Music*, 25/1&2:537–544, 1987.

1/20: Guest speaker, Larry Cuba (meeting at his house, pizza provided)

Assigned readings (for next week)

- Tenney
 - Chapters: 10 (“...Contributions”), 11 (“...Aggregates”), 12 (“John Cage...”), 19 (“...Diapason”)
 - Optional: Chapters 13, 16, 17, 18

- Polansky
 - “A Mathematical Model for Optimal Tuning Systems.” Co-authored with Rockmore, Repetto, Johnson, and Pan. *Perspectives of New Music*, 47/1:69–110. Winter, 2009
 - “Paratactical Tuning: An Agenda for the Future Use of Computers in Experimental Intonation,” *Computer Music Journal*, 11/1: 61–68, 1987
 - “Item: Lou Harrison as a speculative theorist,” *A Lou Harrison Reader*, Soundings Press, 1987

1/27: Pitch and harmony

Listen to pieces

Graduate student-led talk/discussion on pitch and harmony (Andrew Smith)

Assignment for two weeks from now, 2/17

- *Second piece, and proposal for final piece of term (talked about in class)*

Assigned Readings for next week

- Tenney, Chapters: 8, “The Chronological Development of Ruggles’ ...”, 15 (“About ‘Changes’ ...”)
- Polansky, Winter, Barnett, “A Few More Words about James Tenney: Dissonant Counterpoint and Statistical Feedback.” Co-authored with Mike Winter and Alexander Barnett. *Journal of Mathematics and Music*, 5/3. 2011
- Ames (on JStor)
 - “A Catalog of Statistical Distributions: Techniques for Transforming Random, Determinate, and Chaotic Sequences,” *Leonardo Music Journal*, 1/1: 55–70, 1991.
 - “Statistics and Compositional Balance,” *Perspectives of New Music*, 28/1:80–111, Winter, 1990.

2/3: Statistics and Probability

LP talk: on time

Continuation of first assignment student pieces

Assigned Readings for next week (for Mike Winter; all on class website)

- Chaitin, “Conceptual Theory and Algorithmic Information”
- Johnson, “Found Mathematical Objects”

- Shannon, “A Mathematical Theory of Communication”
- Winter, “On Minimal Change Music Morphologies”
- Winter, “Structural Metrics: An Epistemology” (Preface, Introduction)

2/10: Mike Winter, guest talk
3 student pieces (piece #1)

2/17: Probability

LP lecture

3-4 student pieces (piece #2)

Assigned Readings (for morphology, next week)

- LP and Richard Bassein, “Possible and Impossible Melody: Some Formal Aspects of Contour,” LP and Richard Bassein, *Journal of Music Theory*, 1992. (on class website)
- LP, “Morphological Metrics,” *Journal of New Music Research*, 1996 (on class website; feel free to read selectively in this long article)

2/24: Morphology

Student pieces (#2)

No LP lecture because of campus blackout previous week (need time for student presentations)

3/2: No class (LP at Other Minds)

Rehearsal time, fixed, for final projects. All meet in usual place.

3/9: Final projects, present in class

Talk about them. In-progress, run thrus, etc.

March 17, 7:30 – 10:00

Final (in house) concert