

William E. M. Lowe

Academic

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Home

Not for the web version

Employment

Senior Research Specialist, Department of Politics Lecturer in Public and International Affairs, Woodrow Wilson School Princeton University	From 8/2015
Senior Researcher, Eurodata MZES, University of Mannheim	4/2011 – 7/2015
Assistant Professor in Research Methods Department of Political Science, Maastricht University	9/2009 – 4/2011
Research Fellow Methods and Data Institute, University of Nottingham	6/2006 – 8-2009
Researcher Weatherhead Center for International Affairs, Harvard University	3/2005 – 9/2005
Research Fellow Department of Political Science, Trinity College, Dublin	2/2004 – 2/2005
Technical Architect Wordmap Ltd.	8/2003 – 4/2006
Postdoctoral Fellow Weatherhead Center for International Affairs, Harvard University	7/2002 – 6/2003
Postdoctoral Fellow Center for Basic Research in the Social Sciences (now IQSS), Harvard University	7/2000 – 6/2002
Research Associate Center for Cognitive Studies, Tufts University	11/1999 – 6/2000

Education

Ph.D. in Cognitive Science Centre for Cognitive Science, University of Edinburgh Thesis: Topographic Maps of Semantic Space	2001
M.Sc. in Cognitive Science (with Distinction) Centre for Cognitive Science, University of Edinburgh Thesis: A Network Model of the Organization of the Lexicon Myers Prize for Interdisciplinarity	1996
B.A. in Philosophy Philosophy Department, University of Warwick Specialization: Logic and Philosophy of Science, Mind, and Language. Visiting student in Philosophy at the University of Wisconsin at Madison.	1995

Publications

H-index: 17. Total cites: 1727 (Google Scholar, Jan. 2017)

Articles

Theocharis, Y. & Lowe, W. (2016). Does Facebook increase political participation? Evidence from a field experiment. *Information, Communication & Society*, 19(10), 1465–1486

Meyer-Sahling, J.-H., Lowe, W., & van Stolk, C. (2015, October 21). Silent professionalization: EU integration and the professional socialization of public officials in Central and Eastern Europe. *European Union Politics*, 17(1), 162–183

Theocharis, Y., Lowe, W., van Deth, J. W., & García-Albacete, G. (2015). Using Twitter to mobilize protest action: Online mobilization patterns and action repertoires in the Occupy Wall Street, Indignados, and Aganaktismenoi movements. *Information, Communication & Society*, 18(2), 202–220

Lowe, W. & Benoit, K. R. (2013). Validating estimates of latent traits from textual data using human judgment as a benchmark. *Political Analysis*, 21(3), 298–313

Carey, S. C., Mitchell, N. J., & Lowe, W. (2013). States, the security sector, and the monopoly on violence: A new database on pro-government militias. *Journal of Peace Research*, 50(2), 249–258

Benoit, K. R., Laver, M., Lowe, W., & Mikhaylov, S. (2012). How to scale coded text units without bias: A response to Gemenis. *Electoral Studies*, 31(3), 605–608

Lowe, W., Benoit, K. R., Mikhaylov, S., & Laver, M. (2011). Scaling policy preferences from coded political texts. *Legislative Studies Quarterly*, 36(1), 123–155

Sullivan, J. & Lowe, W. (2010). Chen Shui-Bian: On independence. *China Quarterly*, 203, 619–638

Lowe, W. (2008). Understanding Wordscores. *Political Analysis*, 16(4), 356–371

Jenne, E. J., Saideman, S. M., & Lowe, W. (2007). Separatism as a bargaining posture: The role of leverage in minority radicalization. *Journal of Peace Research*, 44(5), 539–558

Lowe, W. (2004a). Content analysis and its place in the (methodological) scheme of things. *Qualitative Methods*, 2(1), 25–27

King, G. & Lowe, W. (2003, July). An automated information extraction tool for international conflict data with performance as good as human coders: A rare events evaluation design. *International Organization*, 57(3), 617–642

Bryson, J. J. & Lowe, W. (1997). Comment on Ballard et al.'s Deictic codes for the embodiment of cognition. *Behavioral and Brain Sciences*, 20(4), 743–744

Books and chapters

Bekou, O., Lowe, W., & Birkett, D. (2016, April 25). Fostering cooperation through technology-driven tools. In O. Bekou & D. Birkett (Eds.), *Cooperation and the International Criminal Court* (pp. 396–416). Brill

Meyer-Sahling, J.-H., Lowe, W., & van Stolk, C. (2012). Towards NPMization of the post-communist state? In *Executive Politics in Times of Crisis* (pp. 99–117). Basingstoke: Palgrave Macmillan

Lowe, W. (2010). Identifying your accompanist. In Y. Wilks (Ed.), *Close engagements with artificial companions: Key social, psychological, ethical and design issues* (pp. 95–100). Benjamins

Lowe, W. (2006). New methods for conflict data. In *Programming for peace: Computer-aided methods for international conflict resolution and prevention* (pp. 321–334). Springer

Lowe, W. (2003). The statistics of text: new methods for content analysis. In *Social Sciences*. Midwest political science association annual meeting. Chicago

Lowe, W. (2005). *Rare events research*. In *Encyclopedia of Social Measurement*. Elsevier

Lowe, W. (2004c). *Uncertainty*. In *The SAGE Encyclopedia of Social Science Research Methods*. Sage

Lowe, W. (2004b). *Sentence completion test*. In *The SAGE Encyclopedia of Social Science Research Methods* (pp. 1024–1025). Sage

Bullinaria, J. A. & Lowe, W. (Eds.). (2002). *Connectionist models of cognition and perception*. World Scientific

Bryson, J. J., Lowe, W., & Stein, L. A. (2001). Hypothesis testing for complex agents. In A. M. Meystel & E. R. Messina (Eds.), *NIST Workshop on Performance Metrics for Intelligent Systems, Special Publication 970* (pp. 233–240). NIST

Peer-reviewed Conference Papers

Baerg N., Lowe, W., Ponzetto S., Stuckenschmidt H., and Zirn, C. (2014) Estimating central bank preferences Paper entry to the *NLP Unshared Task in PoliInformatics*, June 2014. [Winning entry]

Lowe W., Bekou O. Hunter, E. (2008) Markup and metadata in international criminal law. Proceedings of the 4th e-Social Science Conference, Manchester.

Dowdall, J., Lowe, W., Ellman, J., Rinaldi, F. and Hess, M. (2004). The role of multiword terminology in knowledge management, in *Proceedings of the Fourth International Conference on Language Resources and Evaluation*.

Lowe, W. and King, G. (2003). Some statistical methods for evaluating information extraction systems, in K. Pastra, editor, *Proceedings of the Tenth Annual Meeting of the European Association for Computational Linguistics Society* pp.19-26.

Lowe, W. (2001). Towards a theory of semantic space, in *Proceedings of the Twenty-Third Annual Conference of the Cognitive Science Society*, Moore, J. D. and Stenning, K., editors, pp.576–581, Mahwah NJ. Lawrence Erlbaum Associates.

Bryson, J, Lowe, W. and Stein, L. A. (2001). Hypothesis testing for complex agents, in *NIST Workshop on Performance Metrics for Intelligent Systems*, Meystel, A. M. and Messina, E. R., editors, pp. 233–240, Washington DC. NIST Special Publication 970.

Lowe, W. (2000). What is the dimensionality of human semantic space?, in *Connectionist Models of Learning, Development, and Evolution*, French, R. M. and Sougné J. P., editors, Springer, pp.303–311.

Lowe, W. and McDonald, S. (2000). The direct route: Mediated priming in semantic space, in *Proceedings of the Twenty-Second Annual Conference of the Cognitive Science Society*, Gleitman, L. R. and Joshi, J. K., editors, pp.806–811, Mahwah NJ. Lawrence Erlbaum Associates.

McDonald, S. and Lowe, W. (1998). Functional priming and the associative boost, in *Proceedings of the Twentieth Annual Conference of the Cognitive Science Society*, Gernsbacher, M. A. and Derry, S. J., editors, pp.675–680, Mahwah NJ. Lawrence Erlbaum Associates.

Lowe, W. (1997). Semantic representation and priming in a self-organizing lexicon, in *Connectionist Representations*, Bullinaria, J. A., Houghton, G., and Glasspool, D. W., editors, pp.227–239, London. Springer.

Lowe, W. (1997). Meaning and the mental lexicon, in *Proceedings of the Fifteenth International Joint Conference on Artificial Intelligence*, pp.1092–1097. Morgan Kaufmann.

Manuscripts & Papers under Review

Baerg, N. and Lowe, W. A textual Taylor Rule: Estimating central bank preferences combining topic and scaling methods.

Proksch, S.-O., Lowe W., and Soroka S. Automated multilingual content analysis: A new approach to estimating conflict from parliamentary speeches across languages.

Lowe, W. (MS) **Scaling things we can count**. (Formerly “There’s basically only one way to do it”)

Lowe W. (MS) **Putting it all on the line: Measurement models for event data**

Lowe, W. (MS) Rare events designs without a sense of proportion.

Other

Lowe, W. (2002). Software for content analysis: Technical Report for the Weatherhead Center for International Affairs Identity Project.

Lowe, W. (2000). *Topographic Maps of Semantic Space*. PhD thesis, Institute for Adaptive and Neural Computation, Edinburgh University.

Shillcock, R., Hipwell, P., McDonald, S. and Lowe W. (1998). Distinctiveness of spoken word context predicts visual lexical decision time *Centre for Cognitive Science Research Paper EUCCS-1998-4*, University of Edinburgh.

Invited Talks

Keynote: But what shall we do with the humans? Atlanta Computational Social Science Workshop, Emory University, December 2015.

Scaling things we can count: Ideal point estimation from words, topics, and events. Fachbereichskolloquium, Politics and Public Administration, University of Konstanz, July 2015.

Scaling things we can count. University of Zurich, July 2015.

Keynote: Counts, categories, and coders: Tools for analysing and visualising documents, speeches, and international events. Analyzing Political Discourse in the International Arena conference. Hebrew University of Jerusalem, March 2015.

Data, from the web. Departments of Political Science at McGill University and Université de Laval, February 2015.

There’s really only one model to scale count data: Should we trust it? Department of Politics, Princeton University, January 2015.

Estimating central bank preferences. Poliinformatics Workshop, APSA Workshop, August 2014.

What’s right - and what’s wrong - with saliency theory. Marpor Workshop, WZB Berlin, May 2014.

Counts, categories, and coders: Learning about conflict and protest from manual and machine-coded media data. McGill University, April 2014

Baggott on the security dilemma in US-Chinese relations (discussion). New Directions in Text Workshop, LSE, October 2013

Klüver on interest groups and scaling methods (discussion). Quantitative Text Analysis Workshop, University of Bremen, October 2013

Everything you ever wanted to know about text scaling (but were afraid to ask). SFB 884 Workshop: New Methodological Developments in Party Manifesto Research, University of Mannheim, October 2012

Extracting position information from legislative speech, ESRC Research Methods Festival, Oxford University, July 2012

Computer-assisted content analysis. Communications Department, University of Mainz, July 2012

Quantitative political text analysis. Department of Political Science, Maastricht University, May 2012

Measurement models for event data, Event Data Workshop, Bilkent University/Turkish Interior Ministry, December 2011

How to take a position: The microfoundations of left and right, Harvard University, May 2011

Quantitative political text analysis, Maastricht University, April 2011

Tools for text workshop, University of Washington, Seattle, June 2010

How to take a position. Centre for Methods in the Social Sciences, University of Oldenburg, Germany, May 2010

An introduction to methodology in human rights research, Netherlands School of Human Rights Research, May 2010

Scaling policy positions from coded units of political texts. NCCR Workshop of Representation and Democracy, University of Bern, Switzerland, November 2009

Scaling and structure. Department of Anthropology, Oxford University, UK, August 2009

Text analysis in law. National Science Foundation (NSF), Arlington, VA. August 2009.

Introduction to experimental design and analysis. Department of Computer Science, University of Nottingham, December 2008.

Things you haven't heard about Wordscores: Text scaling in comparative perspective. Trinity College, Dublin, November 2008.

Statistical models of political text. Analyzing Debates in Democracy conference, Free University of Amsterdam, November 2008.

Computational linguistics and the study of judicial behavior. Emory University, Atlanta, February 2008.

National implementations in comparative perspective. ICC and the State conference, November 2007.

Factors, ideal points, and words: Connecting legislators' preferences to legislative speech. Empirical Study of Legislative Behavior conference, University of Washington St. Louis, November 2007.

Voting and talking. Data, Measurement and Comparison conference, University of Nottingham, September 2007.

Rare events designs, Cambridge University, January 2007.

Yoshikoder: An open source multilingual content analysis tool for social scientists. Text Analysis Working Group. APSA September 2006

Text analysis for social network construction. Bayesian Network Analysis Conference, Old Dominion University, November 2006.

Linking taxonomies and metadata. Department for Environment, Food and Rural Affairs, London, March 2006 .

Computer-aided content analysis. Public Lecture, Central European University, November 2004.

Just enough statistics. Department of Computer Science, University of Bath, May 2003/04/06/11.

New methods for event data analysis. AI and Peace Workshop, University of Vienna, November 2002.

Evaluating an extraction tool for conflict data. Military Conflict Conference, CBRSS, Harvard, June 2002.

A little more math, but a lot less work: New methods for evaluating information extraction systems. AI Research Group, Department of Computer Science, Harvard, May 2002

Information science, civil conflict and genocide. Center of Excellence in Disaster Management, Tripler Army Medical Center and Pacific Command Marine Corps Base HI, January 2001.

Teaching

Princeton University

WWS 403, 404: Policy Research Seminar. Methods Lab

Undergraduate research design and statistics preparing undergraduate students for Junior Projects and Senior Theses. (Last given Spring 2016)

POL 245: Visualizing data

Actually an introduction to statistics course, covering causal and predictive inference, text, spatial, and network analysis. (Last given at Freshman Scholars Institute, Summer 2016)

Advanced Statistical Programming

Computational strategies for large scale data problem such as MCMC, cross-validation, and bootstrapping. Included an introduction to parallel and cluster computing and using C++ to speed up R code.

Web Scraping and Text Processing

Web scraping in R and Python and an introduction to natural language processing in Python.

University of Mannheim

Causal Inference

Two day course on contemporary approaches to causal inference with a focus on observation data. (Last given 2014)

Theory Building and Causal Inference

Ten week required Graduate School course on explanation and theory construction: philosophy of social science, then theory and practice of causal inference. (2011-2014).

University of Cologne

Research Design

An introduction to research design focusing on contemporary philosophy of social science, measurement strategies, and causal inference. (Last given 2014)

Bayesian and Multilevel Models

An introduction to Bayesian models and multilevel models using MCMC. (Last given 2014)

Maastricht University

Quantitative Data Analysis

Introductory course on statistical modeling focusing on model building and accounting for uncertainty. (MA and PhD program).

Research Design

Introductory course on research design covering research question formulation, measurement, and mixed method designs for causal inference. (MA and PhD program).

Formal Analysis*

Introductory course on game theory and social choice. Focuses on solving games of full information in strategic and extensive form. (PhD program).

Quantitative Methods 1 and 2

Introductory course on statistical modeling focusing on model building and accounting for uncertainty. (BA program).

Qualitative Methods 1

Introduction to discourse analysis, content analysis, and interview methods. (BA program).

I also taught **Discourse Analysis**, **Conceptual Analysis**, and **Academic Research and Writing**. (BA program).

University of Nottingham

The Methods and Data Institute offered residential courses comprising 10-15 hours of instruction. Each course attracted between 10-40 participants (students, researchers, and faculty). I designed those marked with an asterisk.

Inference*

Introductory course on statistical approaches to the social sciences focusing on model building and accounting for uncertainty.

Regression*

Introductory course on building, interpreting, criticizing, and communicating regression models. It focuses particularly on understanding the substantive implications of modeling decisions and effectively communicating regression results, with particular emphasis on graphical displays.

Impact and Causal Inference*

Advanced course on theory and practice of causal inference. It covers experimental and quasi-experimental methods, and matching, with an emphasis on observation data.

Measurement and Scaling

Intermediate course covering factor analysis, item response theory, structural equation modeling, and multidimensional scaling.

Text Analysis*

Intermediate course focusing on the integration of qualitative and quantitative approaches to text analysis.

Missing Data*

Advanced course on the theory and practice of multiple imputation approaches to dealing with missing data.

Time Series Analysis

Advanced course covering time series problems in regression modeling and their remedies, with emphasis on mixed or multi-level approaches to time-series cross-sectional data.

International**Quantitative Text Analysis**

Quantitative political text analysis, beginning from basic text description, through content analysis and modern methods from computational linguistics, to the state of the art in topic models, classification, and scaling. The course has been given at:

Institute for Qualitative and Multi-method Research (IQMR), Maxwell School, Syracuse University, New York (2010-present)

Winter Institute in Methods, Texas A&M University Text Analysis (January 2015)

ECPR Summer School on Methods and Techniques, University of Ljubljana, Slovenia (2008-2011)

Empirical Implications of Theoretical Models (EITM-Europe), University of Mannheim, Germany (2011)

Python for Event Data Analysis

A two day course teaching Python to beginners, culminating in using the Pandas library to work with event data. Given at:

GIGA Hamburg, Germany (2013)

Tools for Middle-Sized Data Projects

One day course covering computational tools for organizing political science coding projects. It teaches students enough about Python, Django, relational databases, web servers and web pages to set up a complete data project site with coder interface, public-facing pages, and dynamically updated downloadable datasets. Given at:

APSA, Toronto (2009)

Department of Computer Science, University of Bath (2010)

Grants

Measuring a common space and the dynamics of reform positions €463,200
with Thomas Gschwend, James Lo, and Heiner Stuckenschmidt. SFB grant from the German Science Foundation. (co-PI, now running with Nicole Baerg and without James Lo).

Culture in Power Transitions:

Sino-American conflict in the 21st century \$1,489,115
with Robert Jervis, Erin Jenne, and Gregory Mitrovich. Minerva Grant from the US Department of Defense. (Named contractor)

Enhancing the Rome Statute system of justice (Named consultant) with Olympia Bekou. From the European Commission.	€204,155
Accountability and government militias (Named consultant) with Sabine Carey and Neil Mitchell. From the ESRC.	£180,741
International Criminal Court project with Olympia Bekou. From various governments.	£18,500
Yoshikoder development from Harvard University and the Princeton Institute for Advanced Study.	\$15,000
ICC and the State conference From the University of Nottingham.	£2,500
Parmenides: Ontology-driven temporal text mining (co-PI, replacing Jeremy Ellman) from the European Commission IST-2001-39023	€3,251,490

Professional

Memberships

Member of the American Political Science Association, European Political Science Association.

Reviewing

Project reviewer for UK Economic and Social Research Council, Nuffield Foundation, US National Science Foundation.

Journals

Senior editorial board member for the Journal of Information Technology and Politics.

Editorial board member for Legislative Studies Quarterly.

Article reviewer for Political Analysis, American Political Science Review, American Journal of Political Science, European Union Politics, Legislative Studies Quarterly, Journal of Peace Research, International Studies Quarterly, Conflict Management and Peace Science, Ethnopolitics, Political Research Quarterly, British Journal of Politics and International Relations, Journal of Information Technology and Politics, Journal of the Royal Statistical Society, Political Science Research and Methods, PLoS One, Entropy.

Affiliations

Fellow at the International Criminal Justice Unit of the Human Rights Law Centre, University of Nottingham.

Member of the International Criminal Court (ICC) Legal Tools Project.

Associate Member of SFB-884 University of Mannheim.

Service

Conferences

Co-organiser of 'Computational linguistics and political science: What have you done for me lately?', an international workshop on interdisciplinary work in political text analysis. University of Mannheim, 2014

Co-organiser of 'The ICC and the State', an international human rights law conference on Member States' cooperation with the International Criminal Court. University of Nottingham, 2007

Consulting

At Mannheim I provided methods consulting, research design advice, and customised data infrastructure for local projects on many topics, including of social media, content analysis, judicial databases, coalition government.

I answer statistics and research design questions on <http://stats.stackexchange.com> (ranked top 2%).

Committees

I am academic representative to university computer services and a member of the secure data processing group. I held similar roles at Maastricht University.

At Nottingham I was responsible for designing courses, interviewing academic job candidates, and maintaining the Methods and Data Institute's e-learning tools to support the students. I advised the Graduate School on the content and structure of their e-learning courses on social science statistics.

Cees van der Eijk and I reviewed all grant applications on empirical topics from the School of Politics. I also co-organized of the International Criminal Court and the State conference in November, 2007.

Technical

I have extensive experience using R for data analysis and provide consulting within MZES. I teach introductions to R and have two R packages (see below).

I have taken Spiegelhalter and Best's course on BUGS for MCMC modeling and use JAGS, a cross-platform version of the BUGS engine.

I have programmed Java and Python professionally and maintain multiple open source projects in these languages. I teach Python regularly to students and faculty.

Software

austin

An R package for ideal point estimation from text using Wordscores, Wordfish, and related methods. Available from [Github](#).

events

An R package for storing and manipulating event data, available on [CRAN](#).

rjca

An R package for simple content analysis. Available from [Github](#).

Yoshikoder

Open-source multilingual content analysis software. The **Yoshikoder** has been downloaded more than 16,000 times, used in more than 30 academic projects, and in graduate teaching at Harvard and Ohio State University.

JFreq

A cross-platform multilingual word frequency counter for preprocessing text.

YKConverter

Software for converting documents in multiple file formats to encoded plain text for subsequent content analysis.

Reencoder

A cross-platform document (re)encoding tool.

Data

10 million international events: 1991-2004

Available from <http://hdl.handle.net/1902.1/FYXLAWZRIA>

National implementations of the Rome Statute

A limited version is available at the International Criminal Court's [Legal Tools](#) website. The database was used by Ireland's delegation in negotiations at the ICC's 2010 Review Conference.

I have also developed and currently maintain private project-specific datasets on: Pro-government armed groups, judges and judgements in the UK constitutional court, Solana and EU diplomacy, Taiwanese presidential speeches, migrants and regional newspapers on the Russia-China border.

Students

While at Nottingham I supervised three Ph.D. students:

Jon Sullivan 'Negativity and information in campaign advertising'
with Cees van der Eijk and Phil Cowley. Now Associate Professor at the School of Politics,
Nottingham University.

Jessica Andersson 'Party competition over welfare policies in Sweden'
with Cees van der Eijk.

Annika Jones 'War crimes and corporate responsibility'
with Olympia Bekou. Now Lecturer in Law at Durham University

I was on the PhD committees of **Tom Louwerse** at Leiden University, and **Elissaveta Radulova** at Maastricht University.

At Maastricht I supervised four M.A. students and nineteen B.A. students.

Commercial

From 8/2003 I was Technical Architect at Wordmap Ltd. reporting directly to the CEO.

After completing the company's role in the EU 5th Framework project **Parmenides** (IST-2001-39023) I designed and developed software for multiple projects including a metadata management and text classification system for UK local government.

During this period I was responsible for hiring and managing the company's development team. I also liaised with the sales department presented the company's work to funders, clients, and to the UK government at national and local levels.

References

Available on request