

SOCM016

Cultures of the Life Sciences

View Online



[1]

'Sociology - LibGuides at University of Exeter'. [Online]. Available:
<http://libguides.exeter.ac.uk/SociologyHomePage>

[2]

S. Gibbon, B. Prainsack, S. Hilgartner, and J. Lamoreaux, Routledge Handbook of Genomics, Health and Society. London: Routledge, 2018 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991006732859707446&context=L&vid=44UOEX_INST:default

[3]

P. Atkinson, P. Glasner, and M. Lock, Handbook of Genetics and Society: Mapping the New Genomic Era. London: Routledge, 2009 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991006732889707446&context=L&vid=44UOEX_INST:default

[4]

B. Barnes and J.
Dupre

, Genomes and What to Make of Them. Chicago: University of Chicago Press, 2008
[Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991006732929707446&context=L&vid=44UOEX_INST:default

[5]

S. Franklin, *Dolly Mixtures: The Remaking of Genealogy*. Durham: Duke University Press, 2007 [Online]. Available:
<http://lib.myilibrary.com/browse/open.asp?id=302312&entityid=https://elibrary.exeter.ac.uk/idp/shibboleth>

[6]

D. Haraway, *Modest_Witness@Second_Millennium.FemaleMan_Meets_OncoMouse: Feminism and Technoscience*. London: Routledge, 1997 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991006774389707446&context=L&vid=44UOEX_INST:default

[7]

S. Hinchliffe and K. Woodward, *The Natural and the Social: Uncertainty, Risk, and Change*, Second edition. London: Routledge, 2015 [Online]. Available:
<http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9781136891526>

[8]

B. Latour, *The Pasteurization of France*. Cambridge, Mass: Harvard University Press, 1988.

[9]

M. Meloni, J. Cromby, D. Fitzgerald, and S. L. Lloyd, *The Palgrave Handbook of Biology and Society*. London: Palgrave Macmillan, 2018 [Online]. Available:
<http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9781137528797>

[10]

S. Parry and J. Dupre, Eds., *Nature After the Genome*, vol. Sociological review monograph. Malden, MA: Wiley-Blackwell/The Sociological Review, 2010.

[11]

P. Rabinow, *French DNA: Trouble in Purgatory*. Chicago: University of Chicago Press, 2017 [Online]. Available:

https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991006733039707446&context=L&vid=44UOEX_INST:default

[12]

K. Sunder Rajan, *Biocapital: The Constitution of Postgenomic Life*. Durham, NC: Duke University Press, 2006 [Online]. Available:
<http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9780822388005>

[13]

K. Sunder Rajan, *Pharmocracy: Value, Politics, and Knowledge in Global Biomedicine*. Durham, NC: Duke University Press, 2017 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991004748079707446&context=L&vid=44UOEX_INST:default

[14]

N. Rose, *The Politics of Life Itself: Biomedicine, Power, and Subjectivity in the Twenty-First Century*. Princeton: Princeton University Press, 2006 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991015010859707446&context=L&vid=44UOEX_INST:default

[15]

S. S. Richardson and H. Stevens, *Postgenomics: Perspectives on Biology after the Genome*. Durham, NC: Duke University Press, 2015 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991004748129707446&context=L&vid=44UOEX_INST:default

[16]

M. Bedau and C. E. Cleland, *The Nature of Life: Classical and Contemporary Perspectives from Philosophy and Science*. Cambridge University Press, 2010 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991000759149707446&context=L&vid=44UOEX_INST:default

[17]

J.
Dupre

, Processes of Life: Essays in the Philosophy of Biology. Oxford: Oxford University Press, 2012 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991001532729707446&context=L&vid=44UOEX_INST:default

[18]

M. Grene and D. Depew, The Philosophy of Biology: An Episodic History. Cambridge: Cambridge University Press, 2004 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991003202279707446&context=L&vid=44UOEX_INST:default

[19]

D. L. Hull, Philosophy of Biological Science, vol. Prentice-Hall foundations of philosophy series. Englewood Cliffs: Prentice-Hall, 1974.

[20]

D. L. Hull and M. Ruse, The Cambridge Companion to the Philosophy of Biology, vol. Cambridge Companions to Philosophy. Cambridge: Cambridge University Press, 2007 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991015275109707446&context=L&vid=44UOEX_INST:default

[21]

M. Matthen and C. Stephens, Philosophy of Biology, vol. Handbooks of the philosophy of science. Amsterdam: Elsevier, 2007 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991006733139707446&context=L&vid=44UOEX_INST:default

[22]

E. Mayr, Toward a New Philosophy of Biology: Observations of an Evolutionist. Cambridge, Mass: Belknap Press of Harvard University Press, 1988.

[23]

M. O'Malley, *Philosophy of Microbiology*. Cambridge University Press, 2014 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.cambridge.org/core/books/philosophy-of-microbiology/66F30F77991E16732EA7ED6E51314BBE>

[24]

M. Ruse, *The Oxford Handbook of Philosophy of Biology*. Oxford: Oxford University Press, 2008 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991000518369707446&context=L&vid=44UOEX_INST:default

[25]

S. Sarkar and A. Plutynski, *A Companion to the Philosophy of Biology*, vol. Blackwell companions to philosophy. Malden, MA: Blackwell Pub, 2008 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991000545569707446&context=L&vid=44UOEX_INST:default

[26]

E. Sober, *Philosophy of Biology*, 2nd ed., vol. Dimensions of philosophy series. Boulder, CO: Westview Press, 2018 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991006733169707446&context=L&vid=44UOEX_INST:default

[27]

K. F. Schaffner, *Discovery and Explanation in Biology and Medicine*, vol. Science and its conceptual foundations. Chicago: University of Chicago Press, 1993.

[28]

K. Sterelny and P. E. Griffiths, *Sex and Death: An Introduction to Philosophy of Biology*, vol. Science and its conceptual foundations. Chicago, Ill: University of Chicago Press, 1999.

[29]

W. C. Wimsatt, *Re-Engineering Philosophy for Limited Beings*. Cambridge, Mass: Harvard

University Press, 2007.

[30]

G. E. Allen, *Life Science in the Twentieth Century*, vol. *Cambridge history of science*. Cambridge: Cambridge University Press, 1979.

[31]

P. J. Bowler, *Evolution: The History of an Idea*, 3rd ed., Completely rev. and Expanded. Berkeley, Calif: University of California Press, 2003 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991015772629707446&context=L&vid=44UOEX_INST:default

[32]

W. Coleman, *Biology in the Nineteenth Century: Problems of Form, Function and Transformation*, vol. *History of science*. Cambridge [etc.]: Cambridge University Press, 1977.

[33]

M. Dietrich, M. Borrello, and O. Harman, *Handbook of the Historiography of Biology*, vol. *Historiography of Science, Volume 1*. Cham: Springer, 2019 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991007660869707446&context=L&vid=44UOEX_INST:default

[34]

L. Fleck, T. J. Trenn, and R. K. Merton, *Genesis and Development of a Scientific Fact*. Chicago: University of Chicago Press, 1981.

[35]

H. F. Judson, *The Eighth Day of Creation: Makers of the Revolution in Biology*, Expanded ed. Plainview, N.Y.: CSHL Press, 1996.

[36]

M. D. Laubichler and J. Maienschein, *From Embryology to Evo-Devo: A History of Developmental Evolution*. Cambridge, Mass: MIT Press, 2007 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991000543609707446&context=L&vid=44UOEX_INST:default

[37]

S.
Mu

Iler-Wille and H.-J. Rheinberger, *A Cultural History of Heredity*. Chicago, Il: University of Chicago Press, 2012 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991001382559707446&context=L&vid=44UOEX_INST:default

[38]

M. Morange, *A History of Molecular Biology*. Cambridge, Mass: Harvard University Press, 1998.

[39]

E. Mayr, *The Growth of Biological Thought: Diversity, Evolution and Inheritance*. Cambridge, Mass: Belknap Press of Harvard University Press, 1982.

[40]

H.-J. Rheinberger, *An Epistemology of the Concrete: Twentieth-Century Histories of Life*, vol. *Experimental futures : technological lives, scientific arts, anthropological voices*. Durham, NC: Duke University Press, 2010 [Online]. Available: <http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9780822391333>

[41]

J. Sapp, *Genesis: The Evolution of Biology*. Oxford: Oxford University Press, 2003 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780195156195.001.0001/acprof-9780195156195>

[42]

'Biological Theory' [Online]. Available:

https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991015573219707446&context=L&vid=44UOEX_INST:default

[43]

'Biology and Philosophy' [Online]. Available:

https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991013241519707446&context=L&vid=44UOEX_INST:default

[44]

'BioSocieties' [Online]. Available:

https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991002493739707446&context=L&vid=44UOEX_INST:default

[45]

'History and Philosophy of the Life Sciences' [Online]. Available:

https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991002916619707446&context=L&vid=44UOEX_INST:default

[46]

'New Genetics and Society' [Online]. Available:

<https://uoelibrary.idm.oclc.org/login?url=http://www.tandfonline.com/openurl?genre=journal&stitle=cngs20>

[47]

'Journal of the History of Biology' [Online]. Available:

https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991015050169707446&context=L&vid=44UOEX_INST:default

[48]

'Studies in History and Philosophy of Sciences Part C' [Online]. Available:

<https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma99101561262970>

7446&context=L&vid=44UOEX_INST:default

[49]

'Theoretical Medicine and Bioethics' [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991015632229707446&context=L&vid=44UOEX_INST:default

[50]

J. B. S. Haldane, *Daedalus: Or Science and the Future* (A paper read to the Heretics, Cambridge, on February 4th, 1923), 6th impression. London: Kegan Paul, Trench, Trubner & co, ltd, 1925 [Online]. Available:
<https://www.marxists.org/archive/haldane/works/1920s/daedalus.htm>

[51]

M. Polanyi, "'Life's Irreducible Structure'", *Science*, vol. 160, no. 3834, pp. 1308–1312, 1968 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.1724152&site=eds-live&scope=site>

[52]

F. Jacob, 'Evolution and tinkering', *Science*, vol. 196, no. 4295, pp. 1161–1166, 1977 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/1744610>

[53]

J. Beatty, 'Why do Biologists Argue Like They do?', *Philosophy of Science*, vol. 64, pp. S432–S443, 1997 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/188423>

[54]

R. N. Brandon, "'Does Biology Have Laws? The Experimental Evidence'", *Philosophy of Science*, vol. 64, pp. S444–S457, 1997 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.188424&site=eds-live&scope=site>

[55]

E. Sober, "'Two Outbreaks of Lawlessness in Recent Philosophy of Biology'", *Philosophy of Science*, vol. 64, pp. S458–S467, 1997 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.188425&site=eds-live&scope=site>

[56]

S. D. Mitchell, "'Pragmatic Laws'", *Philosophy of Science*, vol. 64, pp. S468–S479, 1997 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.188426&site=eds-live&scope=site>

[57]

J. Garson, 'Chapter 28 - "Function and Teleology"', in *A Companion to the Philosophy of Biology*, vol. Blackwell companions to philosophy, Malden, MA: Blackwell Pub, 2008, pp. 525–549 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991000545569707446&context=L&vid=44UOEX_INST:default

[58]

A. Rosenberg, 'Chapter 7 - "Reductionism (and Antireductionism) in Biology"', in *The Cambridge Companion to the Philosophy of Biology*, 2007, pp. 120–138 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991015275109707446&context=L&vid=44UOEX_INST:default

[59]

J. Beatty, "'What's Wrong with the Received View of Evolutionary Theory?'"', *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association*, vol. 1980, pp. 397–426, 1980 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.192601&site=eds-live&scope=site>

[60]

J. Beatty, "'Why do Biologists Argue Like They do?'"', *Philosophy of Science*, vol. 64, pp.

S432-S443, 1997 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.188423&site=eds-live&scope=site>

[61]

I. Brigandt and A. Love, "'Reductionism in Biology'", The Stanford Encyclopedia of Philosophy, 2017 [Online]. Available: <https://plato.stanford.edu/entries/reduction-biology/>

[62]

E. Cassirer, *The Problem of Knowledge: Philosophy, Science and History Since Hegel*. New Haven: Yale University Press, 1950.

[63]

C. F. Craver, "'Beyond Reduction: Mechanisms, Multi-Field Integration and the Unity of Neuroscience'", *Studies in History and Philosophy of Science Part C*, vol. 36, no. 2, pp. 373-395, 2005 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S1369848605000245>

[64]

M. T. Ghiselin, "'Individuality, History and Laws of Nature in Biology'", in *What the Philosophy of Biology Is: Essays Dedicated to David Hull*, Springer Netherlands, 1989, pp. 53-66 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991006733279707446&context=L&vid=44UOEX_INST:default

[65]

A. Gotthelf and J. G. Lennox, *Philosophical Issues in Aristotle's Biology*. Cambridge University Press, 1987 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991003680109707446&context=L&vid=44UOEX_INST:default

[66]

S. Helmreich, "'What was Life? Answers from Three Limit Biologies'", *Critical Inquiry*, vol. 37, no. 4, pp. 671–696, 2011 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.10.1086.660987&site=eds-live&scope=site>

[67]

I. Kant, 'Part 2 - "Critique of the Teleological Judgement"', in *Critique of Judgement*, J. H. Bernard, Ed. Mineola, NY: Dover Publications, 2005 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991000853589707446&context=L&vid=44UOEX_INST:default

[68]

P. Machamer, L. Darden, and C. F. Craver, "'Thinking About Mechanisms'", *Philosophy of Science*, vol. 67, no. 1, pp. 1–25, 2000 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.188611&site=eds-live&scope=site>

[69]

E. Mayr, *This is Biology: The Science of the Living World*. Cambridge, Mass: Belknap Press of Harvard University Press, 1997.

[70]

P. McLaughlin, *What Functions Explain: Functional Explanation and Self-Reproducing Systems*. Cambridge: Cambridge University Press, 2001 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991003402069707446&context=L&vid=44UOEX_INST:default

[71]

D. J. Nicholson, 'The Concept of Mechanism in Biology', *Studies in History and Philosophy of Biological and Biomedical Sciences*, vol. 43, no. 1, pp. 152–163, 2012 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S1369848611000501>

[72]

D. J. Nicholson and R. Gawne, "'Rethinking Woodger's Legacy in the Philosophy of Biology'", *Journal of the History of Biology*, vol. 47, no. 2, pp. 243–292, 2014 [Online].

Available:

<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.43863377&site=eds-live&scope=site>

[73]

S. Normandin and C. T. Wolfe, *Vitalism and the Scientific Image in Post-Enlightenment Life Science, 1800-2010*, vol. History, philosophy and theory of the life sciences. Dordrecht: Springer, 2013 [Online]. Available:

https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991003823049707446&context=L&vid=44UOEX_INST:default

[74]

A. Rosenberg, *The Structure of Biological Science*. Cambridge: Cambridge University Press, 1985 [Online]. Available:

https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991003523509707446&context=L&vid=44UOEX_INST:default

[75]

K. F. Schaffner, "'Reduction: The Cheshire Cat Problem and a Return to Roots'", *Synthese*, vol. 151, no. 3, pp. 377–402, 2006 [Online]. Available:

<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.20118816&site=eds-live&scope=site>

[76]

R. A. Skipper and R. L. Millstein, 'Thinking About Evolutionary Mechanisms: Natural Selection', *Studies in History and Philosophy of Biological and Biomedical Sciences*, vol. 36, no. 2, pp. 327–347, 2005 [Online]. Available:

<https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S1369848605000221>

[77]

K. Stotz, 'Biohumanities: Rethinking the Relationship Between Biosciences, Philosophy and History of Science and Society', *The Quarterly Review of Biology*, vol. 83, no. 1, pp. 37–45, 2008 [Online]. Available:

<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=tr>

ue&db=edsjsr&AN=edsjsr.10.1086.529561&site=eds-live&scope=site

[78]

E. O. Wilson, *Consilience: The Unity of Knowledge*. London: Abacus, 1999.

[79]

C. R. Woese, "'A New Biology for a New Century'", *Microbiology and Molecular Biology Reviews*, vol. 68, no. 2, pp. 173–186, 2004 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsbl&AN=RN151397139&site=eds-live&scope=site>

[80]

R. A. Richards, 'Chapter 7: Species and taxonomy', in *The Oxford Handbook of Philosophy of Biology*, New York: Oxford University Press, 2008, pp. 161–188 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780195182057.001.0001/oxfordhb-9780195182057-e-008>

[81]

E. Mayr, "'The Ontological Status of Species: Scientific Progress and Philosophical Terminology'", *Biology and Philosophy*, vol. 2, no. 2, pp. 145–166, 1987 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=phl&AN=PHL1149260&site=eds-live&scope=site>

[82]

J. Dupré, "'In Defence of Classification'", *Studies in History and Philosophy of Biological and Biomedical Sciences*, vol. 32, no. 2, pp. 203–219, 2001 [Online]. Available: https://encore.exeter.ac.uk/iii/encore/record/C__Rx1029723

[83]

M. Ereshefsky, 'Chapter 6 - "Systematics and Taxonomy"', in *A Companion to the Philosophy of Biology*, vol. Blackwell companions to philosophy, Malden, MA: Blackwell Pub, 2008, pp. 99–118 [Online]. Available: <https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma99100054556970>

7446&context=L&vid=44UOEX_INST:default

[84]

P. R. Sloan, "'Buffon, German Biology and the Historical Interpretation of Biological Species'", *The British Journal for the History of Science*, vol. 12, no. 2, pp. 109–153, 1979 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.4025750&site=eds-live&scope=site>

[85]

K. de Queiroz, "'Species Concepts and Species Delimitation'", *Systematic Biology*, vol. 56, no. 6, pp. 879–886, 2007 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.20143099&site=eds-live&scope=site>

[86]

R. A. Richards, *The Species Problem: A Philosophical Analysis*. Cambridge: Cambridge University Press, 2010 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991003375489707446&context=L&vid=44UOEX_INST:default

[87]

B. Berlin, *Ethnobiological Classification: Principles of Categorization of Plants and Animals in Traditional Societies*. Princeton University Press, 1992 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991006191509707446&context=L&vid=44UOEX_INST:default

[88]

N. Cartwright, 'Introduction', in *The Dappled World: A Study of the Boundaries of Science*, Cambridge: Cambridge University Press, 1999, pp. 1–20 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991003554729707446&context=L&vid=44UOEX_INST:default

[89]

C. M. Cotton, *Ethnobotany: Principles and Applications*. Chichester: Wiley, 1996.

[90]

M. Douglas and D. L. Hull, *How Classification Works: Nelson Goodman Among the Social Sciences*. Edinburgh: Edinburgh U.P., 1992.

[91]

J.
Dupre

, *The Disorder of Things: Metaphysical Foundations of the Disunity of Science*. Cambridge, Mass: Harvard University Press, 1993.

[92]

J.
Dupre

, *Humans and Other Animals*. Oxford: Clarendon, 2002.

[93]

É. Durkheim and M. Mauss, *Primitive Classification*. London: Routledge, 2010 [Online]. Available:

<https://uoelibrary.idm.oclc.org/login?url=http://www.taylorfrancis.com/books/9780203092828>

[94]

M. T. Ghiselin, "'Species Concepts, Individuality and Objectivity'", *Biology and Philosophy*, vol. 2, no. 2, pp. 127-143, 1987 [Online]. Available:

<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=phl&AN=PHL1149259&site=eds-live&scope=site>

[95]

D. L. Hull, *Science as a Process: An Evolutionary Account of the Social and Conceptual Development of Science*, vol. *Science and its conceptual foundations*. Chicago: University

of Chicago Press, 1988 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991006733439707446&context=L&vid=44UOEX_INST:default

[96]

S. H. Kellert, H. E. Longino, and K. C. Waters, *Scientific Pluralism*, vol. *Minnesota studies in the philosophy of science*. Minneapolis, MN: University of Minnesota Press, 2006 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991005786569707446&context=L&vid=44UOEX_INST:default

[97]

S. Leonelli, "'Classificatory Theory in Biology'", *Biological Theory*, vol. 7, no. 4, pp. 338–345, 2013 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://link.springer.com/article/10.1007/s13752-012-0049-z>

[98]

H. E. Longino, 'Chapter 12 - "Towards an Epistemology for Biological Pluralism"', in *Biology and Epistemology*, vol. *Cambridge studies in philosophy and biology*, Cambridge: Cambridge University Press, 2000, pp. 261–286 [Online]. Available:
<https://contentstore.cla.co.uk/secure/link?id=1e1eca7d-9796-e611-80c7-005056af4099>

[99]

J. Mallet, "'Mayr's View of Darwin: Was Darwin Wrong About Speciation?'"', *Biological Journal of the Linnean Society*, vol. 95, no. 1, pp. 3–16, 2008 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsbl&AN=RN237497168&site=eds-live&scope=site>

[100]

E. Mayr, 'Chapter 5 - "The Systematic Categories and the New Species Concept"', in *Systematics and the Origin of Species: From the Viewpoint of a Zoologist*, vol. *Columbia biological series*, New York: Columbia University Press, 1942, pp. 102–122 [Online]. Available: <https://archive.org/details/in.ernet.dli.2015.20284>

[101]

E. Mayr, 'Chapter 33 - "Species Concepts and Definitions"', in *Evolution and the Diversity of Life: Selected Essays*, Cambridge, Mass: Belknap Press of Harvard University Press, 1976, pp. 493–508 [Online]. Available:
<https://contentstore.cla.co.uk/secure/link?id=bd202085-0496-e611-80c7-005056af4099>

[102]

G. Mcouat, "'Cataloguing Power: Delineating 'Competent Naturalists' and the Meaning of Species in the British Museum'", *The British Journal for the History of Science*, vol. 34, no. 1, pp. 1–28, 2001 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.4028036&site=eds-live&scope=site>

[103]

M. A. O'Malley, W. Martin, and J. Dupré, "'The Tree of Life: Introduction to an Evolutionary Debate'", *Biology & Philosophy*, vol. 25, no. 4, pp. 441–453, 2010 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=phl&AN=PHL2194082&site=eds-live&scope=site>

[104]

A. L. Panchen, *Classification, Evolution and the Nature of Biology*. Cambridge University Press, 1992 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991003719369707446&context=L&vid=44UOEX_INST:default

[105]

A. Plutynski, 'Chapter 10 - "Specification and Macroevolution"', in *A Companion to the Philosophy of Biology*, vol. Blackwell companions to philosophy, Malden, MA: Blackwell Pub, 2008, pp. 169–185 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991000545569707446&context=L&vid=44UOEX_INST:default

[106]

O. Rieppel, "'New Essentialism in Biology'", *Philosophy of Science*, vol. 77, no. 5, pp. 662–673, 2010 [Online]. Available:

<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.10.1086.656539&site=eds-live&scope=site>

[107]

P. R. Sloan, "'John Locke, John Ray and the Problem of the Natural System'", *Journal of the History of Biology*, vol. 5, no. 1, pp. 1-53, 1972 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.4330568&site=eds-live&scope=site>

[108]

B. W. Ogilvie, "'The Many Books of Nature: Renaissance Naturalists and Information Overload'", *Journal of the History of Ideas*, vol. 64, no. 1, pp. 29-40, 2003 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.10.2307.3654294&site=eds-live&scope=site>

[109]

S. Müller-Wille and I. Charmantier, "'Natural History and Information Overload: The Case of Linnaeus'", *Studies in History and Philosophy of Biological and Biomedical Sciences*, vol. 43, no. 1, pp. 4-15, 2012 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edselp&AN=S1369848611001130&site=eds-live&scope=site>

[110]

G. R. McOuat, 'Species, rules and meaning: The politics of language and the ends of definitions in 19th century natural history', *Studies in History and Philosophy of Science Part A*, vol. 27, no. 4, pp. 473-519, 1996 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/0039368195000607>

[111]

P. L. Farber, *Finding Order in Nature: The Naturalist Tradition from Linnaeus to E. O. Wilson*, vol. Johns Hopkins introductory studies in the history of science. Baltimore, Md: Johns Hopkins University Press, 2000 [Online]. Available:

https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991006733469707446&context=L&vid=44UOEX_INST:default

[112]

E. Mayr, *The Growth of Biological Thought: Diversity, Evolution and Inheritance*. Cambridge, Mass: Belknap Press of Harvard University Press, 1982.

[113]

L. J. Snyder, 'William Whewell', *The Stanford Encyclopedia of Philosophy*, 2017 [Online]. Available: <https://plato.stanford.edu/entries/whewell/>

[114]

G. C. Bowker and S. L. Star, *Sorting Things Out: Classification and Its Consequences*, vol. Inside technology. Cambridge, Mass: MIT Press, 2000 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991003893979707446&context=L&vid=44UOEX_INST:default

[115]

S. Atran, *Cognitive Foundations of Natural History: Towards an Anthropology of Science*. Cambridge: Cambridge University Press, 1999.

[116]

F. Bacon, P. Urbach, and J. Gibson, *Novum Organum: With Other Parts of the Great Instauration*, vol. Paul Carus student editions. Chicago, Ill: Open Court, 1994.

[117]

A. Barrera-Osorio, *Experiencing Nature: The Spanish American Empire and the Early Scientific Revolution*. University of Texas Press, 2006.

[118]

H. J. Cook, *Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden*

Age. New Haven, Conn: Yale University Press, 2007 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991003205809707446&context=L&vid=44UOEX_INST:default

[119]

L. Daston, "'Type Specimens and Scientific Memory'", *Critical Inquiry*, vol. 31, no. 1, pp. 153–182, 2004 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.10.1086.427306&site=eds-live&scope=site>

[120]

A. te Heesen, "'Boxes in Nature'", *Studies in History and Philosophy of Science Part A*, vol. 31, no. 3, pp. 381–403, 2000 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsbl&AN=RN083776481&site=eds-live&scope=site>

[121]

J. Endersby, *Imperial Nature: Joseph Hooker and the Practices of Victorian Science*. Chicago, Ill: University of Chicago Press, 2008.

[122]

N. Jardine, *Cultures of Natural History*. Cambridge: Cambridge University Press, 1996.

[123]

J. Law and M. Lynch, "'Lists, Field Guides and the Descriptive Organization of Seeing: Birdwatching as an Exemplary Observational Activity'", *Human Studies*, vol. 11, no. 2/3, pp. 271–303, 1988 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.20009028&site=eds-live&scope=site>

[124]

S. Müller-Wille, "'Collection and Collation: Theory and Practice of Linnaean Botany'", *Studies in History and Philosophy of Biological and Biomedical Sciences*, vol. 38, no. 3, pp.

541–562, 2007 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edselp&AN=S1369848607000428&site=eds-live&scope=site>

[125]

B. W. Ogilvie, *The Science of Describing: Natural History in Renaissance Europe*, Nachdr. Chicago, IL: University of Chicago Press, 2006 [Online]. Available:
https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991006733499707446&context=L&vid=44UOEX_INST:default

[126]

J. V. Pickstone, *Ways of Knowing: A New History of Science, Technology and Medicine*. Manchester: Manchester University Press, 2000.

[127]

O. Rieppel, "'The Series, the Network and the Tree: Changing Metaphors of Order in Nature'", *Biology & Philosophy*, vol. 25, no. 4, pp. 475–496, 2010 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsbl&AN=RN276953629&site=eds-live&scope=site>

[128]

S. T. Scharf, "'Identification Keys, the 'Natural Method' and the Development of Plant Identification Manuals'", *Journal of the History of Biology*, vol. 42, no. 1, pp. 73–117, 2009 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.40271533&site=eds-live&scope=site>

[129]

B. J. Strasser, 'Collecting and Experimenting: The Moral Economies of Biological Research, 1960s-1980s', *History and Epistemology of Molecular Biology and Beyond: Problems and Perspectives: Workshop*, vol. 310. Max-Planck Institute for the History of Science, Berlin, pp. 105–123, 2006 [Online]. Available:
http://biologie.unige.ch/assets/brunostrasser//Strasser_MPI_2006.pdf

[130]

W. Whewell, *The Philosophy of the Inductive Sciences*. London: Parker, 1840.

[131]

S. Leonelli, 'Introduction', in *Data-Centric Biology: A Philosophical Study*, Chicago: The University of Chicago Press, 2016, pp. 1–9 [Online]. Available: <http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9780226416502>

[132]

S. Leonelli, 'Chapter 3: What Counts as Data?', in *Data-Centric Biology: A Philosophical Study*, Chicago: The University of Chicago Press, 2016, pp. 69–92 [Online]. Available: <http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9780226416502>

[133]

D. B. Kell and S. G. Oliver, 'Here is the Evidence, Now What is the Hypothesis? The Complementary Roles of Inductive and Hypothesis-Driven Science in the Post-Genomic Era', *BioEssays*, vol. 26, no. 1, pp. 99–105, 2004 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://onlinelibrary.wiley.com/doi/full/10.1002/bies.10385>

[134]

C. K. Waters, 'The Nature and Context of Exploratory Experimentation: An Introduction to Three Case Studies of Exploratory Research', *History and Philosophy of the Life Sciences*, vol. 29, no. 3, pp. 275–284, 2007 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/23334262>

[135]

A. J. G. Hey, S. Tansley, and K. Tolle, *The Fourth Paradigm: Data-Intensive Scientific Discovery*. Microsoft Research, 2009 [Online]. Available: <https://www.microsoft.com/en-us/research/publication/fourth-paradigm-data-intensive-scientific-discovery>

[136]

S. Leonelli, 'What Difference Does Quantity Make? On the Epistemology of Big Data in Biology', *Big Data & Society*, vol. 1, no. 1, pp. 1–11, 2014 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://journals.sagepub.com/doi/full/10.1177/2053951714534395>

[137]

B. J. Strasser, 'Collecting Nature: Practices, Styles and Narratives', *Osiris*, vol. 27, no. 1, pp. 303–340, 2012 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/10.1086/667832>

[138]

J. F. Allen, 'Bioinformatics and Discovery: Induction Beckons Again', *BioEssays*, vol. 23, no. 1, pp. 104–107, 2000 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://onlinelibrary.wiley.com/doi/full/10.1002/1521-1878%28200101%2923%3A1%3C104%3A%3AAID-BIES1013%3E3.0.CO%3B2-2>

[139]

D. Botstein et al., 'Gene Ontology: Tool for the Unification of Biology', *Nature Genetics*, vol. 25, no. 1, pp. 25–29, 2000 [Online]. Available: https://uoelibrary.idm.oclc.org/login?url=http://www.nature.com/ng/journal/v25/n1/full/ng0500_25.html

[140]

G. Bell, T. Hey, and A. Szalay, 'Beyond the Data Deluge', *Science*, vol. 323, no. 5919, pp. 1297–1298, 2009 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/25471626>

[141]

J. A. Blake and C. J. Bult, 'Beyond the Data Deluge: Data Integration and Bio-Ontologies', *Journal of Biomedical Informatics*, vol. 39, no. 3, pp. 314–320, 2006 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S1532046406000190>

[142]

D. Boyd and K. Crawford, 'Critical Questions for Big Data: Provocations for a Cultural, Technological and Scholarly Phenomenon', *Information, Communication & Society*, vol. 15, no. 5, pp. 662–679, 2012 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.tandfonline.com/doi/abs/10.1080/1369118X.2012.678878>

[143]

R. M. Burian, 'Exploratory Experimentation and the Role of Histochemical Techniques in the Work of Jean Brachet, 1938-1952', *History and Philosophy of the Life Sciences*, vol. 19, no. 1, pp. 27–45, 1997 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/23332033>

[144]

E. Benson, 'One Infrastructure, Many Global Visions: The Commercialization and Diversification of Argos, a Satellite-Based Environmental Surveillance System', *Social Studies of Science*, vol. 42, no. 6, pp. 843–868, 2012 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/41721363>

[145]

S. Canali, 'Big Data, Epistemology and Causality: Knowledge In and Knowledge Out in EXPOsOMICS', *Big Data & Society*, vol. 3, no. 2, 2016 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://journals.sagepub.com/doi/10.1177/2053951716669530>

[146]

M. Chicurel, 'Bioinformatics: Bringing it All Together Technology Feature', *Nature*, vol. 419, no. 6908, pp. 751–757, 2002 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.nature.com/articles/419751a>

[147]

J. Delbourgo and S. Müller-Wille, 'Focus: Listmania, Introduction', *Isis*, vol. 103, no. 4, pp. 710–715, 2012 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/10.1086/669045>

[148]

G. Davies, 'Arguably Big Biology: Sociology, Spatiality and the Knockout Mouse Project', *BioSocieties*, vol. 8, no. 4, pp. 417–431, 2013 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://link.springer.com/article/10.1057/biosoc.2013.25>

[149]

K. C. Elliott, K. S. Cheruvilil, G. M. Montgomery, and P. A. Soranno, 'Conceptions of Good Science in Our Data-Rich World', *BioScience*, vol. 66, no. 10, pp. 880–889, 2016 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://academic.oup.com/bioscience/article/66/10/880/2236154>

[150]

L. Floridi, *The Philosophy of Information*. Oxford University Press, 2011 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780199232383.001.0001/acprof-9780199232383>

[151]

L. Floridi and P. Illari, *The Philosophy of Information Quality*. Cham: Springer, 2014 [Online]. Available: <http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9783319071213>

[152]

E. Fox Keller, 'Towards a Science of Informed Matter', *Studies in History and Philosophy of Biological and Biomedical Sciences*, vol. 42, no. 2, pp. 174–179, 2011 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S1369848610001172>

[153]

J. H. Fujimura, 'The Practices of Producing Meaning in Bioinformatics', in *The Practices of Human Genetics*, vol. *Sociology of the sciences*, Dordrecht: Kluwer Academic, 1999, pp. 49–87 [Online]. Available: <https://contentstore.cla.co.uk/secure/link?id=0eb6e4bb-fd99-e611-80c7-005056af4099>

[154]

B. Fry, *Visualizing Data: Exploring and Explaining Data with the Processing Environment*. Beijing: O'Reilly Media, 2007 [Online]. Available:
<http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9780596519308>

[155]

M. Garcia-Sancho, *Biology, Computing, and the History of Molecular Sequencing*, vol. Science, technology and medicine in modern history. Basingstoke: Palgrave Macmillan, 2012 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://link.springer.com/book/10.1057%2F9780230370937>

[156]

W. Gilbert, 'Towards a Paradigm Shift in Biology', *Nature*, vol. 349, no. 6305, pp. 99–99, 1991 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.nature.com/articles/349099a0.pdf>

[157]

R. Kitchin, *The Data Revolution: Big Data, Open Data, Data Infrastructures & Their Consequences*. London: SAGE Publications Ltd, 2014 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://methods.sagepub.com/book/the-data-revolution>

[158]

S. Leonelli, 'Introduction: Making Sense of Data-Driven Research in the Biological and Biomedical Sciences', *Studies in History and Philosophy of Biological and Biomedical Sciences*, vol. 43, no. 1, pp. 1–3, 2012 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S136984861100077X>

[159]

B. D. Mittelstadt and L. Floridi, *The Ethics of Biomedical Big Data*, 1st ed. 2016 edition. Cham: Springer, 2016 [Online]. Available:
<http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9783319335254>

[160]

M. A. O'Malley, K. C. Elliott, C. Haufe, and R. M. Burian, 'Philosophies of Funding', *Cell*, vol. 138, no. 4, pp. 611–615, 2009 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S0092867409009714>

[161]

M. A. O'Malley and O. S. Soyer, 'The Roles of Integration in Molecular Systems Biology', *Studies in History and Philosophy of Biological and Biomedical Sciences*, vol. 43, no. 1, pp. 58–68, 2012 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S1369848611000823>

[162]

S. Y. Rhee, 'Carpe Diem. Retooling the "Publish or Perish" Model into the "Share and Survive" Model', *Plant Physiology*, vol. 134, no. 2, pp. 543–547, 2004 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/4281585>

[163]

The Royal Society, 'Science as an Open Enterprise: Final Report'. The Royal Society, London, 2012 [Online]. Available: <https://royalsociety.org/policy/projects/science-public-enterprise/Report/>

[164]

D. L. Rubin et al., 'The National Center for Biomedical Ontology: Advancing Biomedicine Through Structured Organization of Scientific Knowledge', *OMICS: A Journal of Integrative Biology*, vol. 10, no. 2, pp. 185–198, 2006 [Online]. Available: <https://www.liebertpub.com/doi/abs/10.1089/omi.2006.10.185>

[165]

H. Stevens, *Life Out of Sequence: A Data-Driven History of Bioinformatics*. Chicago, Ill: The University of Chicago Press, 2013 [Online]. Available: <https://ebookcentral.proquest.com/lib/exeter/detail.action?docID=1377287>

[166]

J. Vickers, 'The Problem of Induction', The Stanford Encyclopedia of Philosophy, 2009 [Online]. Available: <http://plato.stanford.edu/archives/spr2009/entries/induction-problem>

[167]

J. Dupré, 'Chapter 5: Human Nature: A Process Perspective', in *Why We Disagree About Human Nature*, Oxford: Oxford University Press, 2018, pp. 92–107 [Online]. Available: <https://contentstore.cla.co.uk/secure/link?id=2a09c4b2-f980-e811-80cd-005056af4099>

[168]

G. E. Allen, 'The social and economic origins of genetic determinism: A case history of the American Eugenics Movement, 1900–1940 and its lessons for today', *Genetica*, vol. 99, no. 2–3, pp. 77–88, 1997 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://link.springer.com/article/10.1023/A:1018396529332>

[169]

P. Griffiths, "'The Distinction Between Innate and Acquired Characteristics'", The Stanford Encyclopedia of Philosophy, 2009 [Online]. Available: <http://plato.stanford.edu/entries/innate-acquired/>

[170]

E. F. Keller, *The Mirage of a Space Between Nature and Nurture*. Durham, NC: Duke University Press, 2010 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991008369919707446&context=L&vid=44UOEX_INST:default

[171]

P. E. Griffiths and K. Stotz, 'Chapter 5 - "Gene"', in *The Cambridge Companion to the Philosophy of Biology*, vol. Cambridge Companions to Philosophy, Cambridge: Cambridge University Press, 2007, pp. 85–102 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991015275109707446&context=L&vid=44UOEX_INST:default

[172]

H.-J. Rheinberger and S. Mu

ller-Wille, *The Gene: From Genetics to Postgenomics*. Chicago: The University of Chicago Press, 2017.

[173]

W. Johannsen, "'The Genotype Conception of Heredity'", *The American Naturalist*, vol. 45, no. 531, pp. 129-159, 1911 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.2455747&site=eds-live&scope=site>

[174]

R. Amundson, *The Changing Role of the Embryo in Evolutionary Thought*. Cambridge University Press, 2005 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991003244789707446&context=L&vid=44UOEX_INST:default

[175]

W. Bechtel, *Discovering Cell Mechanisms: The Creation of Modern Cell Biology*. Cambridge University Press, 2006 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991003215209707446&context=L&vid=44UOEX_INST:default

[176]

P. J. Beurton, R. Falk, and H.-J. Rheinberger, *The Concept of the Gene in Development and Evolution*. Cambridge University Press, 2000 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991003309559707446&context=L&vid=44UOEX_INST:default

[177]

R. M. Burian, "'Unification and Coherence as Methodological Objectives in the Biological Sciences'", *Biology & Philosophy*, vol. 8, no. 3, pp. 301-318, 1993 [Online]. Available:

<https://uoelibrary.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=phl&AN=PHL1238615&site=eds-live&scope=site>

[178]

R. Dawkins, *The Selfish Gene*, 30th anniversary ed. Oxford: Oxford University Press, 2006 [Online]. Available: <http://lib.myilibrary.com/browse/open.asp?id=87017&entityid=https://elibrary.exeter.ac.uk/idp/shibboleth>

[179]

M. B. Fagan, *Philosophy of Stem Cell Biology: Knowledge in Flesh and Blood*, vol. *New directions in the philosophy of science*. Basingstoke: Palgrave Macmillan, 2013 [Online]. Available: <http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9781137296023>

[180]

R. Falk, *Genetic Analysis: A History of Genetic Thinking*. Cambridge University Press, 2009 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.cambridge.org/core/books/genetic-analysis/A37A6BD3657B8AC2B6B1C12F33D8BC4C>

[181]

J. Gayon, *Darwinism's Struggle for Survival: Heredity and the Hypothesis of Natural Selection*, vol. *Cambridge studies in philosophy and biology*. Cambridge: Cambridge University Press, 1998.

[182]

P. E. Griffiths, 'Genetic Information: A Metaphor in Search of a Theory', *Philosophy of Science*, vol. 68, no. 3, pp. 394–412, 2001 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/3080926>

[183]

P. E. Griffiths and R. D. Gray, 'Chapter 19: The Developmental Systems Perspective:

Organism-Environment Systems as Units of Evolution', in Phenotypic Integration: Studying the Ecology and Evolution of Complex Phenotypes, Oxford, England: Oxford University Press, 2004, pp. 409–431 [Online]. Available:
<https://contentstore.cla.co.uk/secure/link?id=c4af4450-d296-e611-80c7-005056af4099>

[184]

P. Griffiths, E. Machery, and S. Linquist, 'The Vernacular Concept of Innateness', *Mind & Language*, vol. 24, no. 5, pp. 605–630, 2009 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://onlinelibrary.wiley.com/doi/10.1111/j.1468-0017.2009.01376.x/full>

[185]

P. Griffiths and K. Stotz, *Genetics and Philosophy: An Introduction*. Cambridge University Press, 2013 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.cambridge.org/core/books/genetics-and-philosophy/F3255AB9D97A5736BA3F621194CEC542>

[186]

P. E. Griffiths and J. Tabery, 'Chapter 3: Developmental Systems Theory: What Does it Explain and How Does it Explain it?', in *Embodiment and Epigenesis: Theoretical and Methodological Issues in Understanding the Role of Biology within the Relational Developmental System, Part A: Philosophical, Theoretical, and Biological Dimensions*, vol. Advances in child development and behavior, R. M. Lerner and J. B. Benson, Eds. Amsterdam: Academic Press, 2013, pp. 65–94 [Online]. Available:
<http://www.vlebooks.com/Vleweb/Product/Index/410382?page=0>

[187]

F. Jacob, *The Logic of Life: A History of Heredity*. Princeton, NJ: Princeton University Press, 1973.

[188]

E. Jablonka and M. J. Lamb, *Epigenetic Inheritance and Evolution: The Lamarckian Dimension*. Oxford: Oxford University Press, 1995.

[189]

L. E. Kay, *Who Wrote the Book of Life?: A History of the Genetic Code*, vol. Writing science. Stanford: Stanford University Press, 2000.

[190]

S. Leonelli, 'Chapter 10: Understanding in Biology: The Impure Nature of Biological Knowledge', in *Scientific Understanding: Philosophical Perspectives*, University of Pittsburgh Press, 2009, pp. 189–209 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/j.ctt9qh59s.13>

[191]

S. Rose, L. J. Kamin, and R. C. Lewontin, *Not in Our Genes: Biology, Ideology and Human Nature*, vol. Pelican books. Harmondsworth: Penguin, 1984.

[192]

M. Mameli and P. Bateson, 'Innateness and the Sciences', *Biology & Philosophy*, vol. 21, no. 2, pp. 155–188, 2006 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://link.springer.com/article/10.1007/s10539-005-5144-0>

[193]

J. A. Mendelsohn, 'Lives of the Cell', *Journal of the History of Biology*, vol. 36, no. 1, pp. 1–37, 2003 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/4331779>

[194]

L. Moss, *What Genes Can't Do*, vol. Basic bioethics. Cambridge, Mass: MIT Press, 2003 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=78120&site=ehost-live>

[195]

R. C. Olby, *Origins of Mendelism*. Constable, 1966.

[196]

M. A. O'Malley and S. Müller-Wille, 'The Cell as Nexus: Connections Between the History, Philosophy and Science of Cell Biology', *Studies in History and Philosophy of Biological and Biomedical Sciences*, vol. 41, no. 3, pp. 169–171, 2010 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S1369848610000397>

[197]

A. Reynolds, 'The Theory of the Cell State and the Question of Cell Autonomy in Nineteenth and Early Twentieth-Century Biology', *Science in Context*, vol. 20, no. 1, pp. 71–95, 2007 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.cambridge.org/core/journals/science-in-context/article/theory-of-the-cell-state-and-the-question-of-cell-autonomy-in-nineteenth-and-early-twentiethcentury-biology/786F57CF546A1D3ABB607B8C8F857B50>

[198]

S. S. Richardson, *Sex Itself: The Search for Male and Female in the Human Genome*. Chicago: University of Chicago Press, 2013 [Online]. Available: <https://ebookcentral.proquest.com/lib/exeter/detail.action?docID=1431257>

[199]

J. Johns Schloegel and H. Schmidgen, 'General Physiology, Experimental Psychology and Evolutionism', *Isis*, vol. 93, no. 4, pp. 614–645, 2002 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/10.1086/375954>

[200]

K. Stotz, P. E. Griffiths, and R. Knight, 'How Biologists Conceptualize Genes: An Empirical Study', *Studies in History and Philosophy of Biological and Biomedical Sciences*, vol. 35, no. 4, pp. 647–673, 2004 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S136984860400069X>

[201]

K. Stotz and P. Griffiths, 'Genes: Philosophical Analyses Put to the Test', *History and Philosophy of the Life Sciences*, vol. 26, no. 1, pp. 5–28, 2004 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/23333378>

[202]

C. K. Waters, 'What Was Classical Genetics?', *Studies in History and Philosophy of Science*, vol. 35, no. 4, pp. 783–809, 2004 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S003936810400086X>

[203]

R. Frigg and S. Hartmann, 'Models in science', *The Stanford Encyclopedia of Philosophy*, 2012 [Online]. Available: <http://plato.stanford.edu/entries/models-science/>

[204]

R. Levins, 'The Strategy of Model Building in Population Biology', *American Scientist*, vol. 54, no. 4, pp. 421–431, 1966 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/27836590>

[205]

R. A. Ankeny and S. Leonelli, 'What's So Special About Model Organisms?', *Studies in History and Philosophy of Science Part A*, vol. 42, no. 2, pp. 313–323, 2011 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S0039368110001184>

[206]

M. Morrison and M. S. Morgan, 'Chapter 2: Models as Mediating Instruments', in *Models as Mediators: Perspectives on Natural and Social Sciences*, vol. 52, M. S. Morgan and M. Morrison, Eds. Cambridge: Cambridge University Press, 1999, pp. 10–37 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.cambridge.org/core/books/models-as-mediators/models-as-mediating-instruments/10737C6DD4744A65E4B5B89B3D489B21>

[207]

M. Weber, 'Chapter 3: Walking on the Chromosome: Drosophila and the Molecularization of Development', in *From Molecular Genetics to Genomics: The Mapping Cultures of Twentieth-Century Genetics*, vol. Routledge studies in the history of science, technology

and medicine, London: Routledge, 2004, pp. 63–78 [Online]. Available:
<https://contentstore.cla.co.uk/secure/link?id=024b253e-9197-e611-80c7-005056af4099>

[208]

R. A. Ankeny and S. Leonelli, 'Organisms in Experimental Research', in Handbook of the Historiography of Biology, vol. Historiography of Science, Volume 1, Cham: Springer, 2019, pp. 1–25 [Online]. Available:
https://uoelibrary.idm.oclc.org/login?url=http://link.springer.com/referenceworkentry/10.1007/978-3-319-74456-8_15-1

[209]

D. M. Bailer-Jones, Scientific Models in Philosophy of Science. University of Pittsburgh Press, 2009 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/j.ctt5vkdnq>

[210]

S. de Chadarevian, 'Of Worms and Programmes: Caenorhabditis Elegans and the Study of Development', Studies in History and Philosophy of Biological and Biomedical Sciences, vol. 29, no. 1, pp. 81–105, 1998 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S1369848698000041>

[211]

S. de Chadarevian, 'Chapter 12: Models and the Making of Molecular Biology', in Models: The Third Dimension of Science, vol. Writing science, Stanford, Calif: Stanford University Press, 2004, pp. 339–368 [Online]. Available:
<https://contentstore.cla.co.uk/secure/link?id=c0781cd8-9597-e611-80c7-005056af4099>

[212]

C. F. Craver and L. Darden, In Search of Mechanisms: Discoveries Across the Life Sciences. University of Chicago Press, 2013.

[213]

A. N. H. Creager, *The Life of a Virus: Tobacco Mosaic Virus as an Experimental Model, 1930-1965*. Chicago: University of Chicago Press, 2002.

[214]

G. Davies, 'Captivating Behaviour: Mouse Models, Experimental Genetics and Reductionist Returns in the Neurosciences', *The Sociological Review*, vol. 58, no. S1, pp. 53-72, 2010 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://onlinelibrary.wiley.com/doi/10.1111/j.1467-954X.2010.01911.x/full>

[215]

G. Davies, 'What is a Humanized Mouse? Remaking the Species and Spaces of Translational Medicine', *Body & Society*, vol. 18, no. 3-4, pp. 126-155, 2012 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://journals.sagepub.com/doi/full/10.1177/1357034X12446378>

[216]

S. French and J. Ladyman, 'Reinflating the Semantic Approach', *International Studies in the Philosophy of Science*, vol. 13, no. 2, pp. 103-121, 1999 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.tandfonline.com/doi/abs/10.1080/02698599908573612>

[217]

P. Godfrey-Smith, 'The Strategy of Model-Based Science', *Biology & Philosophy*, vol. 21, no. 5, pp. 725-740, 2010 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://link.springer.com/article/10.1007%2Fs10539-006-9054-6>

[218]

J. R. Griesemer, 'Material Models in Biology', *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association*, vol. 1990, pp. 79-93, 1990 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/193060>

[219]

T. Knuuttila, 'Models, Representation and Mediation', *Philosophy of Science*, vol. 72, no. 5, pp. 1260–1271, 2005 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/10.1086/508124>

[220]

R. Meunier, 'Stages in the Development of a Model Organism as a Platform for Mechanistic Models in Developmental Biology: Zebrafish, 1970–2000', *Studies in History and Philosophy of Biological and Biomedical Sciences*, vol. 43, no. 2, pp. 522–531, 2012 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S1369848611001403>

[221]

M. S. Morgan, 'Chapter 1: Modelling as a Method of Enquiry', in *The World in the Model: How Economists Work and Think*, Cambridge University Press, 2012, pp. 1–43 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.cambridge.org/core/books/world-in-the-model/modelling-as-a-method-of-enquiry/5592F5DADCD2785B106FC69CA01D498D>

[222]

M. S. Morgan and M. Morrison, *Models as Mediators: Perspectives on Natural and Social Sciences*. Cambridge University Press, 1999 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.cambridge.org/core/books/models-as-mediators/FBB3EA4AEC824AD6F1E6C650CAE3AE>

[223]

N. C. Nelson, *Model Behavior: Animal Experiments, Complexity and the Genetics of Psychiatric Disorders*. Chicago, IL: University of Chicago Press, 2018 [Online]. Available:
<https://ebookcentral.proquest.com/lib/exeter/detail.action?docID=5101436>

[224]

M. Suárez, 'Theories, Models and Representations', in *Model-Based Reasoning in Scientific Discovery*, New York, NY: Kluwer Academic/Plenum Publ, 1999, pp. 75–83 [Online]. Available:
<https://contentstore.cla.co.uk/secure/link?id=7051aeb2-ec99-e611-80c7-005056af4099>

[225]

M. Suárez, 'An Inferential Conception of Scientific Representation', *Philosophy of Science*, vol. 71, no. 5, pp. 767–779, 2004 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/10.1086/421415>

[226]

M. Weisberg, 'Who is a Modeler?', *The British Journal for the Philosophy of Science*, vol. 58, no. 2, pp. 207–233, 2007 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/30115224>

[227]

M. Weisberg, 'Forty Years of "The Strategy": Levins on Model Building and Idealization', *Biology & Philosophy*, vol. 21, no. 5, pp. 623–645, 2006 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://link.springer.com/article/10.1007/s10539-006-9051-9>

[228]

M. Weisberg, *Simulation and Similarity: Using Models to Understand the World*. Oxford University Press, 2013 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780199933662.001.0001/acprof-9780199933662>

[229]

R. E. Kohler, 'Systems of production: *Drosophila*, *neurospora*, and biochemical genetics', *Historical Studies in the Physical and Biological Sciences*, vol. 22, no. 1, pp. 87–130, 1991 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/27757674>

[230]

H.-J. Rheinberger, 'From microsomes to ribosomes: "Strategies" of "representation"', *Journal of the History of Biology*, vol. 28, no. 1, pp. 49–89, 1995 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/4331335>

[231]

M. Weber, 'Chapter 25: Experimentation', in *A Companion to the Philosophy of Biology*, vol. Blackwell companions to philosophy, Malden, MA: Blackwell Pub, 2008, pp. 472–488 [Online]. Available: <https://ebookcentral.proquest.com/lib/exeter/reader.action?docID=470333&ppg=500>

[232]

C. Bernard, *Introduction to the Study of Experimental Medicine*. New York: Dover, 1985.

[233]

R. M. Burian, 'Technique, Task Definition and the Transition From Genetics to Molecular Genetics: Aspects of the Work on Protein Synthesis in the Laboratories of J. Monod and P. Zamecnik', *Journal of the History of Biology*, vol. 26, no. 3, pp. 387–407, 1993 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/4331278>

[234]

H. Radder, *The Philosophy of Scientific Experimentation*. Pittsburgh, PA: University of Pittsburgh Press, 2003 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/10.2307/j.ctt5hjsnf>

[235]

R. Burian, *The Epistemology of Development, Evolution, and Genetics*. Cambridge University Press, 2004 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.cambridge.org/core/books/epistemology-of-development-evolution-and-genetics/8E670690F1F342968730B17CF769EA41#>

[236]

S. De Chadarevian, 'Laboratory Science Versus Country-House Experiments. The Controversy Between Julius Sachs and Charles Darwin', *The British Journal for the History of Science*, vol. 29, no. 1, pp. 17–41, 1996 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/4027510>

[237]

S. de Chadarevian, *Designs For Life: Molecular Biology After World War II*. Cambridge: Cambridge University Press, 2002.

[238]

W. Coleman and F. L. Holmes, *The Investigative Enterprise: Experimental Physiology in Nineteenth-Century Medicine*. Berkeley, Calif: University of California Press, 1988.

[239]

D. Endy, 'Foundations for Engineering Biology', *Nature*, vol. 438, no. 7067, pp. 449–453, 2005 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.nature.com/articles/nature04342>

[240]

F. L. Holmes, *Investigative Pathways: Patterns and Stages in the Careers of Experimental Scientists*. New Haven, Conn: Yale University Press, 2004.

[241]

E. F. Keller, *Making Sense of Life: Explaining Biological Development with Models, Metaphors and Machines*. Cambridge, MA: Harvard University Press, 2002 [Online]. Available:
<http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9780674039445>

[242]

R. E. Kohler, *Lords of the Fly: Drosophila Genetics and the Experimental Life*. Chicago: University of Chicago Press, 1994.

[243]

P. Kroes, 'Technology and Science-Based Heuristics', in *New Directions in the Philosophy of Technology*, vol. *Philosophy and Technology / Official Publication of the Society for Philosophy and Technology*, Dordrecht: Kluwer, 1995, pp. 17–39 [Online]. Available:
<https://contentstore.cla.co.uk/secure/link?id=d4eaddf3-eb99-e611-80c7-005056af4099>

[244]

H. Landecker, *Culturing life: How Cells Became Technologies*. Harvard University Press, 2007 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://quod.lib.umich.edu/cgi/t/text/text-idx?c=acsls;idno=heb09113>

[245]

T. Lenoir, *The Strategy of Life: Teleology and Mechanics in Nineteenth-Century German Biology*. Chicago: University of Chicago Press, 1989.

[246]

R. C. Olby, *The Path to the Double Helix: The Discovery of DNA*. New York: Dover Publications, 1994.

[247]

M. A. O'Malley, A. Powell, J. F. Davies, and J. Calvert, 'Knowledge-Making Distinctions in Synthetic Biology', *BioEssays*, vol. 30, no. 1, pp. 57-65, 2008 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://onlinelibrary.wiley.com/doi/10.1002/bies.20664/full>

[248]

P. J. Pauly, *Controlling Life: Jacques Loeb and the Engineering Ideal in Biology*, vol. Monographs on the history and philosophy of biology. New York: Oxford University Press, 1987 [Online]. Available: <http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9780195364668>

[249]

H.-J. Rheinberger, *Toward a History of Epistemic Things: Synthesizing Proteins in the Test Tube*, vol. *Writing science*. Stanford, Calif: Stanford University Press, 1997.

[250]

H. Schmidgen, 'Pictures, Preparations, and Living Processes: The Production of Immediate

Visual Perception (Anschauung) in Late-19th-Century Physiology', *Journal of the History of Biology*, vol. 37, no. 3, pp. 477–513, 2004 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/4331897>

[251]

M. Weber, *Philosophy of Experimental Biology*. Cambridge University Press, 2004 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.cambridge.org/core/books/philosophy-of-experimental-biology/F53C6D06123469E4C493CEE61BA0D127>

[252]

S. Müller-Wille, 'The Dark Side of Evolution: Caprice, Deceit, Redundancy', *History and Philosophy of the Life Sciences*, vol. 31, no. 2, pp. 183–199, 2009 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/23334442>

[253]

R. L. Day, K. N. Laland, and F. J. Odling-Smee, 'Rethinking Adaptation: The Niche-Construction Perspective', *Perspectives in Biology and Medicine*, vol. 46, no. 1, pp. 80–95, 2003 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://muse.jhu.edu/article/38634>

[254]

M. A. O'Malley and J. Dupré, 'Size doesn't matter: Towards a more inclusive philosophy of biology', *Biology & Philosophy*, vol. 22, no. 2, pp. 155–191, 2007 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://link.springer.com/article/10.1007/s10539-006-9031-0>

[255]

F. N. Egerton, 'Changing Concepts of the Balance of Nature', *The Quarterly Review of Biology*, vol. 48, no. 2, pp. 322–350, 1973 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/2820544>

[256]

A. Plutynski, 'Chapter 21: Ecology and the Environment', in *The Oxford Handbook of*

Philosophy of Biology, Oxford University Press, 2008, pp. 505–524 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780195182057.001.0001/oxfordhb-9780195182057-e-022>

[257]

D. S. Wilson and E. Sober, 'Reviving the Superorganism', *Journal of Theoretical Biology*, vol. 136, no. 3, pp. 337–356, 1989 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S0022519389801699>

[258]

G. Canguilhem, 'The Development of the Concept of Biological Regulation in the Eighteenth and Nineteenth Centuries', in *Ideology and Rationality in the History of the Life Sciences*, 1988, pp. 81–102 [Online]. Available: <https://contentstore.cla.co.uk/secure/link?id=c03efb17-ffd7-e611-80c9-005056af4099>

[259]

L. Daston and F. Vidal, *The Moral Authority of Nature*. Chicago, Ill: University of Chicago Press, 2004 [Online]. Available: https://exeter.primo.exlibrisgroup.com/discovery/fulldisplay?docid=alma991002185209707446&context=L&vid=44UOEX_INST:default

[260]

D. C. Dennett, *Darwin's Dangerous Idea: Evolution and the Meanings of Life*, vol. Penguin science. London: Penguin, 1996.

[261]

S. F. Gilbert and D. Epel, *Ecological Developmental Biology: Integrating Epigenetics, Medicine, and Evolution - An Integrated Approach to Embryology, Evolution, and Medicine*. Sunderland, Mass: Sinauer Associates, 2009.

[262]

D. Haraway, *When Species Meet*, vol. *Posthumanities*. Minneapolis: University of Minnesota Press, 2008 [Online]. Available:

<https://ebookcentral.proquest.com/lib/exeter/detail.action?docID=328400>

[263]

S. Hinchliffe, *Geographies of Nature: Societies, Environments, Ecologies*. Los Angeles, Calif: SAGE, 2007 [Online]. Available:
<http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9781848607491>

[264]

E. Jablonka, M. J. Lamb, and A. Zeligowski, *Evolution in Four Dimensions: Genetic, Epigenetic, Behavioral, and Symbolic Variation in the History of Life*, Revised edition., vol. *Life and Mind: Philosophical Issues in Biology and Psychology*. Cambridge, Massachusetts: A Bradford Book, 2014 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://ebookcentral.proquest.com/lib/exeter/detail.action?docID=3339771>

[265]

E. F. Keller, *Refiguring Life: Metaphors of Twentieth-Century Biology*, vol. *The Wellek library lectures at the University of California, Irvine*. New York: Columbia University Press, 1995.

[266]

L. Margulis, *Symbiotic Planet: A New Look at Evolution*, 1st ed., vol. *Science masters*. New York: Basic Books, 1998 [Online]. Available:
<https://ebookcentral.proquest.com/lib/exeter/detail.action?docID=679945>

[267]

S.
Mu

ller-Wille and H.-J. Rheinberger, 'Chapter 1: Heredity - The Formation of an Epistemic Space', in *Heredity Produced: At the Crossroads of Biology, Politics and Culture, 1500-1870*, vol. *Transformations*, Cambridge, Mass: MIT Press, 2007, pp. 3-34 [Online]. Available:
<http://www.vlebooks.com/Vleweb/Product/Index/997468?page=0>

[268]

J. Odenbaugh, 'Struggling with the Science of Ecology', *Biology & Philosophy*, vol. 21, no. 3, pp. 395–409, 2006 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://link.springer.com/article/10.1007/s10539-005-4055-4>

[269]

F. J. Odling-Smee, K. N. Laland, and M. W. Feldman, *Niche Construction: The Neglected Process in Evolution*. Princeton University Press, 2003 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/j.ctt24hqpd>

[270]

S. Okasha, *Evolution and the Levels of Selection*. Oxford University Press, 2006 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780199267972.001.0001/acprof-9780199267972>

[271]

S. Oyama, P. E. Griffiths, and R. D. Gray, *Cycles of Contingency: Developmental Systems and Evolution*, vol. A Bradford book. Cambridge, MA: MIT Press, 2001.

[272]

J. Roughgarden, *Evolution's Rainbow: Diversity, Gender, and Sexuality in Nature and People*. Berkeley: University of California Press, 2013 [Online]. Available: <https://ebookcentral.proquest.com/lib/exeter/detail.action?docID=1375430>

[273]

J. Odenbaugh, 'Conservation Biology', *The Stanford Encyclopedia of Philosophy*, 2016 [Online]. Available: <https://plato.stanford.edu/entries/conservation-biology/>

[274]

S. Sarkar, 'Ecology', *The Stanford Encyclopedia of Philosophy*, 2005 [Online]. Available: <http://plato.stanford.edu/entries/ecology>

[275]

L. Schiebinger, *Nature's Body: Gender in the Making of Modern Science*. Rutgers University Press, 2004.

[276]

S. S. Schweber, 'Darwin and the Political Economists: Divergence of Character', *Journal of the History of Biology*, vol. 13, no. 2, pp. 195–289, 1980 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/4330766>

[277]

R. M. Young, *Darwin's Metaphor: Nature's Place in Victorian Culture*. Cambridge: Cambridge University Press, 1985.

[278]

J. Reiss and R. A. Ankeny, 'Philosophy of Medicine', *The Stanford Encyclopedia of Philosophy*, 2016 [Online]. Available: <https://plato.stanford.edu/archives/sum2016/entries/medicine/>

[279]

M. Foucault, 'Right of death and power over life', in *The Foucault Reader*, vol. Peregrine books, Harmondsworth: Penguin, 1986, pp. 258–272 [Online]. Available: <https://contentstore.cla.co.uk/secure/link?id=acf76f99-bf9a-e611-80c7-005056af4099>

[280]

G. Boniolo, 'Chapter 1: Molecular Medicine: The Clinical Method Enters the Lab', in *Philosophy of Molecular Medicine: Foundational Issues in Research and Practice*, New York : Routledge, Taylor & Francis Group, 2017, pp. 15–34 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.taylorfrancis.com/books/e/9781317378358/chapters/10.4324%2F9781315674162-8>

[281]

G. Boniolo and M. J. Nathan, *Philosophy of Molecular Medicine: Foundational Issues in Research and Practice*. New York : Routledge, Taylor & Francis Group, 2017 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.taylorfrancis.com/books/9781315674162>

[282]

C. Boorse, 'Health as a Theoretical Concept', *Philosophy of Science*, vol. 44, no. 4, pp. 542–573, 1977 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/186939>

[283]

E. Kingma, 'Paracetamol, Poison, and Polio: Why Boorse's Account of Function Fails to Distinguish Health and Disease', *The British Journal for the Philosophy of Science*, vol. 61, no. 2, pp. 241–264, 2010 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/40664348>

[284]

J. G. Lennox, 'Health as an Objective Value', *Journal of Medicine and Philosophy*, vol. 20, no. 5, pp. 499–511, 1995 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://academic.oup.com/jmp/article/20/5/499/924077/Health-as-an-Objective-Value>

[285]

M. Grene, 'Philosophy of Medicine: Prolegomena to a Philosophy of Science', *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association*, vol. 1976, pp. 77–93, 1976 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/192374>

[286]

R. Amundson, 'Against Normal Function', *Studies in History and Philosophy of Biological and Biomedical Sciences*, vol. 31, no. 1, pp. 33–53, 2000 [Online]. Available:
<https://uoelibrary.idm.oclc.org/login?url=http://www.sciencedirect.com/science/article/pii/S1369848699000333>

[287]

G. Canguilhem, *The Normal and the Pathological*. New York: Zone Books, 1989.

[288]

G. Canguilhem, S. Geroulanos, and T. Meyers, *Writings on Medicine*. Fordham University Press, 2012 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/j.ctt1c84gs6>

[289]

H. Carel, *Illness: The Cry of the Flesh*, Revised edition. London: Routledge, 2013 [Online]. Available: <https://www.taylorfrancis.com/books/illness-havi-carel/10.4324/9781315487410>

[290]

A. Cunningham and P. Williams, *The Laboratory Revolution in Medicine*. Cambridge: Cambridge University Press, 1992.

[291]

H. T. Engelhardt, *The Philosophy of Medicine: Framing the Field*, vol. Philosophy and medicine. Dordrecht: Kluwer Acad. Publ, 2000.

[292]

M. Fortun and E. Mendelsohn, *The Practices of Human Genetics*, vol. Sociology of the sciences. Dordrecht: Kluwer Academic, 1999.

[293]

M. Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception*, vol. Routledge classics. London: Routledge, 2003 [Online]. Available: <http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9781135864767>

[294]

M. Foucault and M. Bertani, *Society Must be Defended: Lectures at the Collège de France, 1975-76: Lectures at the College De France, 1975 76*. London: Penguin, 2004.

[295]

L. Gannett, 'Chapter 19: Genes and Society', in *The Oxford Handbook of Philosophy of Biology*, New York: Oxford University Press, 2008, pp. 451–477 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780195182057.001.0001/oxfordhb-9780195182057-e-020>

[296]

L. Gannett, 'The Biological Reification of Race', *The British Journal for the Philosophy of Science*, vol. 55, no. 2, pp. 323–345, 2004 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/3541694>

[297]

I. Hacking, 'Genetics, Biosocial Groups and the Future of Identity', *Daedalus*, vol. 135, no. 4, pp. 81–95, 2006 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/20028075>

[298]

H. E. Longino and E. F. Keller, *Feminism and Science*, vol. *Oxford readings in feminism*. Oxford: Oxford University Press, 1996.

[299]

D. J. Kevles, *In the Name of Eugenics: Genetics and the Uses of Human Heredity*. Cambridge, Mass: Harvard University Press, 1995.

[300]

B. A. Koenig, S. S.-J. Lee, and S. S. Richardson, *Revisiting Race in a Genomic Age*, vol. *Rutgers series in medical anthropology*. New Brunswick, N.J.: Rutgers University Press, 2008.

[301]

D. Magnus, 'Chapter 23: The Concept of Genetic Disease', in *Health, Disease and Illness: Concepts in Medicine*, Washington, D.C.: Georgetown University Press, 2004, pp. 233–242.

[302]

M. D. Grmek, *Pathological Realities: Essays on Disease, Experiments, and History*. New York, NY: Fordham University Press, 2018 [Online]. Available: <https://www.jstor.org/stable/j.ctv75d9nq>

[303]

D. B. Paul, *Controlling Human Heredity: 1865 to the Present*, vol. The control of nature. Atlantic Highlands, N.J: Humanities Press, 1995.

[304]

K. Sunder Rajan, *Pharmocracy: Value, Politics, and Knowledge in Global Biomedicine*. Durham, [North Carolina]: Duke University Press, 2017 [Online]. Available: <http://www.vlebooks.com/vleweb/product/openreader?id=Exeter&isbn=9780822373285>

[305]

J. Reardon, *Race to the Finish: Identity and Governance in an Age of Genomics*, vol. Information series. Princeton, NJ: Princeton University Press, 2005 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/10.2307/j.ctt7t00f>

[306]

M. Root, 'The use of race in medicine as a proxy for genetic differences', *Philosophy of Science*, vol. 70, no. 5, pp. 1173–1183, 2003 [Online]. Available: <https://uoelibrary.idm.oclc.org/login?url=http://www.jstor.org/stable/10.1086/377398>

[307]

K. F. Schaffner, 'Philosophy of medicine', in *Introduction to the Philosophy of Science: A Text*, Englewood Cliffs, NJ: Prentice Hall, 1992, pp. 310–345.

[308]

O. Temkin, 'Chapter 29: Health and disease', in *The Double Face of Janus and Other Essays in the History of Medicine*, Baltimore, Md: Johns Hopkins University Press, 2006, pp. 419–440 [Online]. Available: <https://contentstore.cla.co.uk/secure/link?id=ea5e0181-cb9a-e611-80c7-005056af4099>

[309]

UNESCO, 'The Race Question in Modern Science: Results of an Inquiry'. United Nations Educational, Scientific and Cultural Organisation, Paris, 1952 [Online]. Available: <http://unesdoc.unesco.org/images/0007/000733/073351eo.pdf>