

Statistics and the Political Sociology of Quantification



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British author H. G. Wells famously declared that “statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write.” Like citizenship and mass education, statistics as we know them today are first and foremost the instruments of statesmen, and a technique of statecraft.

This course examines the political uses of statistics (and, more generally, of numbers) by political authorities. It does so by going through case studies of how quantification – the operation of ‘coming up with numbers’ – is used to serve state interests and to call for political action.

In order to get everyone up to speed on basic statistics, the course begins with a 5-week workshop organised in similar fashion to another course that I teach, [Statistical Reasoning and Quantitative Methods](#). The course then moves to the study of how quantified information feeds into politics, and ends on student presentations on the role of quantification in their own research.

Answers to frequently asked questions

Is this a statistics course? — Yes, but only partly. The first part of the course is basic computing, basic statistics, and empirical research design. The second part is a sociological analysis of quantitative methods in the context of political decision-making.

Do I need to know statistics to take the course? — No. No previous knowledge of either descriptive or inferential statistics is required for taking this course, although motivation to learn about it is crucial to the rest of the course.

How much statistics will I know by the end of the course? — Some, although not enough to independently conduct quantitative research. You will be pointed to the resources that you will need to learn more about quantitative methods.

Course Outline

Part 1 of the course follows parts of [Statistical Reasoning and Quantitative Methods](#): in Weeks 1–5 of this course, we will cover as much as possible from Sections 1–9 of that other course, which is basically a crash course in statistics for social scientists.

Part 2 then switches to traditional lectures for two weeks, in order to convey the most essential components of a political sociology of quantification, using some of the [selected readings](#) listed in the last part of this syllabus.

Last, **Part 3** closes with students presentations, i.e. very brief talks in which each student will individually present his or her current Masters dissertation project, with particular attention to the role of quantification and statistics in the project.

1. Introduction · Statistical Software

Part 1 – *Statistics for Social Scientists*

2. Datasets and Variables

3. Descriptive Statistics and Distributions

4. Associations and Correlations

5. Linear and Nonlinear Regression Models

Part 2 – *Quantification for Social Scientists*

6. Measurement as Representation

7. Visualization as Seduction

Part 3 – *Assessment*

8. Student Presentations / 1

9. Student Presentations / 2

Grading policy

10%	Attendance	—	Just come to class.
20%	Homework	—	Short readings that will be attached to the course emails.
70%	Presentation	—	See the instructions on the last page of this syllabus.

Course Resources

The next pages list some [journals](#), [readings](#) and [websites](#) that are useful to get a grasp of the topics covered in the course (quantification and statistics). All recommended material is written either in English or in French, and particularly recommended resources are highlighted in yellow.

Selected Journals

Annals of Applied Statistics

Annals of Statistics

Annual Review of Statistics and its Application

Biometrika

Biostatistics

Econometrica

European Sociological Review

Journal of Business & Economic Statistics

Journal of Computational and Graphical Statistics

Journal of the Royal Statistical Society, Series A (Statistics in Society)

Journal of Statistical Software

Journal of the American Statistical Association

Radical Statistics

Review of Economics and Statistics

Scientific Data

Scientometrics

Significance

Social Indicators Research

Socio-Economic Review

Statistical Journal of the IAOS

Statistical Journal of the United Nations Economic Commission for Europe

Statistical Methods in Medical Research

Statistical Science

Statistics and Public Policy

Statistics in Medicine

Statistique et société · in French

Selected Readings

Banzhaf, H. Spencer. 2017. “Constructing Markets: Environmental Economics and the Contingent Valuation Controversy,” *History of Political Economy* 49(suppl.): 213–39.

Barberousse, Anouk. 2013. “Les conditions de possibilité de la mesure.” *Cahiers philosophiques* 135: 7–22. In French.

Bardet, Fabrice. 2014. *La Contre-révolution comptable. Ces chiffres qui (nous) gouvernent*. Paris, Les Belles Lettres. In French.

Beer, David. 2016. “How Should We Do the History of Big Data?” *Big Data & Society* 3(1).

Bezes, Philippe, Chiapello, Eve and Desmarez, Pierre. 2016. “Introduction : la tension savoirs-pouvoirs à l'épreuve du gouvernement par les indicateurs de performance,” *Sociologie du travail* 58(4): 347–69. Introduction to a special issue on “Government by Indicators.” In French.

Bonnecase, Vincent. 2015. “Généalogie d'une évidence statistique. De la 'réussite' économique du colonialisme tardif à la 'faillite' des Etats africains (v.1930-v. 1980),” *Revue d'histoire moderne et contemporaine* 62(4): 33–63. In French.

Bouk, D. 2015. *How Our Days Became Numbered. Risk and the Rise of the Statistical Individual*. Chicago, University of Chicago Press.

Bourmaud, Philippe. 2011. “Science internationale et élaboration des pratiques du développement : le débat sur les indicateurs de prévalence du paludisme dans les années 1920,” in Bourmaud, Philippe (ed.), *De la mesure à la norme : les indicateurs du développement*, Lausanne, BSN Press, 49–67. In French.

Bruno, Isabelle, Didier, Emmanuel, and Prévieux, Julien. 2014. *Statactivism. Comment lutter avec des nombres*. Paris, La Découverte. In French.

Bruno, Isabelle, Jany-Catrice, Florence, and Touchelay, Beatrice (eds). 2016. *The Social Sciences of Quantification. From Politics of Large Numbers to Target-Driven Policies*. New York, Springer.

Chang, Hasok and Cartwright, Nancy. 2008. “Measurement,” in Psillos, Stathis and Curd, Martin (eds), *The Routledge Companion to the Philosophy of Science*, London and New York, Routledge, 367–75.

Chapoulie, Jean-Michel. 2017. “La rigueur dans les enquêtes statistiques,” in *Enquête sur la connaissance du monde social. Anthropologie, histoire, sociologie, France-États-Unis, 1950–2000*, Rennes, Presses Universitaires de Rennes, 265–318. In French.

Commenges, Hadrien et al. 2016. “L'expertise est-elle soluble dans la modélisation intégrée ?” in Nemery Jean-Claude and Thuriot, Fabrice (eds), *Les instruments de l'action publique et les dispositifs territoriaux*. Paris, L'Harmattan, 59–74. In French.

Coyle, Diane. 2014. *GDP. A Brief but Affectionate History*. Princeton, Princeton University Press.

Coyle, Diane. 2017. “The Political Economy of National Statistics,” in Kirk Hamilton, Kirk and Hepburn, Cameron (eds), *National Wealth*, Oxford, Oxford University Press, 15–46 [preprint].

- Davis, Kevin E. et al. (eds). 2015. *Governance by Indicators: Global Power through Quantification and Rankings*. Oxford, Oxford University Press.
- Denis, Jérôme and Goëta, Samuel. 2017. “Rawification and the Careful Generation of Open Government Data,” *Social Studies of Science* 47(5): 604–29.
- Desrosières, Alain. 2014. *Prouver et gouverner. Une analyse politique des statistiques publiques*. Paris, La Découverte. In French.
- Desrosières, Alain. 2014. “Statistics and Social Critique.” *Partecipazione e Conflitto* 7(2): 348–59.
- Desrosières, Alain. 2008. *Pour une sociologie historique de la quantification. L’argument statistique I*. Paris, Presses de l’École des mines. In French.
- Desrosières, Alain. 2008. *Gouverner par les nombres. L’argument statistique II*. Paris, Presses de l’École des mines. In French.
- Desrosières, Alain. 2003. “Comment fabriquer un espace de commune mesure ? Harmonisation des statistiques et réalisme de leurs usages,” in Lallement, Michel and Spurk, Jan (eds), *Stratégies de la comparaison internationale*, Paris, CNRS Éditions, 151–66. In French.
- Desrosières, Alain. 2001. “Entre réalisme métrologique et conventions d’équivalence: les ambiguïtés de la sociologie quantitative,” *Genèses* (43): 112–27. In French.
- Desrosières, Alain. 1993. *La raison des grands nombres. Histoire de la raison statistique*. Paris, La Découverte [English translation]. In French.
- Didier, Emmanuel. 2015. “Mesurer la délinquance en France depuis 1970. Entre expertise et publicité,” *Ethnologie française* 45(1): 109–21. In French.
- Didier, Emmanuel. 2018. “Globalization of Quantitative Policing: Between Management and Statactivism.” *Annual Review of Sociology* 44: 515–34.
- Emigh, Rebecca J., Riley, Dylan and Ahmed, Patricia. 2016a. *Antecedents of Censuses from Medieval to Nation States. How Societies and States Count*, Basingstoke, Palgrave Macmillan.
- Emigh, Rebecca J., Riley, Dylan and Ahmed, Patricia. 2016b. *Changes in Censuses from Imperialist to Welfare States. How Societies and States Count*, Basingstoke, Palgrave Macmillan.
- Erkkilä, Tero, Peters, B. Guy and Piironen, Ossi. 2016. “Politics of Comparative Quantification: The Case of Governance Metrics,” *Journal of Comparative Policy Analysis* 18(4): 319–438. Introduction to a special issue on “Governance Indices, Politics and Expert Knowledge.”
- Espeland, Wendy N. and Stevens, Mitchell L. 2008. “A Sociology of Quantification.” *European Journal of Sociology / Archives européennes de sociologie* 49(3): 401–36.
- Felice, Emanuele. 2016. “The Misty Grail: The Search for a Comprehensive Measure of Development and the Reasons for GDP Primacy,” *Development and Change* 47(5): 967–94.
- Gitelman, Lisa (ed.). 2013. *‘Raw Data’ is an Oxymoron*. Cambridge, MIT Press.
- Goëta, Samuel and Davies, Tim. 2016. “The Daily Shaping of State Transparency: Standards, Machine-Readability and the Configuration of Open Government Data Policies,” *Science & Technology Studies* 29(4).

Gohdes, Anita R. and Price, Megan. 2012. “[First Things First: Assessing Data Quality before Model Quality](#),” *Journal of Conflict Resolution* 57(6): 1090–108.¹

Goldstein, Harvey. 2014. “[Using League Table Rankings in Public Policy Formation: Statistical Issues](#),” *Annual Review of Statistics and Its Application* 1: 385–99.

Gould, Stephen J. 1981. *The Mismeasure of Man*. New York, W.W. Norton.

Hacking, Ian. 1991. “[How Should We Do the History of Statistics?](#)” in Burchell, Graham, Gordon, Colin and Miller, Peter (eds), *The Foucault Effect. Studies in Governmentality*. Chicago, Chicago University Press, 181–96.

Hautœur, Pierre-Cyrille. 2008. “[Produire des statistiques : pour quoi faire ? L'échec de la statistique des faillites en France au XIX^e siècle](#),” *Histoire & mesure* 23(1): 85–136. In French.

Héran, François. 1984. “[L'assise statistique de la sociologie](#),” *Économie et statistique* 168(1): 23–35. In French.

Hirschman, Daniel Abramson. 2016. *Inventing the Economy, Or: How We Learned to Stop Worrying and Love the GDP*. PhD dissertation, University of Michigan.

Jerven, Morten. 2013. *Poor Numbers. How We Are Misled by African Development Statistics and What to Do about It*. Ithaca, Cornell University Press.²

Jewell, Nicholas P., Spagat, Michael and Jewell, Britta L. 2018. “[Accounting for Civilian Casualties: From the Past to the Future](#),” *Social Science History* 42(3): 379–410³.

Jorland, Gérard, Opinel, Annick and Weisz, George (eds). 2005. *Body Counts. Medical Quantification in Historical and Sociological Perspectives*, Montreal, McGill Queen University Press.

Kitchin, Rob. 2014. *The Data Revolution. Big Data, Open Data, Data Infrastructures and Their Consequences*. London, Sage.

Le Bourhis, J.-P. 2016. “[The Politics of Green Knowledge: A Comparative Study of Support for and Resistance to Sustainability and Environmental Indicators](#),” *Journal of Comparative Policy Analysis* 18(4): 403–18.

Martin, Benoît. 2015. “[Les quantifications dans l'expertise des organisations internationales Le cas de l'UNODC](#),” in Klein, Asmara, Laporte, Camille and Saiget, Marie (eds), *Les bonnes pratiques des organisations internationales*. Paris, Presses de Sciences Po, 21–38.

Merry, Sally E. 2016. “[Cultural Dimensions of Power/Knowledge: The Challenges of Measuring Violence against Women](#),” *Sociologie du travail* 58(4): 370–80.

Merry, Sally E. 2016. *The Seductions of Quantification. Measuring Human Rights, Gender Violence, and Sex Trafficking*, Chicago, University of Chicago Press.

Merry, Sally E., Davis, Kevin E., and Kingsbury, Benedict (eds). 2015. *The Quiet Power of Indicators: Measuring Governance, Corruption, and Rule of Law*. Cambridge, Cambridge University Press.

¹ This article is about the [Battle Deaths Dataset](#) published by the Peace Research Institute Oslo (PRIO).

² See also the extended reviews of that book by [Agnès Labrousse](#) and [Boris Samuel](#) (both in French).

³ See also [Michael Spagat's blog](#) for more case studies of (mis)counting battleground deaths.

- Mitchell, Timothy. 2002. "The Character of Calculability," in *Rule of Experts. Egypt, Techno-Politics, Modernity*, Berkeley, University of California Press, 80–119.
- O’Neil, Cathy. 2016. *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. New York, Crown.
- Ogien, Albert. 2013. *Désacraliser le chiffre dans l'évaluation du secteur public*. Paris, Quae éditions. In French.
- Oliver, Thomas R. 2010. "Population Health Rankings as Policy Indicators and Performance Measures," *Preventing Chronic Disease* 7(5): A101.
- Politique africaine*, 2017. "Raisons et imaginaires de la planification" (special issue), *Politique africaine* (145): 5–128. In French.⁴
- Porter, Theodore. 1995. *Trust in Numbers. The Pursuit of Objectivity in Science and Public Life*. Princeton, Princeton University Press.
- Prevost, Jean-Guy. 2009. *A Total Science: Statistics in Liberal and Fascist Italy*. Montreal, McGill-Queen’s University Press.
- Raman, Nithya V. 2012. "Collecting Data in Chennai City and the Limits of Openness." *Journal of Community Informatics* 8(2).
- Rusnock, Andrea. 2002. *Vital Accounts. Quantifying Health and Population in Eighteenth-Century England and France*. Cambridge, Cambridge University Press.
- Revue d'anthropologie des connaissances*. 2016. "Mesurer et standardiser : les technologies politiques du gouvernement de l’Afrique" (special issue), *Revue d'anthropologie des connaissances* 10(2): 127–337. In French.
- Rottenburg, Richard, Merry, Sally E. and Park, Sung-Joon (eds). 2015. *The World of Indicators: The Making of Governmental Knowledge through Quantification*. Cambridge, Cambridge University Press.
- Ruiz, Émilien. 2015. "Quantifier une abstraction ? L’histoire du ‘nombre fonctionnaires’ en France," *Genèses* (99): 131–48. In French.
- Rusnock, Andrea. 2002. "Count, Measure, Compare: The Depopulation Debates," in *Vital Accounts. Quantifying Health and Population in Eighteenth-Century England and France*, Cambridge, Cambridge University Press, 179–209.
- Sauder, Michael and Espeland, Wendy. 2009. "The Discipline of Rankings: Tight Coupling and Organizational Change", *American Sociological Review* 74(1): 63–82 [summary].
- Schweber, Libby. 2006. *Disciplining Statistics. Demography and Vital Statistics in France and England, 1830–1885*, Durham, Duke University Press.
- Schor, Paul. 2009. *Compter et classer. Histoire des recensements américains*. Paris, Éditions de l’EHESS. In French.

⁴ The article by Geoffrey Traugh is also available in English per request to the author.

Scott, James C. 1990. *Seeing Like A State. How Certain Schemes to Improve the Human Condition have Failed*. Yale, Yale University Press.

Seybolt, Taylor B., Aronson, Jay D. and Fischhoff, Baruch (eds). 2013. *Counting Civilian Casualties. An Introduction to Recording and Estimating Nonmilitary Deaths in Conflict*. Oxford, Oxford University Press.

Sidibé, Ousmane. 2009. “Les indicateurs de performance améliorent-ils l’efficacité de l’aide au développement ?” Institut d’Etudes Avancées de Nantes. In French.

Siracusa, Jacques. 2014. *Rendre comptes. Un examen critique des usages de la quantification en sociologie*. Paris, Hermann. In French.

Supiot, Alain. 2015. *La Gouvernance par les nombres*. Paris, Fayard [conference, lectures]. In French.

Touchelay, Béatrice and Verheyde, Philippe (eds). 2009. *La genèse de la décision. Chiffres publics, chiffres privés dans la France du XX^e siècle*. Paris, Éditions Bière. In French.

van Fraassen, Bas C. 2008. *Scientific Representation: Paradoxes of Perspective*. Oxford, Clarendon Press.

Vatin, François (ed.). 2013. *Évaluer et valoriser. Une sociologie économique de la mesure*. Toulouse, Presses Universitaires du Mirail. In French.

Wagner, Nancy L. 2016. *Behind the Scenes with Data at the IMF: An IEO Evaluation*. Washington DC: International Monetary Fund Independent Evaluation Office.

Woolf, Harry. 1961. *Quantification: A History of the Meaning of Measurement in the Natural and Social Sciences*. Indianapolis, Bobbs-Merrill.

Yu, Harlan and Robinson, David G. 2012. “The New Ambiguity of ‘Open Government’”, *UCLA Law Review: Discourse* 59(178).

Selected Websites

[ACQUA – Approches Critiques de la QUantification](#) · in French

[Additional Data Sources](#), a list of social science datasets compiled for my , [Statistical Reasoning and Quantitative Methods](#) course

ArXiv papers from [cs.CY – Computers and Society](#) and [stat.AP – Statistics: Applications](#)

[DATACTIVE](#), a research project by [Jonathan Gray](#) and others

[Gapminder](#), created by [Hans Rosling](#), famous for a [brilliant TED Talk](#) given in 2006

[LearnOpenData](#), by Claire Foulquier-Gazagnes, from [Etalab](#)

[Open Data Institute](#)

[Open Knowledge International Blog](#) and [School of Data Blog](#), by [Open Knowledge International](#)

[Philosophy of Data Series](#) and [Politics of Data Series](#), from the [Impact of Social Sciences Blog](#) published by the London School of Economics and Political Science

[Radical Statistics Group](#), the group that publishes the [Radical Statistics](#) journal

[Stats and Stories](#), a podcast that interviews practitioners of statistics — *highly* recommended

[Statistiques en société](#) · in French

[US City Open Data Census](#), an example of an open data census by [Open Knowledge International](#)

[Vital and Health Statistics Series](#), by the U.S. [National Center for Health Statistics](#)

Instructions for student presentations

In what follows, references to readings not previously cited in the syllabus are highlighted in green and are listed at the end of this section. Please make sure to check at least some of them.

You will receive (even) more references as part of the general feedback that I will send by email after having listened to all student presentations.

In brief —

- **Your presentation will focus on your research dissertation topic**, which should include a research question, a data collection strategy, and an analytical perspective.

Please refer to the [ESPOL Guide to Academic Writing](#) and to the [ESPOL Writing Guide for Master Dissertations](#) for general guidance, as well as to the contents and references of your research methods and epistemology courses.

You might also want to turn to methods handbooks like [della Porta and Keating \(2008\)](#) and [Hancké \(2009\)](#) if you have limited experience with research design or need a refresher on how to conduct empirical social science research.

- **You will have 7.5 minutes and a maximum of 6 slides** to make a link between the course content and your research dissertation topic.

Please read the rest of the instructions below to understand how to formulate that link, which might or might not involve conducting quantitative research yourself, and make sure to read [Espeland and Stevens \(2009\)](#) as soon as possible.

- **You will have to upload your slides in PDF format, at least 48 hours before presenting.** Late submissions will either be harshly penalized or will not be accepted at all.

You will have to present in the session you are assigned to: absences will be graded 0/20, and there is no ‘catch-up’ session. The address of the Google Drive folder to which to upload your presentation will be sent to you by email, along with some final instructions.

- I will present [Espeland and Stevens \(2009\)](#) and some general ideas about the study of quantification in Week 6.

If you have any questions regarding the presentations, please prepare them in advance in order to ask them in class during that session.

See the next pages for a longer explanation of what your presentations should aim at examining. Again, please make sure to check the references provided for additional guidance.

Research dissertations and the study of quantification

1. As a student, you have surely heard of the qualitative/quantitative divide, since it still largely structures methods courses, programs and textbooks. I want to briefly argue here that this divide is counter-productive, for at least two reasons:
 - i. First, the divide does not explicitly refer back to its epistemological origin, which has to do with [concept intension and extension](#), and therefore with [comparability](#);
 - ii. And second, the divide is insufficiently acknowledged as an ideal-typical one: qualitative and quantitative modes of scientific inquiry are, in practice, always mixed together to varying extents.

The main consequence of (1) is a poor understanding of research methods that manifests itself through various forms of parochialism. The main consequence of (2) is the neglect of (methods of) qualitative inquiry by quantitatively-driven researchers, and conversely, the neglect of (methods of) quantitative inquiry by qualitatively-driven researchers.

2. The latter issue has a simple fix: qualitatively-oriented researchers need to pay attention to the role of numbers (a.k.a. measurements) and (statistical) models in their research topics.

This is the research agenda offered in [Espeland and Stevens \(2009\)](#), who call it a 'sociology of quantification,' and who expand the research agenda followed by historians of statistics (such as [Desrosières 1993](#) and [Porter 1995](#)) and by philosophers of science. In recent years, many social scientists have furthered this agenda.

For your presentations, I am asking that you learn enough about this research agenda in order to assess how it might apply to your research dissertation topics.

The [readings](#) section of this syllabus offer many references related to this agenda, and even more references can be found in its [selection of academic journals](#) and elsewhere in the scientific literature. Last, you are of course more than welcome to use your own research skills to find, access, read, use and cite other relevant academic work.

3. The exercise described above requires at least two things:
 - i. First, that you have received some training in disciplines like epistemology and social science methodology, which are essential to grasp how research design articulates theory, method and data.

In that regard, I trust that you have already read the relevant ESPOL guides cited at the beginning of this section, since they are meant to guide you through the steps that you have been following since the beginning of the academic year in order to start working on your research dissertations.
 - ii. Second, I also trust that you have developed (usually through lots of practice) your own research skills, and that you know how to use tools like [Google Scholar](#) or, for bibliographic management and academic referencing, [Zotero](#).

In this course, you have also given a try to using statistical software, in order to get familiar with an additional research skill: statistical computing. The (limited) goal of this course is only to provide you with an overview of that skill, not to teach you how to use statistical programming in your own research practice.

4. What the exercise above does *not* require is that you ‘turn’ your research topic into a quantitative analysis for the purpose of presenting it in class, or that you perform some kind of quantitative analysis in your presentation. On the contrary, the research agenda described in my previous points is, very explicitly, qualitative in nature.

Now, if you had already decided to study your research dissertation topic via quantitative methods like the ones that we surveyed in class, you are, of course, most welcome to frame your presentation accordingly, by combining some qualitative and quantitative points.

Be aware, however, that using quantitative methods in your research requires a *lot* more practice with statistical software than the limited overview offered in this course, and that mixing qualitative and quantitative methods – as does e.g. Lieberman 2009 – is a research method in itself, and therefore requires (even) more research training.

5. The expected benefits of this course are twofold:
 - i. The first segment of the course intends to show you what tools are available to perform professional-grade quantitative/statistical analysis, beyond the very basic spreadsheet editors – such as Google Sheets, LibreOffice Calc or Microsoft Excel – that you were already familiar with.
 - ii. The second segment of the course intends to suggest a possible way to frame your research dissertation topic by emphasizing the role of data, numbers and statistical analysis in the formation of (especially contemporary) expertise.

Again, it should be obvious that the two expected benefits above are complementary to each other, but that they can also be used in isolation to each other: one does not need to perform a quantitative analysis in order to produce a qualitative assessment of how such forms of analysis contribute to the ‘rule of experts’ (Mitchell 2002).

Most of the points above will be restated in Week 6 of the course, in which I will offer an illustrated overview of the research agenda offered in Espeland and Stevens (2009), featuring many examples of how to study things ranging from public policy performance indicators (Ogien 2013) to the measurement of human rights violations (Merry 2016) and crime (Martin 2015) to state-level measurements of e.g. democracy and state ‘fragility’ or ‘failure’ (Figueroa Helland and Borg 2014).

All studies mentioned above are related, to various extents, to the study of expertise, on which see e.g. Stampnitzsky 2013 on terrorism and Hagan, Schoenfeld and Palloni 2006 on human rights, war crimes and humanitarian interventions, as well as Eyal and Buchholz 2010 and Carr 2010 for more general reviews, and Jasanoff 2004 for a useful theoretical framework.

Additional references

- Carr, E. Summerson. 2010. “[Enactments of Expertise](#),” *Annual Review of Anthropology* 39: 17–32.
- della Porta, Donatella, and Keating, Michael (eds). 2008. *[Approaches and Methodologies in the Social Sciences. A Pluralist Perspective](#)*. Cambridge, Cambridge University Press.
- Eyal, Gil and Buchholz, Larissa. 2010. “[From the Sociology of Intellectuals to the Sociology of Interventions](#),” *Annual Review of Sociology* 36: 117–37
- Hancké, Bob 2009. *[Intelligent Research Design. A Guide for Beginning Researchers in the Social Sciences](#)*. Oxford, Oxford University Press.
- Figueroa Helland, Leonard and Borg, Stefan. 2014. “[The Lure of State Failure. A Critique of State Failure Discourse World Politics](#),” *Interventions: International Journal of Postcolonial Studies* 16(6): 877–97.
- Hagan, John, Schoenfeld, Heather and Palloni, Alberto. 2006. “[The Science of Human Rights, War Crimes, and Humanitarian Emergencies](#),” *Annual Review of Sociology* 32: 329–49.
- Jasanoff, Sheila. 2004. “Ordering Knowledge, Ordering Society” in Jasanoff, Sheila (ed.), *States of Knowledge. The Co-production of Science and Social Order*, London, Routledge, 13–45.
- Lieberman, Evan S. 2009. *[Boundaries of Contagion. How Ethnic Politics Have Shaped Government Responses to AIDS](#)*. Princeton, Princeton University Press.
- Stampnitzky, Lisa. 2013. *[Disciplining Terror. How Experts Invented “Terrorism.”](#)* Cambridge, Cambridge University Press.

Thanks

This syllabus contains some ideas and references that were discussed with (or provided by) [Philippe Bonditti](#), [Brendan Coolsaet](#), [Janis Grzybowski](#), and other colleagues at [ESPOL](#) in Lille.

I also owe some of my knowledge of the scientific literature on quantification to [Émilien Ruiz](#), with whom we organised a [research seminar on that topic](#) while I was working on this syllabus.

Last, I also owe some of my knowledge of open data to [Joël Gombin](#) and [Samuel Goëta](#), with whom we teach an “[Open Data for Urban Research](#)” course at Sciences Po in Paris.