

## Science, Values, and Democracy?

Summer School

July 4-15, 2016

University of Vienna and Institute Vienna Circle

Mark Brown (California State University, Sacramento)

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Monday, July 4	
Introduction: Science, Values, and Democracy	
9.00-10.20	Introductions
10.20-10.40	Break
10.40-12.00	<p><u>Lecture:</u> Douglas, “Values in Science”</p> <p><u>Required reading:</u>            Douglas, H. 2016. Values in Science. In <i>The Oxford Handbook of Philosophy of Science</i>, ed. Paul Humphreys. DOI: 10.1093/oxfordhb/9780199368815.013.28</p> <p><u>Recommended reading:</u>            Brown, Matt. 2013. The Source and Status of Values for Socially Responsible Science. <i>Philosophical Studies</i> 163: 67-76.            Elliott, K. 2009. The Ethical Significance of Language in Environmental Sciences: Case Studies from Pollution Research. <i>Ethics, Place, and Environment</i> 12(2): 157-173.            Howard, D. 2009. Better Red than Dead: Putting an End to the Social Irrelevance of Postwar Philosophy of Science. <i>Science Education</i> 18(2):199-220.            Wilholt, T. 2013. Epistemic Trust in Science. <i>British Journal for the Philosophy of Science</i> 64(2): 233-253.</p>
12.00-14.00	Lunch
14.00-15.20	<p><u>Lecture:</u> Brown, “Science and Democracy”</p> <p><u>Required reading:</u>            Brown, M.B. 2009. Preface and Introduction. <i>Science in Democracy: Expertise, Institutions, and Representation</i>. Cambridge, MA: MIT Press, pp. 1-19.            Isakhan, Benjamin. 2012. Introduction: The Complex and Contested History of Democracy. In <i>The Edinburgh Companion to the History of Democracy</i>, ed. Benjamin Isakhan and Stephen Stockwell. Edinburgh University Press, pp. 1-12.</p> <p><u>Recommended reading:</u>            Ezrahi, Yaron. 1990. <i>The Descent of Icarus: Science and the Transformation of Contemporary Democracy</i>. Cambridge, MA: Harvard University Press, pp. 9-28, 41-53.</p>
15.20-15.40	Break
15.40-17.00	Discussion
Tuesday, July 5	
Historical Background	
9.00-10.20	<p><u>Lecture:</u> Jewett, “Modern States and Disciplines”</p> <p><u>Required reading:</u>            Porter, Theodore M. 1993. Statistics and the Politics of Objectivity. <i>Revue de</i></p>

	<p><i>Synthèse</i> 114(1): 87-101.</p> <p><u>Recommended reading:</u>  Dear, Peter. 2004. Mysteries of State, Mysteries of Nature: Authority, Knowledge and Expertise in the Seventeenth Century. In <i>States of Knowledge: The Co-Production of Science and Social Order</i>, ed. Sheila Jasanoff. New York: Routledge, pp. 206-224.</p> <p>Broman, Thomas. 1998. The Habermasian Public Sphere and ‘Science in the Enlightenment.’ <i>History of Science</i> 36(112): 123-149.</p> <p>Porter, Dorothy. 1999. <i>Health, Civilization and the State: A History of Public Health from Ancient to Modern Times</i>. New York: Routledge, pp. 97-127.</p> <p>Hodge, Joseph M. 2011. Science and Empire: An Overview of the Historical Scholarship. In <i>Science and Empire: Knowledge and Networks of Science Across the British Empire, 1800-1970</i>, eds. Brett M. Bennett and Joseph M. Hodge. New York: Palgrave Macmillan, pp. 3-29.</p> <p>Geiger, Roger L. 1986. The Shaping of the American Research University, 1865-1920. In <i>To Advance Knowledge: The Growth of American Research Universities, 1900-1940</i>. New York: Oxford University Press, pp. 3-39.</p>
10.20-10.40	Break
10.40-12.00	<p><u>Lecture:</u> Jewett, “Twentieth-Century Patterns”</p> <p><u>Required reading:</u>  Wang, Jessica. 1999. Merton’s Shadow: Perspectives on Science and Democracy Since 1940. <i>Historical Studies in the Physical and Biological Sciences</i> 30(1): 279-306.</p> <p><u>Recommended reading:</u>  Wagner, Peter. 2003. Social Science and Social Planning During the Twentieth Century. In <i>The Cambridge History of Science: Volume 7, The Modern Social Sciences</i>, eds. Theodore M. Porter and Dorothy Ross. New York: Cambridge University Press, pp. 591-607.</p> <p>Uebel, Thomas. 2005. Political Philosophy of Science in Logical Empiricism: The Left Vienna Circle. <i>Studies in History and Philosophy of Science Part A</i> 36(4): 754-773.</p> <p>Lowen, Rebecca S. 1992. ‘Exploiting a Wonderful Opportunity’: The Patronage of Scientific Research at Stanford University. <i>Minerva</i> 30(3): 391-421.</p> <p>Slaughter, Sheila, and Gary Rhoades. 1996. The Emergence of a Competitiveness Research and Development Policy Coalition and the Commercialization of Academic Science and Technology. <i>Science, Technology &amp; Human Values</i> 21(3): 303-339.</p>
12.00-14.00	Lunch
14.00-15.20	Activity: Disciplinary visions: Students meet in groups to discuss the potential and limits of their disciplinary background and interests
15.20-15.40	Break
15.40-17.00	Discussion
<p>Wednesday, July 6  Applying Science</p>	
9.00-10.20	<p><u>Lecture:</u> Douglas, “History of Pure vs. Applied Science and the Linear Model”</p> <p><u>Required reading:</u>  Douglas, H. 2014. Pure Science and the Problem of Progress. <i>Studies in History and Philosophy of Science</i> 46: 55-63.</p> <p><u>Recommended reading:</u>  Gooday, G. 2012. “Vague and artificial”: The Historically Elusive Distinction</p>

	<p>between Pure and Applied Science. <i>Isis</i> 103: 546–554.</p> <p>Johnson, A. 2008. What if We Wrote the History of Science from the Perspective of Applied Science? <i>Historical Studies in the Natural Sciences</i> 38: 610–620.</p> <p>Nye, M. J. (2011) <i>Michael Polanyi and his generation</i>. Chicago: University of Chicago Press. Chap. 6.</p> <p>Rowland, H. A. 1883. A Plea for Pure Science. <i>Science</i>, 2(29): 242–250.</p> <p>Sarewitz, D. 1996. <i>Frontiers of Illusion</i>. Temple University Press. Chap. 6.</p>
10.20-10.40	Break
10.40-12.00	Student presentations: Andreas Spießberger, Eric Szot, Zina Ward
12.00-14.00	Lunch
Excursion: “Red Vienna” exhibition, Karl-Marx-Hof	
<p>Thursday, July 7</p> <p>Policy, Politics, and Politicization</p>	
9.00-10.20	<p><u>Lecture:</u> Brown, “Politicizing Science”</p> <p><u>Required reading:</u></p> <p>Brown, M. B. 2015. Politicizing Science: Conceptions of Politics in Science and Technology Studies. <i>Social Studies of Science</i> 45(1): 3-30.</p> <p><u>Recommended reading:</u></p> <p>De Vries G. 2007. What is political in sub-politics? How Aristotle might help STS. <i>Social Studies of Science</i> 37(5): 781–809.</p> <p>Latour, B. 2007. Turning around politics: A note on Gerard de Vries’ paper. <i>Social Studies of Science</i> 37(5): 811–820.</p> <p>Mansbridge, J. 2012. On the importance of getting things done. <i>PS: Political Science and Politics</i> (January): 1-8.</p> <p>Palonen, K. 2006. Two concepts of politics: Conceptual history and present controversies. <i>Distinktion</i> 12: 11–25.</p>
10.20-10.40	Break
10.40-12.00	<p><u>Lecture:</u> Douglas, “Science and Government: Structuring the Science-Policy Interface”</p> <p><u>Required reading:</u></p> <p>Douglas, H. 2015. Reshaping science: The trouble with the corporate model in Canadian government. <i>Bulletin of the Atomic Scientists</i> 71: 88-97.</p> <p><u>Recommended reading:</u></p> <p>Douglas, H. 2014. Scientific Integrity in a Politicized World. <i>Logic, Methodology, and Philosophy of Science: Proceedings of the Fourteenth International Congress</i>, ed. Peter Schroeder-Heister, Gerhard Heinzmann, Wilfrid Hodges, &amp; Pierre Edouard Bour. London: College Publications, pp. 253-268.</p> <p>Gluckman, P. 2014. The art of science advice to government. <i>Nature</i> 507(7491): 163-165.</p> <p>Union of Concerned Scientists. 2015. Progress and Problems: Government Scientists Report on Scientific Integrity and Four Agencies.</p> <p>Volk, Stephen. 2016. Was a USDA scientist muzzled because of his bee research? <i>Washington Post</i>. March 3.</p>
12.00-14.00	Lunch
14.00-15.20	Student presentations: Elina Vessonon, Henrik Roeland Visser
15.20-15.40	Break

15.40-17.00	Discussion
Friday, July 8 Politics of Expertise	
9.00-10.20	<p><u>Lecture:</u> Brown, “Politics of Expertise”</p> <p><u>Required reading:</u> Brown, M. B. 2016. Environmental Science and Politics. In <i>The Oxford Handbook of Environmental Political Theory</i>, ed. T. Gabrielson, C. Hall, J. M. Meyer, and D. Schlosberg. Oxford: Oxford University Press, 491-504.</p> <p><u>Recommended reading:</u> Collins H., M. Weinel, and R. Evans. 2010. The Politics and Policy of the Third Wave: New Technologies and Society. <i>Critical Policy Studies</i> 4(2):185-201.</p> <p>Jasanoff, S. 2009. Judgment under Siege: The Three-Body Problem of Expert Legitimacy. In <i>Democratization of Expertise? Exploring Novel Forms of Scientific Advice in Political Decision-Making</i>, ed. P. Weingart and S. Maasen. Dordrecht: Kluwer, pp. 209-224.</p> <p>Pielke, R. A. Jr. 2007. <i>The Honest Broker: Making Sense of Science in Policy and Politics</i>. Cambridge University Press, chap. 1-2.</p> <p>Sarewitz, D. 2004. How Science Makes Environmental Controversies Worse. <i>Environmental Science and Policy</i> 7: 385-403.</p>
10.20-10.40	Break
10.40-12.00	Student presentations: Renaud Fine, Shana Hirsch, Aleksandra Koltun
12.00-14.00	Lunch
14.00-15.20	Film: “Merchants of Doubt” (2014)
15.20-15.40	Break
15.40-17.00	Discussion
Monday, July 11 Race, Gender, and Religion	
9.00-10.20	<p><u>Lecture:</u> Brown, “Science and Race”</p> <p><u>Required reading:</u> American Anthropological Association. 1998. Statement on Race. Duster, Troy. 2003. Buried Alive: The Concept of Race in Science. In <i>Genetic Nature / Culture: Anthropology and Science Beyond the Two-Culture Divide</i>, ed. Alan H. Goodman, Deborah Heath, and M. Susan Lindee. Berkeley: University of California Press, pp. 258-277. Kahn, Jonathan. 2007. Race in a Bottle. <i>Scientific American</i> (August): 40-45.</p> <p><u>Recommended reading:</u> Mills, Charles. 2007. White Ignorance. In <i>Race and Epistemologies of Ignorance</i>, ed. Shannon Sullivan and Nancy Tuana. Albany: State University of New York Press, pp. 11-38. Hudson, Nicholas. 1996. From ‘Nation’ to ‘Race’: The Origin of Racial Classification in Eighteenth-Century Thought. <i>Eighteenth-Century Studies</i> 29(3): 247-264. Roberts, Dorothy. 2011. <i>Fatal Invention: How Science, Politics, and Big Business Recreate Race in the Twenty-First Century</i>. New York: The New Press.</p>
10.20-10.40	Break
10.40-12.00	<u>Lecture:</u> Jewett, “Science, Gender, and Sexuality”

	<p><u>Required reading:</u> Schiebinger, Londa. 1990. The Anatomy of Difference: Race and Sex in Eighteenth-Century Science. <i>Eighteenth-Century Studies</i> 23(4): 387-405.</p> <p><u>Recommended reading:</u> Milam, Erika Lorraine. 2012. Making Males Aggressive and Females Coy: Gender Across the Animal-Human Boundary. <i>Signs</i> 37(4): 935-959. Richardson, Sarah S. 2010. Feminist Philosophy of Science: History, Contributions, and Challenges. <i>Synthese</i> 177(3): 337–362. Fausto-Sterling, Anne. 2014. Nature. In <i>Critical Terms for the Study of Gender</i>, eds. Catharine R. Stimpson and Gilbert Herdt. Chicago: University of Chicago Press, pp. 294-319.</p>
12.00-14.00	Lunch
14.00-15.20	<p><u>Lecture:</u> Jewett, “Science, Religion, and Secularization”</p> <p><u>Required reading:</u> Harrison, Peter. 2006. “Science” and “Religion”: Constructing the Boundaries. <i>Journal of Religion</i> 86(1): 81-106.</p> <p><u>Recommended reading:</u> Reuben, Julie A. 1996. <i>The Making of the Modern University: Intellectual Transformation and the Marginalization of Morality</i>. Chicago: University of Chicago Press, pp. 36-60. Hollinger, David A. 2001. The ‘Secularization’ Question and the United States in the Twentieth Century. <i>Church History</i> 70(1): 132-143. Superfine, Benjamin. 2009. The Evolving Role of the Courts in Educational Policy: The Tension Between Judicial, Scientific, and Democratic Decision Making in “Kitzmiller v. Dover.” <i>American Educational Research Journal</i> 46(4): 898-923.</p>
15.20-15.40	Break
15.40-17.00	Discussion
<p>Tuesday, July 12 Science’s Critics</p>	
9.00-10.20	<p><u>Lecture:</u> Jewett, “Modernity’s Discontents”</p> <p><u>Required reading:</u> Jewett, Andrew. Forthcoming. Introduction: Science as a Moral Threat. In <i>Containing Science: The Challenge of Scientific Authority in Modern America</i>. (11 pages)</p> <p><u>Recommended reading:</u> Burrow, J. W. 2000. <i>The Crisis of Reason: European Thought, 1848-1914</i>. New Haven: Yale University Press, pp. 109-233. Hollinger, David A. 2001. The Enlightenment and the Genealogy of Cultural Conflict in the United States. In <i>What’s Left of Enlightenment? A Postmodern Question</i>, eds. Keith Michael Baker and Peter Hanns Reill. Stanford: Stanford University Press, pp. 7-18.</p>
10.20-10.40	Break
10.40-12.00	Film: “Judgment Day: Intelligent Design on Trial” (2007).
12.00-14.00	Lunch
14.00-15.20	Guest Lecture: Alexander Bogner, Austrian Academy of Sciences
15.20-15.40	Break
15.40-17.00	Discussion

Wednesday, July 13 Science Communication	
9.00-10.20	<p><u>Lecture:</u> Douglas, “Science Communication: Beyond the Deficit Model”</p> <p><u>Required reading:</u> Douglas, H. 2016. Science, Values, and Citizens. Elliott, K. C., and D. B. Resnik, D. B. 2014. Science, policy, and the transparency of values. <i>Environmental Health Perspectives</i> 122(7): 647-650.</p> <p><u>Recommended reading:</u> Dietz, T. 2013. Bringing values and deliberation to science communication. <i>Proceedings of the National Academies of Science U S A</i> 110 Suppl 3: 14081-14087. Drummond, C., and B. Fischhoff. 2015. Development and Validation of the Scientific Reasoning Scale. <i>Journal of Behavioral Decision Making</i>. doi: 10.1002/bdm.1906. Goldenberg, M. 2016. Public Misunderstanding of Science? Reframing the Problem of Vaccine Hesitancy. <i>Perspectives on Science</i>, 552–581. Kahan, D. M., Peters, E., Wittlin, M., Slovic, P., Ouellette, L. L., Braman, D., &amp; Mandel, G. 2012. The polarizing impact of science literacy and numeracy on perceived climate change risks. <i>Nature Climate Change</i> 2(10): 732-735. Wynne, Brian, 1992. Misunderstood Misunderstanding: Social Identities and Public Uptake of Science. <i>Public Understanding of Science</i> 1(3): 281-304.</p>
10.20-10.40	Break
10.40-12.00	<p>Activity: Experts on trial. Students meet in groups to evaluate the case of earthquake safety experts convicted of manslaughter for misinforming the public in L’Aquila, Italy</p> <p><u>Required Reading:</u> Hall, Stephen. 2011. At Fault? <i>Nature</i> 477: 264-269. Cartlidge, Edwin. 2013 Judge in L’Aquila Earthquake Trial Explains His Verdict. <i>Science Insider</i>. Jan. 21. Cartlidge, Edwin. 2014. Updated: Appeals court overturns manslaughter convictions of six earthquake scientists. <i>Science Insider</i>. Nov. 10. Cartlidge, Edwin. 2015. Italy’s supreme court clears L’Aquila earthquake scientists for good. <i>Science Insider</i>. Nov. 20.</p> <p><u>Recommended Reading:</u> Yeo, Michael. 2014. Fault lines at the interface of science and policy: Interpretative responses to the trial of scientists in L’Aquila. <i>Earth-Science Reviews</i> 139: 406-419.</p>
12.00-14.00	Lunch
Free afternoon	
Thursday, July 14 Public Engagement	
9.00-10.20	<p><u>Lecture:</u> Brown, “An Ecology of Public Engagement”</p> <p><u>Required reading:</u> Bucchi, Massimiano, and Federico Neresini. 2008. Science and Public Participation. In <i>Handbook of Science and Technology Studies</i>, 3rd Ed, ed. E. Hackett, O. Amsterdamska, M. Lynch, J. Wajcman. Cambridge, MA: MIT press, pp. 449-473.</p> <p><u>Recommended reading:</u> Brown, Mark. B. 2006. Citizen Panels and the Concept of Representation. <i>Journal of Political Philosophy</i> 14(2): 203–225</p>

	<p>Lezaun, Javier, and Linda Soneryd. 2007. Consulting Citizens: Technologies of Elicitation and the Mobility of Publics. <i>Public Understanding of Science</i> 16(3): 279-297.</p> <p>Lengwiler, Martin. 2008. Participatory Approaches in Science and Technology: Historical Origins and Current Practices in Critical Perspective. <i>Science, Technology, and Human Values</i> 33(2): 186–200.</p>
10.20-10.40	Break
10.40-12.00	Activity: Deliberation in action. Students meet in groups for guided deliberation on a controversial sociotechnical policy question.
12.00-14.00	Lunch
14.00-15.20	<p><u>Lecture:</u> Douglas, “Responsible Research and Innovation in Democratic Societies”</p> <p><u>Required reading:</u> Douglas, H. 2014. The Moral Terrain of Science. <i>Erkenntnis</i> 79: 961-979.</p> <p><u>Recommended reading:</u> Stilgoe, Jack, Richard Owen, and Phil Macnaghten. 2013. Developing a framework for responsible innovation. <i>Research Policy</i> 42(9): 1568-1580. Guston, D. H. 2012. The pumpkin or the tiger? Michael Polanyi, Frederick Soddy, and anticipating emerging technologies. <i>Minerva</i> 50(3): 363-379. Lefevere, Merel, and Eric Schliesser. 2014. Private Epistemic Virtue, Public Vices: Moral Responsibility in the Policy Sciences. In <i>Experts and Consensus in Social Science</i>, ed. C. Martini and M. Boumans. Springer, pp. 275-295.</p>
15.20-15.40	Break
15.40-17.00	Discussion
<p>Friday, July 15</p> <p>Universities and Public Life</p>	
9.00-10.20	<p><u>Lecture:</u> Brown, Douglas, Jewett, “Interdisciplinary Reflections on the Future of University Science and Politics”</p> <p><u>Required reading:</u> Halfman, Willem, and Hans Radder. 2015. The Academic Manifesto: From an Occupied to a Public University. <i>Minerva</i> 53(2): 165-187.</p>
10.20-10.40	Break
10.40-12.00	Activity: Students meet in groups to discuss university politics and the politics of their own academic work.
12.00-14.00	Lunch
14.00-15.20	Concluding discussion
15.20-15.40	Break
15.40-17.00	Closing remarks and distribution of certificates