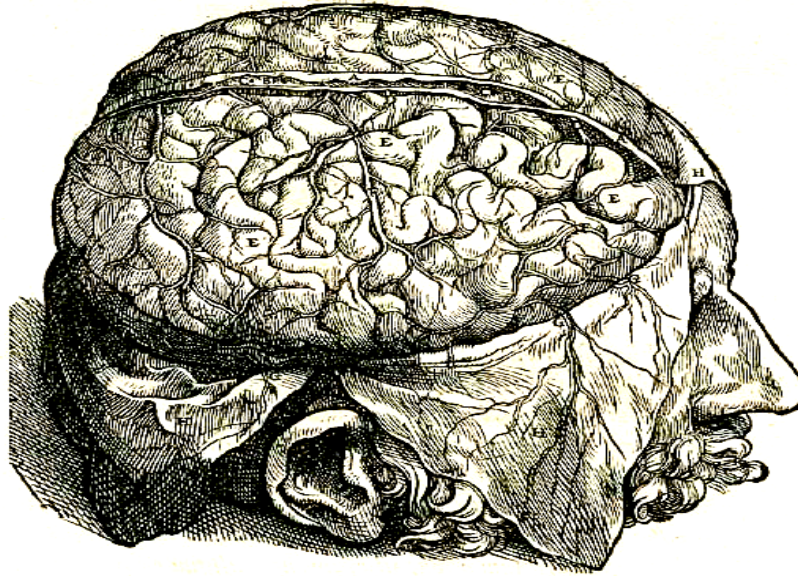


SECUNDA SEPTIMI LIBRI FIGURA.



SECUNDAE FIGURAE, HUIUSDEMQUE CHARACTERUM INDEX.

PRÆSENS figura sectionis serie primam subsequens, tertium duræ membrane sinum (quem prima figura C aliquot insignitum gerit) longa sectione secundum capitis longitudinem ducta ad apertum demonstrat. Insuper ad huius tertij sinus latera, per capitis quoque longitudinem duas deduxi sectiones, utrinque nimirum ad sinum singulas, quæ duram membranam dumtaxat penetrarunt, & duræ membrane latera ab ea membranae separarunt parte, quæ dextram cerebri partem à sinistra dirimit, atque in subsequenti figura tribus D insignietur. Præter tres iam commemoratas sectiones utrinque aliâ quoque molitus sum, quæ ab aure ad verticem pertingens, solam

ARTH 535. Topics in Renaissance/Early Modern Art

'The visual culture of knowledge: early modern art and science'

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

- Pamela H. Smith, 'The artisanal world', from *The body of the artisan: art and experience in the scientific revolution* (2004), pp. 31-55, color plates 1-10, notes 253-261
- Karen Reeds, 'Leonardo da Vinci and botanical illustration: nature prints, drawings, and woodcuts ca 1500', in Jean Givens, Karen Reeds, and Alain Touwaide (eds), *Visualizing medieval medicine and natural history, 1200-1550* (2006), pp. 205-237

Week 3 Sept 19

RENAISSANCE MACHINES

- Jonathan Sawday, '“Forms Such as Never Were in Nature”: the Renaissance Cyborg', from *At the Borders of the Human: Beasts, Bodies, and Natural Philosophy in the Early Modern Period* (1999), pp 171-195
- Paolo Galluzzi, 'Art and Artifice in the Depiction of Renaissance Machines', from Wolfgang Lefevre et al eds., *The Power of Images in Early Modern Science* (2003), pp 47-68

Week 4 Sept 26

FROM HEAVEN TO SKY: THE MIRROR STAGE OF PERSPECTIVE

- Bruno Latour, 'Opening one eye while closing another...a note on some religious paintings', in Gordon Fyfe and John Law (eds), *Picturing power: visual depiction and social relations*, Sociological review monograph 35 (1988), pp. 15-38
- Hubert Damisch, *The origin of perspective* (1994), pp. 74-140

Week 5 Oct 3

INSIDE OUT: VESALIUS AND THE ANATOMICAL IMAGE

- Glenn Harcourt, 'Andreas Vesalius and the anatomy of antique sculpture', *Representations* 17 (Winter 1987), pp. 28-61 (JSTOR)
- Katherine Park, 'The empire of anatomy', from *Secrets of women: gender, generation, and the origins of human dissection* (2006), pp. 207-259, notes pp. 344-357

Week 6 Oct 10

ON BECOMING VOYEUR GODS: MAPPING URBAN SPACE

- Juergen Schulz, 'Jacopo de' Barbari's view of Venice: map making, city views and moralized geography before the year 1500', in *Art Bulletin*, 60:3 (September, 1978), pp. 425-474 (JSTOR)
- Lucia Nuti, 'The perspective plan in the sixteenth century: the invention of a representational language', in *Art Bulletin* 76:1 (March 1994), pp. 105-128 (JSTOR)

Week 7 Oct 17

WONDER, SCIENCE, AND ART IN EARLY MODERN COLLECTIONS

- Thomas Dacosta Kaufmann, 'From mastery of the world to mastery of nature: the *kunstammer*, politics, and science', from *The Mastery of nature: aspects of art, science, and humanism in the Renaissance* (1993), pp. 174-94, notes 293-311
- Dagmar Eichberger, 'Naturalia and artefacta: Durer's nature drawings and early collecting', in Dagmar Eichberger and Charles Zika (eds), *Durer and his culture* (1998), pp. 13-37
- Paula Findlen, 'Pilgrimages of science', in *Possessing nature: museums, collecting, and scientific culture in early modern Italy* (1994), pp. 155-193

Week 8 Oct 24

SCIENCE'S 'OTHER': MAGIC, WITCHCRAFT, AND THE VISUAL ARTS

- Michael Cole, 'The demonic arts and the origins of the medium', *Art Bulletin* 84:4 (December, 2002), pp. 621-640 (JSTOR)
- 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
- Jonathan Crary, 'The camera obscura and its subject', from *Techniques of the observer: on vision and modernity in the nineteenth century* (1990), pp. 25-66

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)
- Nathaniel Wolloch, 'Dead animals and the beast-machine: seventeenth-century Netherlandish paintings of dead animals as anti-Cartesian statements', *Art History* 22:5 (December 1999), pp. 705-727 (SBU library e-journal)

Week 11 Nov 14

SURVEYING NATURE AND MAPPING SPACE IN THE NEW WORLD

- Walter Mignolo, 'Putting the Americas on the map: cartography and the colonization of space', from *The darker side of the Renaissance: literacy, territoriality, and colonization* (1995), pp. 259-313, notes 377-381
- 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)

David Freedberg, 'Science, Commerce, and Art: Neglected Topics at the Junction of History and Art History', in *Art in History. History in Art. Studies in Seventeenth-Century Dutch Culture*, ed. D. Freedberg and J. de Vries, Santa Monica, CA, 1991, pp. 376-428

Alan Gabbey, "Between Ars and Philosophia Naturalis: Reflections on the Historiography of Early Modern Mechnics." *Renaissance and Revolution: Humanists, Scholars, Craftsman, and Natural Philosophers in Early Modern Europe*. Edited by J. V. Field and Frank A.J.L. James. Cambridge; New York: Cambridge University Press, 1993, pp. 133-145.

Martin Kemp, *Seen/unseen: art science and intuition from Leonardo to the Hubble telescope* (Oxford, 2006)

Bruno Latour, "Drawing things together." *Representation in Scientific Practice*. Edited by Michael Lynch and Steve Woolgar. Cambridge, Massachusetts: MIT Press, 1990, pp. 19-68.

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

Wolfgang Lefevre, et al. *The Power of images in early modern science* (Basel, Boston, Berlin, 2003)

Paolo Rossi, *Philosophy, Technology, and the Arts in the Early Modern Era*. Translated by Salvator Attanasio. New York: Harper & Row, 1970.

Giorgio Santillana, 'The Role of Art in the Scientific Renaissance', in *Critical Problems in the History of Science*, ed. Marshall Clagett, Madison, Wisconsin, 1959, pp. 33-65

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

David Summers, *The Judgment of Sense: Renaissance Naturalism and the Rise of Aesthetics*. Cambridge: Cambridge University Press, 1987.

Medieval

William Eamon, *Science and the Secrets of Nature: Books of Secrets in Medieval and Early Modern Culture*. Princeton: Princeton University Press, 1994.

Pamela O. Long, "Power, Patronage, and the Authorship of Ars: From Mechanical Know-how to Mechanical Knowledge in the Last Scribal Age," *Isis* 88 (March 1997): 1-41.

Pamela H. Smith, *The Business of Alchemy: Science and Culture in the Holy Roman Empire*. Princeton: Princeton University Press, 1994.

Optics and perspective

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

Samuel Edgerton, *The Heritage of Giotto's Geometry: Art and Science on the Eve of the Scientific Revolution*. Ithaca: Cornell University Press, 1991.

James Elkins, *The Poetics of Perspective*. Ithaca: Cornell University Press, 1994.

Judith V. Field, *The Invention of Infinity: Mathematics and Arts in the Renaissance*, Oxford 1997 [N 7430.5.F4]

Martin Kemp, *The Science of Art: Optical Themes in Western Art from Brunelleschi to Seurat*. New Haven: Yale University Press, 1990.

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

Eileen A. Reeves, *Painting the Heavens: Art and Science in the Age of Galileo*. Princeton: Princeton University Press, 1997.

Cartography

Jerry Brotton, *Trading Territories: Mapping the Early Modern World*, London 1997 [GA 231.B7]

David Buisseret, *Monarchs, Ministers, and Maps: The Emergence of Cartography as a Tool of Government in Early Modern Europe*. Chicago: University of Chicago Press, 1992.

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

Tom Conley, *The Self-Made Map: Cartographic Writing in Early Modern France*. Minneapolis: University of Minnesota Press, 1996.

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

Richard Kagan and Fernando Marias (eds), *Urban images of the Hispanic world*, New Haven-London 2000

John Pinto, 'Origins and development of the iconographic city plan', in *Journal of the Society of Architectural Historians*, 35 (1976), pp. 35-50

Ronald Rees, 'Historical links between cartography and art', in *Geographical Review*, 70 (1980), pp. 60-78

R.V. Tooley, 'Maps in Italian atlases of the sixteenth century', in *Imago Mundi*, 3 (1970), pp. 12-47

David Turnbull, "Tricksters and Cartographers: Maps, Science and the state in the making of a modern scientific knowledge space." *Masons, Tricksters and Cartographers: Comparative Studies in the Sociology of Scientific and Indigenous Knowledge*. Newark: Gordon & Breach, 2000, pp. 89-130.

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

Anatomy and medicine

Sheila Barker, 'Poussin, plague, and early modern medicine', *Art Bulletin* 86:4 (Dec 2004), 659-689

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

Mary Fissell, "Gender and Generation: Representing Reproduction in Early Modern England," *Gender and History* 7 (1995): 433-56.

Mary Fissell, "Imagining Vermin in Early Modern England," *History Workshop Journal* 47 (1999): 1-29.

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

Martin Kemp, "'The Mark of Truth": Looking and Learning in Some Anatomical Illustrations from the Renaissance and Eighteenth Century', in *Medicine and the Five Senses*, eds. W.F. Bynum and R. Porter, Cambridge 1993, pp. 85-121 [R 131.M3]

Katharine Park, "The Criminal and Sainly Body: Autopsy and Dissection in Renaissance Italy." *Renaissance Quarterly* 47, no. 1 (1994): 1-33.

Jeffery C. Persels and Russell Ganim, eds. *Fecal Matters in Early Modern Literature and Art: Studies in Scatology*. Studies in European Cultural Transition 21. Aldershot and Burlington, VT: Ashgate Publishing Company, 2004

Jonathan Sawday, *The body emblazoned: dissection and the human body in Renaissance culture* (1995)

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

James S. Ackerman, 'Art and Science in the Drawings of Leonardo da Vinci', in *Origin, Imitations, Conventions*, Cambridge (Mass.)-London 2002, ch. 6

William B. Ashworth, 'Marcus Gheeraerts and the Aesopic connection in 17th century scientific illustration', *Art Journal* 44 (1984), 132-8

William B Ashworth, 'Emblematic natural history of the Renaissance', in *Cultures of natural history*, ed Nick Jardine et al, (Cambridge, 1996)

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

Lorraine Daston, "The Nature of Nature in Early Modern Europe," *Configurations* 6 (1998): 149-72.

Diana Donald, *Picturing animals in Britain 1750-1850* (2007)

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)

Karl A.E. Enenkel and Paul J. Smith, *Early Modern Zoology: The Construction of Animals in Science, Literature and the Visual Arts* (2007)

Paula Findlen, "Jokes of Nature and Jokes of Knowledge: The Playfulness of Scientific Discourse in Early Modern Europe," *Renaissance Quarterly* 43 (1990): 292-331.

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

Susan Koslow, *Frans Snyder: the noble estate: seventeenth-century still life and animal painting in the southern Netherlands* (1995)

Sachiko Kusakawa, 'Illustrating nature', in *Books and the sciences in history*, ed Marina Frasca-Spada and Nick Jardine (Cambridge, 2000)

Claudia Lazzaro, 'Animals as Cultural Signs: A Medici Menagerie in the Grotto at Castello', in *Reframing the Renaissance: Visual Culture in Europe and Latin America 1450-1650*, New Haven-London 1995, pp. 197-227

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

Daniela Bleichmar, Paula de Vos et al, *Science in the Spanish and Portuguese Empires, 1500-1800* (2008)

David Buisseret, *The Mapmakers' Quest. Depicting New Worlds in Renaissance Europe*, Oxford 2003

Dennis E. Cosgrove, 'Mapping New Worlds: Culture and Cartography in Sixteenth-Century Venice', in *Imago Mundi*, 44 (1992), pp. 65-89

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

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

David Miller and Peter Harms Reill, "Visions of Empire. Voyages, Botany, and Representations of Nature." Cambridge University Press, 1996.

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

Barbara Stafford, *Voyage into substance*

Collections

Paula Findlen, "Inventing Nature: Commerce, Art, and Science in the Early Modern Cabinet of Curiosities." Pamela H. Smith and Paula Findlen, eds. *Merchants and Marvels: Commerce, Science, and Art in Early Modern Europe* (New York: Routledge, 2002).

Martin Kemp, "'Wrought by No Artist's Hand': The Natural, the Artificial, the Exotic, and the Scientific in Some Artifacts from the Renaissance." *Reframing the Renaissance: Visual Culture in Europe and Latin America, 1450-1650*. Edited by Claire Farago. New Haven: Yale University Press, 1995, pp. 177-196.

Cristina Acidini Luchinat, "The Treasures of the Medici: From Objects of Wonder to the Organization of Knowledge." In *Treasures of Florence: The Medici Collection 1400 – 1700*. Munich, New York: Prestel, 1997. 9-26.

David Summers, "Pandora's Crown: On Wonder, Imitation and Mechanism in Western Art." *Wonders, Marvels and Monsters in Early Modern Culture*. Edited by Peter G. Platt. Newark: University of Delaware Press, 1999, pp. 45-75.

Enlightenment

Bernadette Bensaude-Vincent (ed), *Science and spectacle in the European Enlightenment* (2008)

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

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

William R Shea, ed, *Science and the visual image in the Enlightenment* (2000).

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)