This seminar examines the close connections between the visual arts and science in the early modern period. Through readings and seminar discussions spanning the period 1400-1800 we will broach such issues as the link between optics and new ways of seeing, the science of perspective, the visual culture of the anatomy demonstration, the image of disease, evolution and the visual arts, scientific illustration and nature, natural history and the visualization of the new world, the connection between city views and cartography, science and wonder in the kunstkammer, alchemy and the book of secrets, as well as science and magic in the imagery of witchcraft. Students will be required to take part in discussions and present readings, and work on an individual research paper related in some way to the issues explored in class. This will be presented to the class in the style of a conference paper near the end of term.
Requirements

- Participation in discussions 25%
- 2 presentations of readings 30% (each time will be worth 15%)
- Research essay 45%

Students will be responsible for reading a number of texts assigned per week, and discussing them in a seminar environment. Each student will (probably twice) be responsible for presenting a particular reading and moving forward its discussion. You may contextualize an author or text a little, but the primary focus should be on the argument, on what is said in a particular reading. A complete summary is not wanted, just enough to get a discussion going. For instance, end your presentation with questions designed to make the class do some of the work. These questions can be of the most basic kind (i.e., imagine that your audience knows nothing and you must communicate complex ideas and get us to discuss them). Several classes at the end will be taken up by the presentation of your essay research. This will not be the entire essay since you will be limited to about 20 minutes with some time for discussion. Aim for about 10 double spaced pages to present to the class. The final essays should be approximately 15 to 20 pages.

Schedule of dates and readings

Week 1 Sept 5
Introductions; review of syllabus and expectations

Week 2 Sept 12
COPYING AND CREATING THE REAL

Week 3 Sept 19
RENAISSANCE MACHINES
Week 4 Sept 26
FROM HEAVEN TO SKY: THE MIRROR STAGE OF PERSPECTIVE
- Hubert Damisch, The origin of perspective (1994), pp. 74-140

Week 5 Oct 3
INSIDE OUT: VESALIUS AND THE ANATOMICAL IMAGE

Week 6 Oct 10
ON BECOMING VOYEUR GODS: MAPPING URBAN SPACE

Week 7 Oct 17
WONDER, SCIENCE, AND ART IN EARLY MODERN COLLECTIONS
Week 8 Oct 24

SCIENCE’S ‘OTHER’: MAGIC, WITCHCRAFT, AND THE VISUAL ARTS
- Claudia Swan, 'The wherewithal of De Gheyn’s witches', in *Art, science, and witchcraft in early modern Holland* (2005), pp. 123-156 (plates included), notes 217-222

Week 9 Oct 31

VISION MACHINES: EARLY MODERN ART AND OBJECTIVITY
- Svetlana Alpers, ‘“With a sincere hand and a faithful eye”: the craft of representation’, from *The art of describing: Dutch art in the seventeenth century* (1983), pp. 72-118, notes 249-256

Week 10 Nov 7

BOTANICALS AND BEASTS: NATURAL HISTORY AND THE VISUAL IMAGE OF PLANTS AND ANIMALS
- Sachiko Kusukawa, 'Leonhart Fuchs on the importance of pictures', *Journal of the history of ideas*, 58:3 (July 1997), pp. 403-427 (JSTOR)

Week 11 Nov 14

SURVEYING NATURE AND MAPPING SPACE IN THE NEW WORLD
- Daniela Bleichmar, 'Painting as exploration: visualizing nature in eighteenth-century colonial science,' *Colonial Latin American review*, 15:1 (June 2006), pp. 81-104 (SBU library e-journal)

Week 12 Nov 21
- Student presentations of research papers

Week 13 Nov 28
- Student presentations of research papers
For further reading and help with essays

**General**
Brian Ford, Images of science: a history of scientific illustration (1992)


Bruno Latour, 'Visualization and Cognition: Thinking with eyes and hands', *Knowledge and Society* 6 (1986), pp. 1-40 (alternate version of the above)


J. Shirley and F. Hoeniger (eds), Science and the Arts in the Renaissance, Washington, D.C., 1985

Leo Steinberg, 'Art and science: do they need to be yoked', *Daedalus* 115:1 (1986), 1-16

Medieval


Optics and perspective
Samuel Edgerton, The Renaissance rediscovery of linear perspective (1975)


Frank D. Prager and Gustina Scaglia, Brunelleschi. Studies of his Technology and Inventions, Cambridge (Mass.) 1970


Cartography

David Buisseret (ed), Envisioning the City: Six Studies in Urban Cartography, Chicago 1998


Dennis E Cosgrove, The Palladian Landscape: Geographical Change and its Cultural Representations in Sixteenth-Century Italy, Leicester 1993


David Woodward (ed), Art and Cartography, Chicago 1987

Anatomy and medicine

James Elkins, ‘Michelangelo and anatomy: his knowledge and use of anatomy’, *Art History* 7 (1984), 176-86


Fredrika Jacobs, “(Dis)assembling: Marsyas, Michelangelo, and the Accademia del Disegno.” *Art Bulletin*, vol. 84, no. 3 (2002): 426-448


Schultz, Bernard, Art and Anatomy in Renaissance Italy, Ann Arbor 1985 [N 6915.S2]

**Magic and witchcraft**
Christine Göttler and Wolfgang Neuber, Spirits Unseen: The Representation of Subtle Bodies in Early Modern European Culture (2007)

Charles Zika, Exorcising our demons: magic, witchcraft and visual culture in early modern Europe (2003)

**Natural History**


William B. Ashworth, ‘The Persistent beast: recurring images in early zoological illustration’, in Ellenius ed (see below)


Allen Ellenius (ed), The Natural Sciences and the Arts: Aspects of Interaction from the Renaissance to the Twentieth Century, Uppsala 1985

Allen Ellenius, ‘Notes on the function of early zoological imagery’, in Lefevre ed (see above)


Erica Fudge, Perceiving animals: humans and beasts in early modern culture (Basingstoke and London, 2000)

Erica Fudge ed. Renaissance Beasts (Urbana and Chicago, 2004) several essays


Brian Ogilvie, ‘Image and text in natural history, 1500-1700’, in Lefevre ed (see above)

Rothfels, Nigel ed. Representing animals (Bloomington and Indianapolis, 2002)

**New world science**


Victoria Dickenson, Drawn from life: science and art in the new world (Toronto, 1998)

Karen Ordahl Kupperman, America in European consciousness 1493-1750 (1995);


Bernard Smith, Imagining the Pacific: in the wake of the Cook voyage (1992)

Barbara Stafford, Voyage into substance

**Collections**


**Enlightenment**


Andre Cunningham and Nicholas Jardine eds, Romanticism and the sciences (1990)

Timothy Mitchell, Art and Science in German landscape painting 1770-1840 (1993)


Barbara Stafford, Body criticism: imagining the unseen in enlightenment art and medicine (1993)

Barbara Stafford, Artful science: Enlightenment entertainment and the eclipse of visual education (1996)