

UNIVERSITY OF BRITISH COLUMBIA
WINTER 2018 | TERM 1

THINKING WITH THINGS: EVIDENTIAL REASONING IN ARCHAEOLOGY

ANTH 495B - 001: Advanced Studies in Anthropology

PHIL 469 - 001: Topics in Philosophy of Science

<https://canvas.ubc.ca/courses/11988>

Instructor: Professor Alison Wylie

Class meetings: Tuesdays 5:00-8:00, BUCH E-274

Contact: alison.wylie@ubc.ca

Office hours: Wednesdays 3:00-5:00
or by appointment

Office: BUCH E-276 | (604) 822-6574

Seminar Description

What counts as evidence, and what are best practices for reasoning with evidence in the historical sciences? We focus in this seminar on philosophical issues raised in and by archaeological practice.

To set the stage we begin by reading selections from *Evidential Reasoning in Archaeology* (Chapman and Wylie 2015) that situate current archaeological debate in an historical context juxtaposed with some of classic archaeological statements about the limitations and the potential of trace evidence and with key logical empiricist texts that influenced them. Post-processual critiques will likewise be paired with examples of “contextualist” philosophies of science that emphasize the theory-laden, value-informed and purpose-specific nature of evidential claims.

We then consider accounts of evidential reasoning in archaeology and philosophy of the historical sciences that turn on a rejection of the assumptions about scientific inquiry that frame the processual/post-processual debate. We will read a selection of essays drawn from *Material Evidence: Learning from Archaeological Practice* (ed. Chapman & Wylie 2015) alongside recent philosophical work on conceptions of “data” and on evidential reasoning in the historical sciences: Leonelli’s “relational” account of scientific data (2015) and selections from Currie’s *Rock Bone and Ruin* (2018).

This combination of philosophical and archaeological readings will bring into focus several different ways of conceptualizing the nature and role of evidence in an historical science like archaeology. The approach we’ll take is case-based, and the central aim of this seminar is to build a framework for thinking critically and constructively about evidential reasoning in practice.

Course texts

- *Material Evidence: Learning from Archaeological Practice*, ed. Chapman and Wylie (Routledge, 2015).
- *Evidential Reasoning in Archaeology*, Chapman and Wylie (Bloomsbury 2016).
- All other readings will be available through UBC Library Reserves and the Canvas course website.

Learning objectives

The goals for this seminar are that you should come away with:

- Content knowledge of a range of views about the nature of material evidence and best practices for reasoning with it that have been influential in philosophical and archaeological debate;
- Analytic skills relevant for disembedding assumptions about the nature of evidence and norms of evidential reasoning that are often left unstated in archaeological debate;
- An appreciation of how these positions and assumptions figure in your field of interest and an appraisal of their relevance to your own research.

Requirements

This is a reading-intensive seminar. The requirements emphasize close analysis of the assigned readings and active engagement with them. In addition to reading responses and an in-class presentation, your major assignment for this course is a thesis-driven final essay. Please see the Canvas course website for detailed guidelines for each of these assignments.

Seminar participation

Active, informed participation in seminar discussion is an essential component of the course.

- **10% of the final grade**

Seminar presentations

Presentation groups will be responsible for initiating seminar discussion each week from Week 4 through Week 12, with the exception of Week 8 (writing workshop). Plan on giving a 20-30 minute analytic (rather than descriptive) presentation on a selection of the assigned readings. This is an opportunity to raise questions about key terms or concepts and about the context of debate to which authors are responding, as well as providing an assessment of the author's argument. It is also an opportunity to put these terms and concepts to work in the analysis of concrete examples drawn from your own areas of expertise.

- The presentation schedule will be finalized in the second week of classes; sign yourself into a presentation group through the "people" tab on Canvas.
- Each presentation group is required **to pre-circulate a short handout of roughly one page** outlining the focal issues and example(s) you will discuss by **5:00 pm on the Monday before your presentation**.
- **25% of the final grade**

Reading Responses

Everyone is required to post at least **five reading responses** during the quarter. These should be roughly a page long, and should focus on a particular issue, concept, or argument in the assigned readings that you find intriguing, problematic, or in need of explication. As with the seminar presentations, raise questions and introduce examples you would like to discuss in the seminar.

- Everyone is required to post a response to set questions in Week 2 and Week 13.
- Choose **any three other weeks except the one in which you give your in-class presentation**.
- Posts are due by **5:00 pm on the Monday** before the seminar in which the reading you choose will be discussed.
- Be sure to read one another's posts and come to class prepared to discuss them; **online comments are welcome!**
- **25% of the final grade**

Term paper

Your major writing assignment for this seminar is a **case-based analysis of what counts (or should count) as best practice in evidential reasoning in archaeology**, or a related field. Identify an example of evidential reasoning that illustrates what you take to be norms of best practice. This may be an example of success or innovation that exemplifies standards of practice archaeologists should strive for, or a failure or a near miss that illustrates pitfalls of evidential reasoning that archaeologists should avoid. Explain why the case you choose is instructive, philosophically and for practice, in relation to at least one of the accounts of evidential reasoning we discuss through the term.

- Your paper should be **12 to 15 pages** long (3000-3750 words).
- One-page **abstracts are due online by 5:00 pm on Monday**, October 22.
- It is due at **midnight on Tuesday, December 11th**.
- **40% of the final grade** (abstracts will count for 5%; final essays for 35%)

Course Policies

Please see the appended summary of campus-wide policies on academic conduct and concessions, and course-specific policies on grading.

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PHIL 469 / ANTH 495B

SYLLABUS

ME: Chapman & Wylie, *Material Evidence* (available from the bookstore)

ER: Chapman & Wylie (eds.), *Evidential Reasoning in Archaeology* (available from the bookstore)

Background: optional readings intended as resources for in-class presentations and term papers.

Week 1 September 4: Introduction to the seminar

- **ER:** "Introduction: The Paradox of Material Evidence."

Week 2 September 11: Framing the issues in archaeological terms

- **ER:** chapter 1, "Archaeological Evidence in Question"
- Smith, M. A. (1955) "The Limitations of Inference in Archaeology," *Archaeological News Letter* 6.1: 1-7.
- Binford, L. R. (1962) "Archaeology as Anthropology," *American Antiquity* 28.2: 217-225.
- Flannery, K. V. (1967) "Culture History v. Cultural Process," *Science* 217: 119-122.
- Clarke, D. L. (1973) "Archaeology: The Loss of Innocence," *Antiquity* 47: 6-18.

Background:

- Meltzer, D. J. (1979) "Paradigms and the Nature of Change in American Archaeology," *American Antiquity* 44(4): 644-657.
- Schuyler, R. L. (1971) "History of American Archaeology," *American Antiquity* 36(4): 383-409.
- Wylie, "How New is the New Archaeology?," *Thinking from Things*, pp. 25-41, Berkeley: University of California Press.

Round-robin assignment: everyone post a response to these questions: What is the most hotly debated issue about evidence (or, evidential reasoning) in your area of research interest? What's at stake, and why does it matter?

Week 3 September 18: "Received View" philosophy of science

- Hempel, C. G. (1942/1965) "The Function of General Laws in History," in *Aspects of Scientific Explanation*, pp. 231-243.
- Hempel, C. G. (1966) "Scientific Inquiry: Invention and Test," in *Philosophy of Natural Science*, pp. 6-18, Englewood Cliffs NJ: Prentice-Hall.
- Toulmin, S. E. (1958) "The Layout of Arguments," in *The Uses of Argument*, Cambridge: Cambridge University Press, pp. 87-131. Focus on pp. 87-118.
- Daston, L. (1992) "Objectivity and the Escape from Perspective," *Social Studies of Science* 22: 597-618.

Background:

- Godfrey-Smith, P. (2003) "Logic Plus Empiricism," and "Induction, Deduction, Confirmation," *Theory and Reality*, pp. 19-37 and 40-46, Chicago: University of Chicago Press.

Week 4 September 25: Rethinking empiricism in archaeology and in philosophy of the historical sciences

- **ME:** Lucas, "Evidence of What?"
- Currie, A. (2018) "Over and Under" and "Ripples," *Rock, Bone and Ruin*, pp. 85-136, Cambridge MA: MIT Press.
- Witmore, C. (2015) "Archaeology and the Second Empiricism," in C. Hilerdal and J. Siapkas (eds.), *Debating Archaeological Empiricism: The Ambiguity of Material Evidence*, pp. 37-61.

Background

- Fogelin, L. (2007) "Inference to the Best Explanation: A common and Effective Form of Archaeological Reasoning," *American Antiquity* 72(4): 603-625.
- Smith, B. D. (1977) "Archaeological Inference and Inductive Confirmation," *American Anthropologist* 79: 598-617.

Week 5 October 2: Capturing data

- *ER*: chapter 2, "The Field Practice of Archaeology: Scaffolding in Practice"
 - *ME*: Farid, "Proportional Representation: Multiple Voices in Archaeological Interpretation"
 - Hodder, I. (1997) "Always Momentary, Fluid and Flexible: Towards a Reflexive Excavation Methodology," *Antiquity*, 71(273): 691-700.
 - Latour, B. (1999) "Circulating Reference: Sampling the Soil in the Amazon Forest," in *Pandora's Hope*, pp. 24-79, Cambridge MA: Harvard University Press.
- Background*: Chippindale, C. (2002) "Capta and Data." *American Antiquity* 65(4): 605-612.

Week 6 October 9: Relational conceptions of data

- Leonelli, S. (2015) "What Counts as Scientific Data? A Relational Framework," *Philosophy of Science* 82(5): 810-821.
 - Woodward, J. F. (2011) "Data and Phenomena: A Restatement and Defense," *Synthese* 182: 165-179.
 - Chang, H. (2004) "Keeping the Fixed Points Fixed," in *Inventing Temperature: Measurement and Scientific Progress*, pp. 8-56, Oxford: Oxford University Press. Focus on pp. 39-53.
 - Lopes, D. M. (2009) "Drawing in a Social Science: Lithic Illustration," *Perspectives on Science* 17.1: 5-25.
- Background*: Kosso, P. (1992) "Observation of the Past," *History and Theory* 31(1): 21-36.

Week 7 October 16: Recapturing data

- *ER*: chapter 3, "Working with Old Evidence"
 - *ME*: Bradley, "Repeating the Unrepeatable Experiment"; Boozer, "The Tyranny of Typologies"
 - Wimsatt, W. C. (2014) "Entrenchment and Scaffolding," in L. R. Caporael, J. R. Griesemer and W. C. Wimsatt (eds.), *Developing Scaffolds in Evolution, Culture, and Cognition*, pp. 77-105, Cambridge, MA: MIT Press.
- Background*: Wylie, A. (2011) "Archaeological Facts in Transit: The 'Eminent Mounds' of Central North America," in Howlett and Morgan (eds.), *How Well Do Facts Travel*, pp. 301-322, Cambridge: Cambridge University Press.

Week 8 October 23: writing workshop

Draft and pre-circulate abstracts for your term papers for discussion in working groups.

Week 9 October 30: Multiple lines of evidence

- *ER*: chapter 4, "External Resources: Archaeology as a Trading Zone"
 - *ME*: Manning, "Radiocarbon Dating and Archaeology: History, Progress and Present Status" Bayliss and Whittle, "Uncertain on Principle: Chronologies"
 - Hacking, I. (1981), 'Do We See Through a Microscope?', *Pacific Phil Quarterly*, 18: 305-322.
 - Wylie, A. (1988) "'Simple' Analogy and Relevance Relations," *International Studies in the Philosophy of Science* 2: 134-150.
 - Currie, A. (2018) "Exquisite Corpse: Historicity and Analogy," in *Rock, Bone and Ruin*, pp. 203-228, Cambridge MA: MIT Press.
- Background*: Bartha, P. (2010) "Analogical Arguments," in *By Parallel Reasoning*, pp. 1-33, Oxford: Oxford University Press.

Week 10 November 6: Robustness reasoning

- *ME*: Bogaard, "Lessons from Modeling Neolithic Farming Practices: Methods of Elimination"
- Soler, L. (2014) "Against Robustness? Strategies to Support the Reliability of Scientific Results," *International Studies in Philosophy of Science* 28(2): 203-215.
- Norton, J. D. (2013) "A Material Dissolution of Problem of Induction" *Synthese* 191: 671-690.
- Wimsatt, W. C. (1981) "Robustness, Reliability, and Overdetermination," in M. B. Brewer and B. E. Collins (eds.), *Scientific Inquiry and the Social Sciences*, pp. 124-163, San Francisco: Josey-Bass.

Week 11 November 13: Trading zones and expertise

- *ME*: Perry, "Crafting Knowledge with (Digital) Visual Media in Archaeology"
Llobera, "Working the Digital: Some Thoughts from Landscape Archaeology"
- Collins, H., Evans, R. and Gorman, M. E. (2007) "Trading Zones and Interactional Expertise," *Studies in History and Philosophy of Science*, 38: 657-666.
- Kochan, J. (2015) "Objective Styles in Northern Field Science," *Studies in History and Philosophy of Science* 52: 1-23.

Background:

- Galison, P. (2010) "Trading With the Enemy," in M. E. Gorman (ed.), *Trading Zones and Interactional Expertise*, pp. 25-52, Cambridge MA: MIT Press.

Week 12 November 20: Reflexivity, procedural objectivity and collaborative practice

- *ER*: conclusions, "Reflexivity Made Concrete"
- *ME*: Nicholas and Markey, "Traditional Knowledge, Archaeological Evidence, and Other Ways of Knowing"
- Gero, J. (2007) "Honoring Ambiguity/Problematizing Certitude," *Journal of Archaeological Method and Theory*, 14: 311-327.
- Wylie, A. (2015) "A Plurality of Pluralisms: Collaborative Practice in Archaeology," in Padovani, Richardson and Tsou (eds.) *Objectivity in Science*, pp. 189-210, Dordrecht: Springer.

Background:

- Longino, H. E. (2002), "Socializing Cognition," in *The Fate of Knowledge*, pp. 124-144, Princeton: Princeton University Press.
- Chamberlin, T. C. (1965), 'The Method of Multiple Working Hypotheses', *Science*, 148(7 May): 745-759. Originally published: (1890) *Science (old series)*, 15: 92-96.

Week 13 November 27: Final thoughts

- *ME*: Jones, "Meeting Pasts Halfway: The Ontology of Material Evidence in Archaeology"
Werrett, "Matter and Facts: Material culture and the History of Science"
- Roy, S. (2006/07) "'Who Were These Mysterious People?' Česna:m, the Marpole Midden, and the Dispossession of Aboriginal Lands in British Columbia," *BC Studies* 152: 67-95.
- Hacking, I. (1999) "Why Ask What?," in I. Hacking (ed), *The Social Construction of What?*, pp. 1-34, Cambridge, MA: Harvard University Press.

Round-robin assignment: everyone post a response to this question: Revisit your answer to the round-robin question posed at the beginning of the quarter. How would you now characterize the issues raised by the controversy about evidence you cited then? And how are they best addressed?

Term paper due: online by midnight on Tuesday, December 11