HPSC0011

STS Perspectives on Big Problems

Course Syllabus

2019-20 session | STS Staff, course coordinator Professor Jon Agar | jonathan.agar@ucl.ac.uk

Course Information

This module introduces students to the uses of STS in solving big problems in the contemporary world. Each year staff from across the spectrum of STS disciplines – History, Philosophy, Sociology and Politics of Science – will come together to teach students how different perspectives can shed light on issues ranging from climate change to nuclear war, private healthcare to plastic pollution. Students have the opportunity to develop research and writing skills, and assessment will consist of a formative and a final essay. Students also keep a research notebook across the course of the module

This year's topic is climate change.

Basic course information

Course website:	See Moodle
Moodle Web site:	moodle.ucl.ac.uk
Assessment:	Formative assessment and essay
Timetable:	See online timetable
Prerequisites:	None
Required texts:	Readings listed below
Course tutor(s):	STS Staff, course coordinator Professor Jon Agar
Contact:	jonathan.agar@ucl.ac.uk | t: 020 7679 3521
Web:	http://www.ucl.ac.uk/sts/staff/agar
Office location:	22 Gordon Square, Room 2.4a

Schedule

	UCL Wk	Date	Topic	Activity
1	6	3.10	Introduction (Agar)	
2	6	3.10	Why is climate change a big problem? (Lock)	
3	7	10.10	Climate and the ancient world (Gregory)	READ: Glacken
4	7	10.10	The mini ice age and human responsibility (Maclehose)	READ: G. Parker; Headrick
5	8	17.10	Climate change: history and politics, 1850-2000 (Agar)	
6	8	17.10	Climate change: history and politics, 1850-2000; assessment advice (Agar)	
7	9	24.10	Climate change methods, disciplines, transgressions (O'Donovan)	READ: IPCC; Klenk and Meehan
8	9	24.10	Constructing and evaluating climate models (Tobin)	READ: Maslin, Frigg
9	10	31.10	Environmental ethics (Illari)	READ: Naess
10	10	31.10	Climate change and the arts (Ambrosio)	READ: Tysczuk and Smith
			Reading Week	**no lectures**
11	12	14.11	Public attitudes and politicians (Smallman)	READ: Nordhaus and Shellenberger; Whitmarsh and Capstick
12	12	14.11	Wildlife television and climate change (Gouyon)	
13	13	21.11	Carbon and global capitalism (Mata)	READ: Mitchell; Urry

14	13	21.11	Science and the green movement (Balmer)	READ:Martin
15	14	28.11	Technological fixes, solutions and solutionism (Stilgoe)	READ: Johnston
16	14	28.11	Technological fixes, solutions and solutionism (Stilgoe)	
17	15	5.12	Model COP debate (Agar, Lock)	ACTIVITY: prepare for the debate
18	15	5.12	Model COP debate (Agar, Lock)	ACTIVITY: prepare for the debate
19	16	12.12	Climate and disease (Turbil)	READ: Am J PH; Harrison
20	16	12.12	Climate and disease (Sozudogru)	READ: Semenza and Menne

Assessments

Summary

	Description	**Deadline**	**Word limit**	**Deadline for Tutors to provide Feedback**
0%	Essay (formative)	02 December 2019	2,500	As advised
100%	Policy Advice	13 January 2020	2,500	As advised

Assignments

Advice on the assessed work will be given in 6th session.

Specific Criteria for Assessment for this Module:

To be discussed in class.

Aims & objectives

aims

To demonstrate and explore the ways that STS provides perspective that contribute to the understanding of major problems facing humanity

objectives

- The possession of empirical and theoretical knowledge of big problems from interdisciplinary STS perspectives, and the written communication skills to account for such knowledge
- The skills to analyse such knowledge in order to propose persuasive cases for potential contributions to solutions to such problems
- A deeper grasp of the varied character of STS and its interdisciplinary relevance to a wider world

Reading list

General

Mike Hulme, *Why we disagree about climate change: understanding controversy, inaction and opportunity*, Cambridge: Cambridge University Press: 2009

Mark Maslin, *Global warming: a very short introduction*, Oxford: Oxford University Press: 2nd edition, 2009

John S. Dryzek, Richard B. Norgaard, and David Schlosberg, *Climate-challenged society*, Oxford: Oxford University Press, 2013

Week 1 Session 1 3 October 2019

Introduction (Jon Agar)

Introduction to the course. Overview of course contents, structure and assessments.

Essential Reading

None

Background Reading

S. Pacala and R. Socolow, 'Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies' *Science* (13 August 2004) 305(5686), pp.968-972.

Week 1 Session 2 3 October 2019

Why is climate change a Big Problem? (Simon Lock)

In this session we will think about climate change as a 'problem', why many refer to it as a 'wicked problem' and the role of different disciplinary perspectives (including STS) in both framing, defining and tackling it.

Background Reading

Grundmann, Reiner. "Climate change as a wicked social problem." *Nature Geoscience* 9.8 (2016): 562.

Head, Brian W. "Wicked problems in public policy." *Public policy* 3.2 (2008): 101.

Week 2 Session 3 10 October 2019

Climate and the ancient world (Andrew Gregory)

Ancient ideas on stability and climate change - what is nature, origin and development of the term - are humans natural? - cosmic perspective on climate change - Christian ideas on nature and change - Rhodes and deforestation.

Essential Reading

Glacken, *Traces on the Rhodian Shore*, Ch. 7, pp. 288-348.

Background Reading

Glacken, *Traces on the Rhodian Shore*.

Week 2 Session 4 10 October 2019

The Mini Ice Age and Human Responsibility (Bill Maclehose)

This session focuses on the impact of climate change and human responses to it from a historical perspective. We will take as a case study the 'Little Ice Age' from ca. 1300 to ca. 1850. We will focus on the arguments for causes and consequences the debate over the extent of human responsibility. We will consider the complex problems over the evidence for when the Little Ice Age began and ended, leading to radically different opinions about the chronology and extent of the phenomenon.

Essential Reading

Geoffrey Parker, *Global Crisis: War, Climate Change and Catastrophe in the Seventeenth Century* (Yale UP, 2013). Chapter one: The Little Ice Age, pp. 3-25.
https://www.jstor.org/stable/pdf/j.ctt32bksk.8.pdf?ab_segments=0%2Fl2b_100k_with_tbsub%2Fcontrol&refreqid=search%3Aa101b669c2a8939d48b82a4858266033

Brief response by Daniel Headrick, 'Global Warming, the Ruddiman Thesis and the Little Ice Age,' *Journal of World History* 26 (2016) 157-60.
https://www.jstor.org/stable/pdf/43818831.pdf?ab_segments=0%2Fl2b_100k_with_tbsub%2Fcontrol&refreqid=search%3Aa101b669c2a8939d48b82a4858266033

Week 3 Session 5 17 October 2019

Climate change: history and politics, 1850-2000 (Jon Agar)

This lecture traces the discovery of global warming and anthropogenic climate change from the nineteenth century through to the beginning of the 21st century. While scientists pieced together evidence of the effects of increased carbon dioxide and other gases in the atmosphere, in the second half of the twentieth century the issue became a political one.

Background Reading

Weart, Spencer R. (2003) *The Discovery of Global Warming*. Cambridge MA: Harvard University Press,

James Rodger Fleming, 'Global environmental change and the history of science' in Mary Jo Nye (ed.), *The Cambridge History of Science. Volume 5: The Modern Physical and Mathematical Sciences*, Cambridge: Cambridge University Press, 2003, pp.634-650

James Rodger Fleming, *Historical Perspectives on Climate Change*, Oxford: Oxford University Press, 1998.

Andrew E. Dessler and Edward A. Parson, *The Science and Politics of Global Climate Change: a Guide to the Debate*, Cambridge: Cambridge University Press, 2006.

Week 3 Session 6 17 October 2019

Climate change: history and politics, 1850-2000 (continued) and assessment advice (Jon Agar)

The lecture on the history and politics of climate change in the 19th and 20th centuries concludes, and advice is given on the course assessment.

Week 4 Session 7 24 October 2019

Global science, global politics? Methods and disciplines (Cian O'Donovan)

Do global problems require global solutions? In recent years, climate change has been framed as a global issue, requiring global science and global responses. This lecture will examine what it means to produce science, and politics at a global level, and how these processes are closely linked.

In the first half of the lecture we will discuss how science and politics are brought together, or 'co-produced' in global contexts. We will examine how concerns about climate change have led to the creation of global governance institutions such as the United Nations Framework Climate Change Convention with a special focus on the activities and structure of the International Panel on Climate Change (IPCC).

The second half of the lecture explores what might be missing from globally produced science. Students will be introduced to ideas about the different kinds of scientific methods required for knowing, mitigating and adapting to climate change. We will consider the role of global majority communities, indigenous knowledge and other ways of doing science that is often excluded from such global governance science.

Readings

Website: https://www.ipcc.ch/about/structure/. Please read the first three or four sections, scan the major headings on the rest of the page and follow any links you find interesting.

Miller, C. A. (2004). Climate science and the making of a global political order. In S. Jasanoff (Ed.), *States of Knowledge. The co-production of science and social order*. London: Routledge, part of the Taylor & Francis Group.
PDF of this chapter to be supplied on Moodle

Klenk, N., & Meehan, K. (2015). Climate change and transdisciplinary science: Problematizing the integration imperative. Environmental Science and Policy.
https://doi.org/10.1016/j.envsci.2015.05.017

Week 4 Session 8 24 October 2019

Constructing and evaluating climate models (Emma Tobin)

This lecture will address some of the epistemological and methodological problem posed by the use of modelling in climate science, with a particular focus on how data is used as evidence in climate science. Data is gathered from many domains causing problems around how that data is constructed into large datasets and how it is the evaluated as evidence. Moreover, data is necessarily partial and limited to data gathered since records began and to specific geographical locations. This lecture will focus on two interesting philosophical questions that emerge from thinking about climate data; the first how should scientists make inferences based on partial and poorly integrated data and the second, how can scientists be trusted to do so in a way that secures knowledge in climate science. The later issue of trust is often exploited by climate deniers to make evidence in climate science look unreliable. We will examine some philosophical literature which seeks to support inferences made on the basis of limited and partial data and how this data is integrated.

Essential Reading

Maslin, M (2004) Climate Change: A Very Short Introduction, Oxford University Press, Chapter 3.
https://books.google.co.uk/books?id=2mfDBAAAQBAJ&pg=PA29&source=gbs_toc_r&cad=4#v=onepage&q&f=false

Frigg et al (2015) Philosophy of Climate Science Part 1: Observing Climate Change
https://onlinelibrary.wiley.com/doi/epdf/10.1111/phc3.12294

Background Reading

Frigg et al. (2015) Philosophy of Climate Science II: Modelling Climate Change
https://onlinelibrary.wiley.com/doi/full/10.1111/phc3.12297

Week 5 Session 9 31 October 2019

Environmental ethics (Phyllis Illari)

Climate change and other environmental issues have challenged certain modes of ethical thinking, and associated legal thinking.

A dominant mode of ethical thinking focuses on the question of what people should do, and strongly prioritises the welfare of people. Many environmental ethicists criticise this as 'anthropogenic' - a way of saying it is illegitimately focused on humans alone.

The same dominant mode of thinking often also focuses on the actions of one or a very small number of people. To environmental ethicists, this is 'individualistic' and we must turn our attention to what human beings share as a 'collective responsibility'.

For environmental ethicists, if we are to deal with climate change effectively at all, we need to challenge our ways of thinking and transform them. We will examine how environmental ethicicsts encourage us to think differently about ethical agents (who are the actors an ethical theory is aimed at?) and ethical patients (what should an ethical theory consider the welfare of?)

Essential Reading:

Arne Naess (1973) 'The shallow and the deep, long-range ecology movement. A summary', *Inquiry*, 16:1-4, 95-100, https://doi.org/10.1080/00201747308601682

Background Reading

John Bryant, Linda Baggott la Velle and John Searle (eds.) (2002), Bioethics for Scientists, Chichester: John Wiley & Sons. See especially Chapter 3, Christopher Southgate, 'Introduction to Environmental Ethics' https://ucl-new-primo.hosted.exlibrisgroup.com/primo-explore/fulldisplay?docid=TN_pq_ebook_centralEBC138346&context=PC&vid=UCL_VU2&lang=en_US&search_scope=CSCOP_UCL&adaptor=primo_central_multiple_fe&tab=local&query=any,contains,bioethics%20for%20scientists%20,%20bryant%20j%20a&offset=0

Week 5 Session 10 31 October 2019

Climate change and the arts (Chiara Ambrosio)

In this session we explore how the visual and performing arts can contribute to climate research. Far from considering them as a mere late add-on to climate science and its communication, we will explore concrete examples in which the arts successfully enable understanding and meaning-making in their own right and in a way that complements scientific research, thus contributing to shape and direct our collective responses to the challenges posed by climate change.

Essential Reading

Renata Tyszczuk and Joe Smith, "Culture and climate change scenarios: the role and potential of the arts and humanities in responding to the '1.5 degrees target' ", Current Opinion in Environmental Sustainability, Volume 31, 2018, Pages 56-64
Link to open access
article: https://www.sciencedirect.com/science/article/pii/S1877343517301057

Further readings: the article has a very useful annotated bibliography, with sources ranked in order of relevance. Have a thorough look at it and select one or two sources that you think will help you expand on the content of the article.

Background Reading
The interdisciplinary project discussed as a case study has its own website:
http://www.cultureandclimatechange.co.uk/
The website includes two useful edited collections, which you can use as sources of additional readings:
Robert Butler, Eleanor Margolies, Joe Smith and Renata Tyszczuk (eds), "Culture and Climate Change: Recordings", Cambridge: Shed, 2011.
Available open access here:
http://www.cultureandclimatechange.co.uk/site/assets/files/1027/ccc_recordings.pdf

Joe Smith, Robert Butler, and Renata Tyszczuk (eds), "Culture and Climate Change: Narratives", Cambridge: Shed, 2014.
Available open access
here:http://www.cultureandclimatechange.co.uk/site/assets/files/1026/ccc_narratives.pdf

Make sure you also research and follow-up the artists mentioned in the article: each has a website which showcases their work.

Week 6

**** READING WEEK ****

Week 7 Session 11 14 November 2019

Public attitudes and politicians (Melanie Smallman)

Why has action on climate change been so slow? Why do politicians seem to be dragging their heels on action to tackle climate change, even in the face of scientific evidence? And why do some people still deny that climate change is an issue? In this session we will look at these questions by considering public attitudes to and the politics of climate change. In particular, we will give thought to how the social and economic implications of climate change are irrevocably tied up with the 'facts' and the move (or otherwise) to changing attitudes and political action on the issue.

Essential Reading

Nordhaus and Shellenberger (2004). Breakthrough - the Death of Environmentalism https://grist.org/article/doe-reprint/

Whitmarsh, Lorraine, and Stuart Capstick. '2 - Perceptions of Climate Change'. In Psychology and Climate Change, edited by Susan Clayton and Christie Manning, 13–33. Academic Press, 2018. https://doi.org/10.1016/B978-0-12-813130-5.00002-3.

Background Reading

Introduction to Giddens, Anthony. The Politics of Climate Change. 2nd edition. Cambridge Malden, MA: Polity Press, 2011.

Nick Pidgeon (2012) Public understanding of, and attitudes to, climate change: UK and international perspectives and policy, Climate Policy, 12:sup01, S85-S106, DOI: 10.1080/14693062.2012.702982

Jasanoff, S. (2010) 'A New Climate for Society', Theory, Culture & Society, 27(2–3), pp. 233–253. doi: 10.1177/0263276409361497. https://journals.sagepub.com/doi/pdf/10.1177/0263276409361497

Week 7 Session 12 14 November 2019

Wildlife television and climate change (Jean-Baptiste Gouyon)

In this session we consider the involvement (or not) of wildlife television with climate change and the controversies surrounding this engagement.
The active engagement of BBC wildlife programming with the climate change issue as been late in coming. David Attenborough, the BBC wildlife star front man, came out as a former climate change sceptic who converted to believing in the reality of climate change in 2006. Why is that

so? What motivated this change of mind? Does it make a difference? In order to answer these questions, we will look at the trajectory of climate change in wildlife television and reflect on what television wildlife programming can contribute in the discussion over climate change.

Background Reading

Morgan Richards (2013) 'Greening Wildlife Documentary', in Libby Lester and Brett Hutchins (eds) *Environmental Conflict and the Media*, New York: Peter Lang, pp.171-185.

Graham Huggan (2013) 'A is for Attenborough', in Graham Huggan, *Nature's saviours. Celebrity conservationists in the television age*, London: Routledge, pp.21-64

Kris M. Wilson, (2000) 'Communicating climate change through the media.', in Barbara Adam, Stuart Allan, and Cynthia Carter, (eds.) *Environmental risks and the media*. London: Routledge, pp. 201-217.

Week 8 Session 13 21 November 2019

Carbon and global capitalism (Tiago Mata)

Capitalism develops unevenly. For long periods of time a few industries can dominate others and become pacemakers of growth, financial and technological development. The world economy's reliance on oil began in the early 20th century when the automobile and chemical industries became the pacemakers for national development. After European decolonization a system of nations emerged held together through relationships of economic and technical interdependence. Oil was one of the first global commodities and the element that held together this new geopolitics.

This session examines the political history of oil as a global business and it calls on critical political economy to discuss how reliant are our ways of organizing production, distribution and consumption on oil and carbon. In other words, we ask: does capitalism need oil?

Essential Reading

Timothy Mitchell. *Carbon Democracy*. Verso. 2011. Chapter 5, Fuel Economy, pp. 109-143.

John Bellamy Foster, Brett Clark, Richard York. *The Ecological Rift: Capitalism's War on the Earth*. Monthly Review Press. 2010. Chapter 5 "Carbon Metabolism and Global Capital Accumulation" pp. 121-150.

Background Reading

Timothy Mitchell. *Carbon Democracy*. Verso. 2011. Chapter 4, Mechanisms of Goodwill, pp. 86-108

John Urry. *Societies beyond Oil: Oil Dregs and Social Futures*, 2013. Zed Books. Part II. Social

Futures. 157-240.

Daniel Yergin. *The Prize: The Epic Quest for Oil, Money, and Power*. Simon & Schuster. 1991. The book is long and journalistic, also very interesting for a background of the oil industry.

Week 8 Session 14 21 November 2019

Science and the Green Movement (Brian Balmer)

Scientists sometimes become campaigners over issues such as climate change. Science, however, is not just the province of professional scientists, it is put to use by social movements such as the Green Movement. This topic focusses on social movements, such as the environmental movement (up to and including Extinction Rebellion) and by way of comparison the peace movement, and how they put science to use.

Essential Reading

Martin, Brian (1993), Social Defence, Social Change (London: Freedom Press, 1993), Chapter 10 'Social Defence and the Environment' – available at https://www.bmartin.cc/pubs/93sdsc/

Background Reading

Yearley, S (1989), 'Bog Standards: Science and Conservation at a Public Inquiry', *Social Studies of Science* Vol.19 pp.421-38. (esp. pp.29-33). (Case study of an attempt to mobilize expertise to save a peat bog habitat)

Hess, D *et al* 'Science, Technology and Social Movements' in Hackett, EJ (et al) (2007), *The Handbook of science and technology studies* (Cambridge, Mass. ; London : MIT Press) (3rd ed)

Jamison, A (2001), *The Making of Green Knowledge* (esp Chapter 6 on how activists create knowledge).

Irwin, A (2001), *Sociology and the Environment* (Cambridge: Polity) Chapters 5 and 7.

Martin, B (1997) 'Science, Technology and Nonviolent Action: The Case for a Utopian Dimension in the Social Analysis of Science and Technology' Social Studies of Science, Vol. 27, No. 3, 439-463 (1997)

Kraft, Alison (2018), 'Dissenting Scientists in Early Cold War Britain: The "Fallout" Controversy and the Origins of Pugwash, 1954–1957', *Journal of Cold War Studies*, Volume 20, Number 1, Winter 2018, pp. 58-100

Week 9 Sessions 15 and 16 28 November 2019

Technological fixes, solutions and solutionism (Jack Stilgoe)

This lecture will look at the relationship between social problems and technological solutions. We will consider how societies decide which problems to focus on, and whether climate change is the sort of problem that can be 'solved', either through technology or in some other way. We will look at the idea of 'solutionism' and look at the history of 'technological fixes'. We will then consider the science, ethics and politics of 'geoengineering' (technological fixes for climate change).

Essential Reading

Johnston, S. F. (2018). The Technological Fix as Social Cure-All: Origins and Implications. IEEE Technology and Society Magazine, 37(1), 47-54.
https://ieeexplore.ieee.org/document/8307139

Additional reading

Weinberg, A. M. (1966). Can technology replace social engineering?. Bulletin of the Atomic Scientists, 22(10), 4-8.
https://www.tandfonline.com/doi/abs/10.1080/00963402.1966.11454993

Ch. 1 – Solutionism and its discontents, in Morozov, E, (2013). To Save Everything, Click Here: Technology, Solutionism, and the Urge to Fix Problems that Don't Exist. Allen Lane

The sociology of social problems, an annotated bibliography
https://www.oxfordbibliographies.com/view/document/obo-9780199756384/obo-9780199756384-0052.xml

On geoengineering, Jack Stilgoe has written an intro and brief history here:
https://jackstilgoe.files.wordpress.com/2018/06/geo-for-companion-to-env-studies.pdf

Week 10 Sessions 17 and 18 5 December 2019

Model COP (Jon Agar and Simon Lock)

The Santiago Climate Change Conference will take place in Chile from 2 to 13 December, and will include a Conference of the Parties (COP 25). These international meetings are the central places of international negotiation on the problems of climate change.

Preparation

In this session you will have researched and be ready to role play the different bodies (nations, NGOs, etc) that seek to influence COP negotiations.

Further instructions will be given.

Week 11 Session 19 12 November 2019

Climate and Disease (Cristiano Turbil)

In this session, we will look at heat, humidity and climate in general in the development and implementation of public health norms in the late nineteenth and early twentieth century. We will work in groups and look at several historical sources, which discuss the correlation between health and climate, the role and significance of the environment in the establishment of public health norms, and how disease impacted human populations differently across climates/regions.

We will try to answer two key questions:

- Why was the study of environment and climate so significant in the establishment of public health norms in the late nineteenth and early twentieth century, especially within the colonial setting?
- How did the creation of tropical medicine change our understanding of disease?

Essential Reading

- Am J Public Health (N Y). 1926 Oct; 16(10): 1027–1029.
- Harrison, M. (1996) '"The Tender Frame of Man": Disease, Climate and Racial Difference in India and the West Indies, 1760-1860', Bulletin of the History of Medicine, 70(1), pp. 68–93. doi: 10.1353/bhm.1996.0038.

Activity in class:

We will work in small groups and analyse, compare and contrast an array of sources written by doctors/ public health officers from different climates/geographical areas. Sources will be distributed in class.

Background Reading:

Medical History of British India - National Library of Scotland (no date). Available at: http://digital.nls.uk/indiapapers/index.html.

Arnold, D. (1985) 'Medical Priorities and Practice in Nineteenth-Century British India', South Asia Research, 5(2), pp. 167–183. doi: 10.1177/026272808500500208.

Arnold, D. (1988) 'Smallpox and colonial medicine in 19th century India', in Imperial medicine and indigenous societies: disease, medicine and empire in the nineteenth and twentieth centuries. Manchester: Manchester University Press.

Arnold, David (1993) Colonizing the body: state medicine and epidemic disease in nineteenth-century India. Berkeley: University of California Press.

Brimnes, N. (no date) 'Variolation, vaccination and popular resistance in early Colonial South India', Medical History, 48(2), pp. 199–228. Available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC546339/.

Buckingham, Jane (2002) Leprosy in colonial South India: medicine and confinement. Basingstoke: Palgrave. Available at: http://kcl.eblib.com/patron/FullRecord.aspx?p=203667.

Catanach, I. (1988) 'Plague and the tensions of empire: India 1896-1918', in Imperial medicine and indigenous societies: disease, medicine and empire in the nineteenth and twentieth centuries. Manchester: Manchester University Press.

Chandavarkar, R. (1992) 'Plague panic and epidemic politics in India, 1896-1914', in Epidemics and ideas: essays on the historical perception of pestilence. Cambridge: Cambridge University Press.

David Arnold (1986) 'Cholera and Colonialism in British India', Past & Present. Oxford University Press, (113), pp. 118–151. Available at: http://www.jstor.org/stable/650982.

Harrison, M. (1992) 'Quarantine, pilgrimage, and colonial trade: India 1866-1900', Indian Economic & Social History Review, 29(2), pp. 117–144. doi: 10.1177/001946469202900201.

Harrison, M. (1994) 'Cholera theory and sanitary policy', in Public health in British India: Anglo-Indian preventive medicine 1859-1914. Cambridge: Cambridge University Press.

Harrison, M. (1996) '"The Tender Frame of Man": Disease, Climate and Racial Difference in India and the West Indies, 1760-1860', Bulletin of the History of Medicine, 70(1), pp. 68–93. doi: 10.1353/bhm.1996.0038.

Mishra, S. (2011) 'Beasts, Murrains, and the British Raj: Reassessing Colonial Medicine in India from the Veterinary Perspective, 1860–1900', Bulletin of the History of Medicine, 85(4), pp. 587–619. doi: 10.1353/bhm.2011.0089.

Pati, Biswamoy (2012) The social history of health and medicine in colonial India: edited by Biswamoy Pati: Mark Harrison. London: Routledge.

Imperial Hygiene - Alison Bashford - Palgrave Macmillan (no date). Available at: http://www.palgrave.com/page/detail/?sf1=id_product&st1=762250&loc=uk.

R Peckham and D Pomphret (eds), Imperial contagions: Medicine, hygiene and the cultures of planning in Asia (no date). Available at: http://www.hkupress.org/Common/Reader/Products/ShowProduct.jsp?Pid=1&Version=0&Cid=16&Charset=iso-8859-1&page=-1&key=9789888139521.

Watts, S. (1997) 'Cholera and Civilization', in Epidemics and history: disease, power, and imperialism. New Haven: Yale University Press.

Week 11 Session 20 12 November 2019

Climate and Disease (Erman Sozudogru)

Anthropogenic climate change is expected to cause shifts in the transmission ranges of vector-borne diseases such as hantavirus, West Nile virus, tick-borne encephalitis, Lyme disease, Malaria and Dengue. As a result, we are expecting to see the emergence and re-emergence of communicable diseases in parts of the world, like Europe, were these diseases were previously absent. In this session, we examine how different scientific and medical practices can be brought together to address local and global challenges in public health. We will look at philosophical concepts including pluralism and pragmatism to help us discuss how to organise our efforts in combating healthcare needs that arise from climate change.

Essential Reading

Semenza, J. C., and B. Menne. 2009. "Climate change and infectious diseases in Europe." *The Lancet Infectious Diseases* 9 (6):365-375.

Background Reading

Shields, P. M. (2003). The Community of Inquiry: Classical Pragmatism and Public Administration. Administration & Society, 35 (5), 510–538.
Kellert, S., H. Longino, and K. Waters, eds. 2006. *Scientific Pluralism*, *Minnesota Studies in the Philosophy of Science*. Mineapolis: University of Minnesota Press.
Patz, J. A., T. K. Graczyk, N. Geller, and A. Y. Vittor. 2000. "Effects of environmental change on emerging parasitic diseases." *International Journal for Parasitology* 30 (12):1395-1405.
Liang, L., and P. Gong. 2017. "Climate change and human infectious diseases: A synthesis of research findings from global and spatio-temporal perspectives." *Environment International* 103:99-108.