

HIPS 29508 – Bibliography

Week 2: Aristotle and his followers

- Aristotle. *Aristotle's Physics: A Guided Study*. Ed. J. Sachs. New Brunswick: Rutgers University Press, 1995.
- Bacon, F. 1612. *Description of the Intellectual Globe*. G. Rees (ed.), *Philosophical Studies, c.1611-c.1619*, pp. 95-169. Oxford: Oxford University Press, 1996.
- Broadie, S. 1990. "Nature and Craft in Aristotelian Teleology." *Aristotle and Beyond: Essays on Metaphysics and Ethics*, pp. 85-100. Cambridge: Cambridge University Press, 2007.
- Daston, L. 2002. "I. The Morality of Natural Orders; II. Nature's Customs vs. Nature's Laws." *Tanner Lectures on Human Values*. Online: <<http://www.tannerlectures.utah.edu>>.
- Geber [Paul of Taranto]. *Summa perfectionis*. Translated in Newman, 1991.
- Newman, W.R. 1986. *The Summa Perfectionis and Late Medieval Alchemy: A Study of Chemical Traditions, Techniques, and Theories in Thirteenth Century Italy*. PhD diss., Harvard University.
- . 1989. "Technology and Alchemical Debate in the Late Middle Ages." *Isis* 80: 423-445.
- (ed.). 1991. *The Summa Perfectionis of Pseudo-Geber: A Critical Edition, Translation and Study*. Leiden: E.J. Brill. [Avicenna and Hermes excerpts]
- . 2004. *Promethean Ambitions: Alchemy and the Quest to Perfect Nature*. Chicago: University of Chicago Press.
- Paul of Taranto. *Theorica et practica*. Translated in Newman, 1986.
- Staden, Heinrich von. 2007. "Physis and Technē in Greek Medicine." B. Bensaude-Vincent and W.R. Newman (eds.), *The Artificial and the Natural: An Evolving Polarity*, pp. 21-49. Cambridge: MIT Press.

Week 3: God as engineer, nature as machine

- Boyle, R. "Of the Atomicall Philosophy." M. Hunter and E.B. Davis (eds.), *The Works of Robert Boyle*, vol. 13, pp. 227-235. London: Pickering & Chatto, 2000.
- . 1663. "Essay IV. Containing a Requisite Digression Concerning those that would Exclude the Deity from Intermedling with Matter." *Some Considerations Touching the Usefulness*

of Experimental Naturall Philosophy, Propos'd in Familiar Discourses to a Friend, by way of Invitation to the Study of it, pp. 65-90. Oxford: H. Hall.

- . 1674. "About the Excellency and Grounds of the Mechanical Hypothesis, Some Considerations, Occasionally Propos'd to a Friend." Appended to *The Excellency of Theology, Compar'd with Natural Philosophy (as both are Objects of Men's Study), Discours'd of in a Letter to a Friend*. London: H. Herringman.
- . 1686. *A Free Enquiry into the Vulgarly Receiv'd Notion of Nature; Made in an Essay, Address'd to a Friend*. London: H. Clark.
- Cohen, L.D. "Descartes and Henry More on the Beast-Machine – A Translation of their Correspondence Pertaining to Animal Automatism." *Annals of Science* 1 (1936): 48-61.
- Descartes, R. 1637. *Discourse on the Method*. J. Cottingham, R. Stoothoff, and D. Murdoch (eds.), *The Philosophical Writings of Descartes*, vol. 1, pp. 111-151. Cambridge: Cambridge University Press, 1985.
- . 1644. *Principles of Philosophy* [excerpts]. J. Cottingham, R. Stoothoff, and D. Murdoch (eds.), *The Philosophical Writings of Descartes*, vol. 1, pp. 177-292. Cambridge: Cambridge University Press, 1985.
- Des Chene, D. 2001. *Spirits and Clocks: Machine and Organism in Descartes*. Ithaca: Cornell University Press.
- . "Life After Descartes: Régis on Generation." *Perspectives on Science* 11 (2003): 410-420.
- . "Mechanisms of Life in the Seventeenth Century: Borelli, Perrault, Régis." *Studies in History and Philosophy of Biological and Biomedical Sciences* 36 (2005): 245-260.
- . "Forms of Art in Jesuit Aristotelianism (with a Coda on Descartes)." B. Bensaude-Vincent and W.R. Newman (eds.), *The Artificial and the Natural: An Evolving Polarity*, pp. 135-147. Cambridge: MIT Press.
- Gabbey, A. 1990. "Henry More and the Limits of Mechanism." S. Hutton (ed.), *Henry More (1614-1687)*, pp. 19-35. Dordrecht: Kluwer.
- Garber, D. 1998. "Soul and Mind: Life and Thought in the Seventeenth Century." *The Cambridge History of Seventeenth Century Philosophy*, ed. D. Garber and M. Ayers, vol. 1, pp. 759-795. Cambridge: Cambridge University Press.

- Garber, D., J. Henry, L. Joy, and A. Gabbey. 1998. "New Doctrines of Body and its Powers, Place, and Space." *The Cambridge History of Seventeenth Century Philosophy*, ed. D. Garber and M. Ayers, vol. 1, pp. 553-623. Cambridge: Cambridge University Press.
- Grene, M. 1993. "The Heart and Blood: Descartes, Plemp, and Harvey." S. Voss (ed.), *Essays on the Philosophy and Science of René Descartes*, pp. 324-336.
- Hobbes, T. 1651. *Leviathan, or the Matter, Forme, & Power of a Common-wealth, Ecclesiasticall and Civill*. London: A. Crooke.
- Leibniz, G.W. 1695. "A New System of the Nature and Communication of Substances, and of the Union of the Soul and the Body." R. Ariew and D. Garber (eds.), *Philosophical Essays*, pp. 138-144. Indianapolis: Hackett, 1989.
- . 1714. "Principles of Nature and Grace, Based on Reason." R. Ariew and D. Garber (eds.), *Philosophical Essays*, pp. 206-212. Indianapolis: Hackett, 1989.
- Manning, G. 2006. *Descartes' Philosophy of Biology*. PhD diss., University of Chicago.
- Osler, M.J. 1992. "The Intellectual Sources of Robert Boyle's Philosophy of Nature: Gassendi's Voluntarism and Boyle's Physico-Theological Project." R. Kroll, R. Ashcraft, and P. Zagorin (eds.), *Philosophy, Science, and Religion in England, 1640-1700*, pp. 178-198. Cambridge: Cambridge University Press.
- Smith, J.E.H. (ed.). 2006. *The Problem of Animal Generation in Early Modern Philosophy*. Cambridge: Cambridge University Press.

Week 4: Kant and the *Technik* of nature

- Browne, T. *Religio Medici*. London: A. Crooke, 1642.
- Daston, L. "How Nature Became the Other: Anthropomorphism and Anthropocentrism in Early Modern Natural Philosophy." S. Maasen, E. Mendelsohn, and P. Weingart (eds.), *Biology as Society, Society as Biology: Metaphors*, pp. 37-56. Dordrecht: Kluwer.
- . 1998. "Nature by Design." C.A. Jones and P. Galison (eds.), *Picturing Science, Producing Art*, pp. 232-253. New York: Routledge.
- Huneman, P. (ed.). 2007. *Understanding Purpose: Kant and the Philosophy of Biology*. Rochester: University of Rochester Press.
- Kant, I. 1781. "Appendix to the Transcendental Dialectic." P. Guyer and A.W. Wood (eds.), *Critique of Pure Reason*, pp. 590-604. Cambridge: Cambridge University Press, 1998.

Kant, I. 1788. "On the Use of Teleological Principles in Philosophy." G. Zöllner and Loudon, R.B. (eds.), *Anthropology, History, and Education*, pp. 192-218. Cambridge: Cambridge University Press, 2007.

Kant, I. 1790. *Critique of the Power of Judgment*. Translated by P. Guyer and E. Matthews. Cambridge: Cambridge University Press, 2000.

Steigerwald, J. (ed.). 2006. Special Issue: "Kantian Teleology and the Biological Sciences." *Studies in History and Philosophy of Science, Part C*. Volume 37, Issue 4.

Week 5: Romantic nature and art

Beiser, F.C. 2002. *German Idealism: The Struggle Against Subjectivism, 1781-1801*. Cambridge: Harvard University Press.

--. 2005. *Schiller as Philosopher: A Re-Examination*. Oxford: Oxford University Press.

Richards, R.J. 2002. *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe*. Chicago: University of Chicago Press.

Schelling, F.W.J. 1799. "Introduction to the Outline of a System of the Philosophy of Nature, or, On the Concept of Speculative Physics and the Internal Organization of a System of this Science." *First Outline of a System of the Philosophy of Nature*, ed. K. Peterson, pp. 193-232. Albany: State University of New York Press, 2004.

---. 1800. *System of Transcendental Idealism*. Translated by P. Heath. Charlottesville: University Press of Virginia, 1978.

Schiller, F. 1795. *On the Aesthetic Education of Man, in a Series of Letters*. Translated by E.M. Wilkinson and L.A. Willoughby. Oxford: Oxford University Press, 1983.

---. 1795. "On the Naïve." *Essays*, ed. W. Hinderer and D.O. Dahlstrom, pp. 179-200. New York: Continuum, 1992.

Week 6: Chemistry and organic synthesis

Bensaude-Vincent B. et al. 2002. "Chemists and the School of Nature." *New Journal of Chemistry* 26: 1-5.

Berthelot, M. 1860. *Chimie organique fondée sur la synthèse*. Paris: Maller-Bachelier.

---. 1864. *Leçons sur les méthodes générales de synthèse en chimie organique*. Paris: Gauthier-Villars.

- . 1876. *La synthèse chimique*. Paris: G. Baillière.
- Berzelius, J.J. 1831. *Traité de chimie*. Vol. 5. Paris: F. Didot.
- . 1849. *Traité de chimie minérale, végétale et animale*. Vol. 5. Paris: F. Didot.
- Brooke, J.H. 1995. *Thinking about Matter: Studies in the History of Chemical Philosophy*. Brookfield: Variorum.
- . "Overtaking Nature? The Changing Scope of Organic Chemistry in the Nineteenth Century." B. Bensaude-Vincent and W.R. Newman (eds.), *The Artificial and the Natural: An Evolving Polarity*, pp. 275-292. Cambridge: MIT Press.
- Cudworth, R. 1678. *The True Intellectual System of the Universe: The First Part; wherein, all the Reason and Philosophy of Atheism is Confuted; and its Impossibility Demonstrated*. London: R. Royston.
- Dumas, J.-B. and J. Liebig. 1837. "Note sur l'état actuel de la Chimie organique." *Compte rendus des séances de l'Académie des sciences* 5: 567-572.
- Newman, W.R. 2004. *Promethean Ambitions: Alchemy and the Quest to Perfect Nature*. Chicago: University of Chicago Press.
- Rocke, A.J. *The Quiet Revolution: Hermann Kolbe and the Science of Organic Chemistry*. Berkeley: University of California Press, 1993.
- . *Nationalizing Science: Adolphe Wurtz and the Battle for French Chemistry*. Cambridge: MIT Press, 2001.
- Russell, C.A. "The Changing Role of Synthesis in Organic Chemistry." *Ambix* 34 (1987): 169-180.
- Sennert, D. 1662. *Chymistry made Easie and Useful. Or, the Agreement and Disagreement of the Chymists and Galenists*. London: P. Cole.
- Yeh, B.J. and W.A. Lim. 2007. "Synthetic Biology: Lessons from the History of Synthetic Organic Chemistry." *Nature Chemical Biology* 3: 521-525.

Week 7: Evolution and complex systems

- Dennett, D.C. 1995. *Darwin's Dangerous Idea: Evolution and the Meanings of Life*. New York: Simon & Schuster.
- Jacob, F. 1977. "Evolution and Tinkering." *Science* 196: 1161-1166.

- Lauder, G.V. 1996. "The Argument from Design." M.R. Rose and G.V. Lauder (eds.), *Adaptation*, pp. 55-92. San Diego: Academic Press.
- Lewens, T. 2002. "Adaptationism and Engineering." *Biology and Philosophy* 17: 1-31.
- Lewontin, R.C. 1977. "Adaptation." R. Levins and R.C. Lewontin, *The Dialectical Biologist*, pp. 65-84. Cambridge: Harvard University Press.
- Manne, L. and S.L. Pimm. 1996. "Ecology: Engineered Food Webs." *Current Biology* 6: 29-31.
- Simon, H. 1962. "The Architecture of Complexity." *Proceedings of the American Philosophical Society* 106: 467-482.
- Wimsatt, W.C. 1972. "Complexity and Organization." *PSA 1972*: 67-86.
- . 2007. *Re-Engineering Philosophy for Limited Beings: Piecewise Approximations to Reality*. Cambridge: Harvard University Press.

Week 8: Functions

- Allen, C., M. Bekoff, and G. Lauder (eds.). 1998. *Nature's Purposes: Analyses of Function and Design in Biology*. Cambridge: MIT Press.
- Ariew, A., R. Cummins, and M. Perlman (eds.). 2002. *Functions: New Essays in the Philosophy of Psychology and Biology*. Oxford: Oxford University Press.
- Cummins, R. 1975. "Functional Analysis." *Journal of Philosophy* 72: 741-765.
- Lewens, T. 2004. *Organisms and Artifacts: Design in Nature and Elsewhere*. Cambridge: MIT Press.
- McLaughlin, P. 2001. *What Functions Explain: Functional Explanation and Self-Reproducing Systems*. Cambridge: Cambridge University Press.
- Wimsatt, W.C. 1972. "Teleology and the Logical Structure of Function Statements." *Studies in History and Philosophy of Science* 3: 1-80.
- Wright, L. 1973. "Functions." *Philosophical Review* 82: 139-168.

Week 9: Comparative biomechanics

- Lauder, G.V. 1996. "The Argument from Design." M.R. Rose and G.V. Lauder (eds.), *Adaptation*, pp. 55-92. San Diego: Academic Press.

- Wainwright, S.A. et al. 1982. *Mechanical Design in Organisms*. Princeton: Princeton University Press.
- Vogel, S. 1998. *Cats' Paws and Catapults: Mechanical Worlds of Nature and People*. New York: Norton.
- . 2003. *Comparative Biomechanics: Life's Physical World*. Princeton: Princeton University Press.

Week 10: Biomimicry

- Bensaude-Vincent, B. 2007. "Reconfiguring Nature through Synthesis: From Plastics to Biomimetics." B. Bensaude-Vincent and W.R. Newman (eds.), *The Artificial and the Natural: An Evolving Polarity*, pp. 293-312. Cambridge: MIT Press.
- Bensaude-Vincent, B. et al. 2001. "Introduction: des chimistes à l'école du vivant." *Biomimétisme et matériaux*, pp. 33-43. Paris: OFTA.
- Bensaude-Vincent B. et al. 2002. "Chemists and the School of Nature." *New Journal of Chemistry* 26: 1-5.
- Ortiz, C. and M.C. Boyce. 2008. "Bioinspired Structural Materials." *Science* 319: 1053-1054.
- Sanchez, C. et al. 2005. "Biomimeticism and Bioinspiration as Tools for the Design of Innovative Materials and Systems." *Nature Materials* 4: 277-288.
- Sarikaya, M. 1999. "Biomimetics: Materials Fabrication through Biology." *Proceedings of the National Academy of Sciences of the United States of America* 96: 14183-14185.
- Vincent, J.F.V and D.L. Mann. 2002. "Systematic Technology Transfer from Biology to Engineering." *Philosophical Transactions: Mathematical, Physical and Engineering Sciences* 360: 159-173.
- Yeh, B.J. and W.A. Lim. 2007. "Synthetic Biology: Lessons from the History of Synthetic Organic Chemistry." *Nature Chemical Biology* 3: 521-525.