

**York University**  
**Department of Science & Technology Studies**

***SC/STS 3725: Science and Exploration***

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Office Hours: Tuesday 11:30-1:00, Bethune 307

**Course Overview**

In this class, we will investigate journeys to other worlds and back again. “Exploration,” as we shall see, is of little interest if we don’t also take in account the closing of the circle of travel; indeed, it is this back and forth – the venturing out and the return back-- that is the essence of “Science.” We will thus follow naturalists, scientists, astronauts and adventurers as they explore their own bodies, the micro-worlds of bacteria and single-celled organisms, faraway islands and distant jungles, lands with marvelous wonders and strange beings, ice-flows and tributaries of “northwest passages,” and the vast emptiness of outer space. We will simultaneously attempt to understand how journeys out, were accompanied by journeys in—through strategies of writing and inscription, the making of durable instruments, resistant bodies and vessels capable of surviving the rigors of difficult journeys back and forth across great (real and metaphorical) distances. We will read about Francis Bacon, Christopher Columbus, Captain James Cook, and Charles Darwin as well as modern astronauts, early modern colonists, native informants, heroic botanists, greedy merchants, curious travelers, colonial administrators, and men and women capable of transforming their own bodies into probes and instruments that could register, transport and commodify knowledge of the unknown.

**Requirements:**

In addition to active participation in weekly class discussion, I will ask someone to prepare in advance of each class a synopsis of the week’s reading (15%), identifying arguments, themes, problems, and issues worthy of further consideration. There will be, roughly, about 100 pages a week of reading. Presentations should be about 20 minutes long. A short midterm paper of 4-5 pages (30%) and a longer end of term paper of 7-10 pages (55%) are also required. Attendance is mandatory and anything more than one absence per term will need documentation.

\*\*\*Articles can be found on electronic reserve (Moodle) or on-line. You will want to print these and bring them with you to class (or have them available on a laptop or tablet).

**September 12:**

Introduction.

**September 19:**

—John Law, “On the Methods of Long-distance Control: Vessels, Navigation and the Portuguese Route to India,” in J. Law (ed.), *Power, Action and Belief: A New Sociology of Knowledge?* (1986): 234–263.

—Richard Sorrenson, “The Ship as a Scientific Instrument in the Eighteenth Century,” *Osiris*, 11 (1996): 221-236.

**September 26:**

—Bruno Latour, “Visualization and Cognition,” *Knowledge and Society* 6 (1986): 1–40.

—Steven Shapin, “Pump and Circumstance: Robert Boyle's Literary Technology,” *Social Studies of Science*, 14:4 (1984): 481-520.

— Claude Lévi-Strauss, excerpt from “A Writing Lesson” (from *Tristes tropiques*, New York, 1961), 290-93.

**October 3**

—Francis Bacon, [\*The New Atlantis\*](#)

**October 10**

—Simon Schaffer, “Self-Evidence,” *Critical Inquiry*, 18 (1992): 327-62.

—Stuart Strickland, “The Ideology of Self-Knowledge and the Practice of Self-Experimentation,” *Eighteenth-Century Studies*, 31:4 (1998): 453-471.

—Janet Browne, “I could have retched all night: Charles Darwin and his body” in Christopher Lawrence and Steven Shapin, eds., *Science Incarnate: Historical embodiments of Natural Knowledge* (Chicago, 1998), 240-287.

**October 17**

—Mary Terall, “Heroic Narratives of Quest and Discovery,” *Configurations* 6.2 (1998): 223-242.

—Adriana Craciun, “What Is an Explorer?” *Eighteenth-Century Studies*, 45:1 (2011): 29-51.

—William Beinart, “Men, Science, Travel and Nature in the Eighteenth and Nineteenth-Century Cape,” *Journal of Southern African Studies* 24: 4 (1998): 775-799.

**October 24**

—Ellen Brinks, “Meeting Over the Map: Madeleine de Scudéry's *Carte du Pays de Tendre* and "Aphra Behn's *Voyage to the Isle of Love*,” *Restoration: Studies in English Literary Culture, 1660-1700*, 17:1 (1993): 39-52.

—David Turnbull, “Cartography and science in early modern Europe: Mapping the construction of knowledge spaces,” *Imago Mundi*, 48:1 (1996): 5-24.

—J. B. Harley, ‘Silences and Secrets: The Hidden Agenda of Cartography in Early Modern Europe,’ in William K. Storey, ed., *Scientific Aspects of European Expansion* (London, 1996), 161-180.

—Jeffrey C. Stone, “Imperialism, Colonialism, and Cartography,” *Trans. Inst. Geogr. N.S.* 13 (1988): 57-64.

**October 31:**

—Nicholas Dew, “Scientific travel in the Atlantic world: the French expedition to Goree and the Antilles, 1681, 1683,” *British Journal for the History of Science*, 43 (2010): 1-17.

—Rob Iliffe, “Science and Voyages of Discovery,” in Roy Porter, ed., *The Cambridge History of Science: The Eighteenth Century* (Cambridge, 2003), 618-645.

—Larrie Ferreiro, *Ships and Science* (Cambridge, 2007), 1-22.

**November 7:**

—D. Bleichmar, “Painting as Exploration: Visualizing Nature in Eighteenth-Century Colonial Science,” *Colonial Latin American Review* 15:1 (2006): 81-104.

—Lynn Gamwell, “Beyond the Visible--Microscopy, Nature, and Art,” [\*Science\*](#) 299 (2003): 49-50.

—Nicole Starbuck, “Colonial vision: French voyager-artists, Aboriginal subjects and the British Colony at Port Jackson,” in Natalie Edwards, Ben McCann, Peter Poiana (eds), *Framing French Culture* (2015), 29-52.

**November 14:**

—David Philip Miller, “Joseph Banks, empire, and “centers of calculation” in late Hanoverian London,” in David Philip Miller, and Peter Hahns Reill, eds., *Visions of Empire: Voyages, Botany, and Representations of Nature* (Cambridge, 1996), 21-37.

—Patricia Fara, *Sex, Botany, and Empire: The Story of Carl Linnaeus and Joseph Banks* (New York, 2003), 47-95.

**November 21:**

—David Mackay, “A Presiding Genius of Exploration: Banks, Cook, and Empire, 1767,1805,” in Robin Fisher; Hugh Johnston, eds., *Captain James Cook and His Times* (Seattle, 1979), 21-39.

—Catherine Bishop and Richard White, “Explorer memory and Aboriginal celebrity” in Shino Konishi, Maria Nugent, Tiffany Shellam (eds), *Indigenous Intermediaries: New perspectives on exploration archives* (2015), 31-66.

—Kapil Raj “When Human Travelers Become Instruments: the Indo-British Exploration of Central Asia in the Nineteenth Century”, in M.-N. Bourguet, C. Licoppe, H. O. Sibum, (eds), *Instruments, Travel, and Science: Itineraries of Precision from the Seventeenth to the Twentieth Century* (London and New York, 2002), 156-188.

**November 28:**

—Adam Mann, [Wired](#), Humans vs. Robots: Who Should Dominate Space Exploration?

—Vanessa Heggie, “Why Isn’t Exploration a Science?” *Isis*, 105:2 (2014): 318-334.