William E. M. Lowe

Work
Hertie School
Friedrich Straße 180
10117 Berlin
Germany
lowe@hertie-school.org

Employment	HERTIE SCHOOL	*2.2020–*
	Senior Research Scientist	

PRINCETON UNIVERSITY

Senior Research Specialist, Department of Politics   *8.2015–1.2020*

– Research on the causal inference of racial bias in policing (with Mummolo, Knox), comparative legislative sentiment analysis (with Proksch, Wäckerle, Soroka), and preference estimation from central bank meeting transcripts (with Baerg)
– Development and maintainence of data infrastructure, including the US Voter File
– Statistical and research design consulting
– Computational tools workshops (R, GIS, text analysis, parallelization, web scraping) as part of the Graduate Methods Program

Lecturer, Department of Politics   *9.2018–1.2019*

Lecturer, Woodrow Wilson School of Public and International Affairs   *9.2015–5.2017*

UNIVERSITY OF MANNHEIM

Senior Researcher, Mannheim Centre for European Social Research   *4.2011–7.2015*

– Eurodata 'Pillar': Text data and analysis (E-14 with tenure).
– Research into and new methods for statistical text analysis, and political engagement and mobilization via social media (with van Deth and Theocharis)
– Taught TBCI 'Theory Building and Causal Inference', one of four Graduate School core courses

Principal Investigator Project C4, Sonderforschungsbereich 884

– Research on estimating policy preferences of politicians, parties, and bankers using votes, surveys, experiments, and text data. (with Baerg, Proksch, Gschwend)

MAASTRICHT UNIVERSITY

Assistant Professor of Research Methods   *9.2009–4.2011*

– Basic research in statistical text analysis
– Designed and co-deliver the first year of the Research Masters in European Studies (with Aneta Spendzerovha)

UNIVERSITY OF NOTTINGHAM

Research Fellow, Methods and Data Institute   *6.2006–8.2009*

– Collaboration with the Human Rights Law Centre and International Criminal Court (with Bekou and Hunter)
– Short courses in advanced statistics to regional UK social science faculty and postgraduates (with van der Eijk)

HARVARD UNIVERSITY

Researcher, Weatherhead Center for International Affairs *3.2005–9.2005*

– Development of multilingual content analysis methods for the study of political identity (with Johnston and Herrera) as part of the Identity Project

TRINITY COLLEGE DUBLIN

Research Fellow, Department of Political Science *2.2004–2.2005*

– Further development of Wordscores, a statistical method for extracting policy positions from text (with Benoit and Laver).

WORDMAP LTD.

Technical Architect *8.2003–4.2006*

– Management of Parmenides (IST-2001-39023), a 3.25m euro Fifth Framework Project on ontology-driven text mining and temporal data analysis
– Hired and managed development team
– Developed text classification and taxonomy software
– Consulting to clients from the pharamaceutical industry and government.

HARVARD UNIVERSITY

Postdoctoral Fellow, Weatherhead Center for International Affairs *7.2002–6.2003*

– Research on political aspects of group identity using computer-assisted text analysis (with Johnston, Herrera, Abdelal and McDermott)
– Development of open source multilingual content analysis software

Postdoctoral Fellow, Center for Basic Research in the Social Sciences (now IQSS) *7.2000–6.2002*

– Research on evaluating automated international events data systems (with King)

TUFTS UNIVERSITY

Research Associate, Center for Cognitive Studies *11.1999–6.2000*

– Research on evolution of altruism, group selection, and Bayesian inference (with Dennett)

Education UNIVERSITY OF EDINBURGH

Ph.D in Cognitive Science, School of Informatics *9.1996–7.2001*

Supervisors: Prof. David Willshaw, Prof Richard Shillcock, and Dr. Mark Ellison
External Examiner: Prof. Nick Chater

Thesis: 'Topographic Maps of Semantic Space'

– A model of human semantic memory combining neural networks and word embeddings

MSc in Cognitive Science, Center for Cognitive Science (with Distinction) *9.1995–7.1996*
Thesis: 'A Network Model of the Organization of the Lexicon'

– Awarded Terry Myers Prize for Interdisciplinarity

UNIVERSITY OF WARWICK / UNIVERSITY OF WISCONSIN

BA in Philosophy *9.1992–7.1995*

– Specializations: Logic, Philosophy of Science, Mind and Language
– Exchange student at the University of Wisconsin at Madison

Publications   Total citations: **4555**. h-index: **27**. (Google Scholar)   *1.2023*

ARTICLES

Munzert, S., Ramirez-Ruiz, S., Çalı, B., Stoetzer, L. F., Gohdes, A., & Lowe, W. (2022). Prioritization preferences for COVID-19 vaccination are consistent across five countries. *Humanities and Social Sciences Communications*, *9*(1)

Stoetzer, L., Munzert, S., Lowe, W., Çalı, B., Gohdes, A., Helbling, M., Maxwell, R., & Traunmueller, R. (2022). Affective partisan polarization and moral dilemmas during the COVID-19 pandemic. *Political Science Research and Methods*

Munzert, S., Selb, P., Gohdes, A., Stoetzer, L. F., & Lowe, W. (2021). Tracking and promoting the usage of a COVID-19 contact tracing app. *Nature Human Behaviour*, *5*, 247–255

Knox, D., Lowe, W., & Mummolo, J. (2020). Administrative records mask racially biased policing. *American Political Science Review*, *114*(3), 619–637

Baerg, N., & Lowe, W. (2020). A textual Taylor rule: Estimating central bank preferences combining topic and scaling methods. *Political Science Research and Methods*, *8*(1), 106–122

Proksch, S.-O., Lowe, W., Wäckerle, J., & Soroka, S. (2019). Multilingual sentiment analysis: A new approach to measuring conflict in legislative speeches. *Legislative Studies Quarterly*, *44*(1), 97–131

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). 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. (2004b). *Software for content analysis – a review*. Weatherhead Center for International Affairs. http://kb.ucla.edu/system/datas/5/original/content_analysis.pdf

King, G., & Lowe, W. (2003). 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

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

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? *Executive Politics in Times of Crisis* (pp. 99–117). Palmgrave 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. *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. *Midwest Political Science Association Annual MeetingSocial Sciences*

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

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

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 Winning entry to the *NLP Unshared Task in PoliInformatics*, June 2014.

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.

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.

Media	Interview for Kåre Holm Thomsen 'Politiforskere i USA er for dårlige til statistik og undervurderer racismen i korpset, hævder statskundskabere i ny artikel' *Weekendavisen*, June 12, 2020.	

Police bias analyses featured in Laura Bronner and Jasmine Mithani 'Why statistics don't capture the full extent of the systemic bias in policing'. *FiveThirtyEight*, Jun 25, 2020.

Scaling analyses featured in Sahil Chinoy 'What happened to America's political center of gravity?' *New York Times*, June 26, 2019.

Awards	Best paper award: General Online Research Konferenz (GOR 22) meeting	*2022*
	David A. Lake best paper award at International Political Economy Society (IPES)	*2018*
	Winning paper: NLP Unshared Task in PoliInformatics (ACL)	*2014*

Invited Talks	UNIVERSITY OF MANNHEIM, MZES Whose scale is it anyway?	*10.2021*
	ÅBO AKADEMI UNIVERSITY, DEPARTMENT OF LAW Learning about bias from administrative data	*9.2019*
	UNIVERSITY OF VIENNA, DEPARTMENT OF COMMUNICATION Open questions in text scaling	*12.2018*
	UNIVERSIDAD DE LOS ANDES, DEPARTMENT OF PSYCHOLOGY Putting it all on the line	*10.2018*
	PEW RESEARCH Putting it all on the line	*5.2018*
	CORNELL UNIVERSITY, GOVERNMENT DEPARTMENT Some unifying theory for text scaling	*10.2017*
	CENTRAL EUROPEAN UNIVERSITY, DEPARTMENT OF GOVERNMENT Scaling things we can count	*10.2018*
	EMORY UNIVERSITY *Atlanta Computational Social Science Workshop* But what shall we do with the humans? (Keynote)	*12.2015*
	UNIVERSITY OF KONSTANZ, POLITICS AND PUBLIC ADMINISTRATION Ideal point estimation from words, topics, and events	*7.2015*

UNIVERSITY OF ZURICH
Scaling things we can count.   *7.2015*

HEBREW UNIVERSITY OF JERUSALEM
Analyzing Political Discourse in the International Arena conference   *3.2015*
Counts, categories, and coders (keynote)

MCGILL UNIVERSITY & UNIVERSITÉ DE LAVAL
Data, from the web   *2.2015*

PRINCETON UNIVERSITY, DEPARTMENT OF POLITICS
There's really only one model to scale count data: Should we trust it?   *1.2015*

WISSENSCHAFTSZENTRUM BERLIN FÜR SOZIALFORSCHUNG
MARPOR conference   *5.2014*
What's right – and what's wrong – with saliency theory

MCGILL UNIVERSITY
Counts, categories, and coders: Learning about conflict and protest from manual and
machine-coded media data   *4.2014*

UNIVERSITY OF MANNHEIM, SFB 884
New Developments in Party Manifesto Research   *10.2012*
Everything you ever wanted to know about text scaling (but were afraid to ask)

OXFORD UNIVERSITY
ESRC Research Methods Festival   *7.2012*
Extracting position information from legislative speech

UNIVERSITY OF MAINZ, COMMUNICATIONS DEPARTMENT
Computer-assisted content analysis   *7.2012*

BILKENT UNIVERSITY & TURKISH INTERIOR MINISTRY
Event Data Workshop   *12.2011*
Measurement models for event data

UNIVERSITY OF OXFORD, DEPARTMENT OF ANTHROPOLOGY
Scaling and structure   *10.2009*

NATIONAL SCIENCE FOUNDATION
Text analysis in law   *10.2009*

CENTRAL EUROPEAN UNIVERSITY
Computer-aided content analysis (Public lecture)   *11.2004*

Grants   AS CO-PI OR EQUIVALENT

Support for institutes and research groups on qualitative and multi-method research   *$236,925*
National Science Foundation, with Colin Elman, Andrew Bennett, Sebastian Karcher & Diana
Kapiszewski.

SFB 884: Measuring a common space and the dynamics of reform positions   *463,200€*
Deutsche Forschungsgemeinschaft, with Thomas Gschwend, James Lo & Heiner Stuckenschmidt

Parmenides: Ontology-driven temporal text mining   *3,251,490€*
AS NAMED RESEARCHER

Culture in Power Transitions: Sino-American conflict in the 21st century   *$1,489,115*
US Department of Defense Minerva Grant, with Robert Jervis, Erin Jenne, & Gregory Mitrovich

Enhancing the Rome Statute system of justice supporting national ownership of criminal justice procedures through technology driven services 204,155€

European Commission, with Olympia Bekou *Accountability and government militias* £180,741

UK Economic and Social Research Council, with Sabine Carey & Neil Mitchell

International Criminal Court project £18,500

Various governments, with Olympia Bekou

Yoshikoder development $15,000

Harvard University & Princeton Institute for Advanced Study

ICC and the State conference £2,500

University of Nottingham

Professional   *Memberships*

European Political Science Association

Text as Data Association (former board member)

Reviewing

Project reviewer ESRC, Nuffield Foundation (UK), NSF (US), SNSF (CH)

Affiliations

– Fellow at the Human Rights Law Centre, University of Nottingham
– Member of the International Criminal Court (ICC) Legal Tools Project

Service   INTERNATIONAL CONFERENCE ORGANIZATION

Eighth Annual Conference on New Directions in Analyzing Text as Data (Text as Data) 2017

at Princeton University, with Brandon Stewart

Computational linguistics and political science: What have you done for me lately? 2014

at University of Mannheim, with Nicole Baerg

The ICC and the State 2007

at University of Nottingham, with Olympia Bekou and Emilie Hunter

CONSULTING

At Hertie I run the Research Consulting Service.

At Princeton, as part of QAPS, I provided short courses to PhD students and faculty on statistical computing and data analysis. I also looked after the Princeton's copy of the Voter File and helped students and faculty to use it for their projects.

At Mannheim I was one of four 'pillars' of Eurodata focusing on text analysis.

At Nottingham, As part of the Methods and Data Institute I provided short courses and consulting on research methods, statistical computing, and infrastructure.

Outreach   I answer statistics and research design questions on http://stats.stackexchange.com and am ranked in the top 1% of respondents

Technical	*Expert (10+ years experience)*
	R, Java, Python, LaTeX, (R)Markdown, Unix
	Intermediate (5+ years
	Django, SQL, BUGS, JAGS, Stan
	Beginner
	Amazon AWS, Azure, Javascript
	GitHub: https://github.com/conjugateprior

Software   R PACKAGES

On CRAN as author or contributor

twfy   Access UK parliamentary information
events   Store and manipulate event data
quanteda   Manage and analyze textual data
ffmetadata   Access metadata for Princeton's Fragile Families project

On GitHub

austin   Estimate ideal points from text
cbn   Replicate and extend Caliskan, et al. 2017
Resha   Stems Turkish faster but more gently than Snowball
qss.student and pol345.student   Access selected problem sets from Imai 2017
iqmr   IQMR computer-assisted content analysis course materials

JAVA APPLICATIONS

Yoshikoder   Open-source multilingual content analysis software
JFreq   Multilingual word frequency counter
YKConverter   Converting documents to encoded plain text
Reencoder   A document (re)encoding tool

WEB APPLICATIONS

Cooperation and Judicial Assistance Database   Legislative database of how states deal with the International Criminal Court

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.

Teaching   HERTIE SCHOOL

Causal Inference (E1340)   *2020–*

– Cross-disciplinary, DAG-oriented and machine learning-informed overview of contemporary causal inference methods

Text as Data (E1282)   *2020–*

– Introductory statistical text analysis for social science and policy using R
– Exploratory data analysis and measurement modeling using R

Data Science and Decision Making (E1354)   *2021–*

– Applied decision theory, alternating formal theory with invited talks from practitioners in industry and government.

Introduction to Data Science: (E1339)   *2020–*

– Practical survey of methods for relational, spatial or text data plus introductory web scraping and visualization using R

PRINCETON UNIVERSITY

Visualizing Data (POL 245)   *2015–2019*

– Introduction to statistics and data analysis covering causal and predictive inference, text, spatial, and network analysis
– Largest elective course in the Freshman Scholars Institute, Princeton's program for preparing incoming first generation / low income students for undergraduate study

Advanced Statistical Programming   *2015–2018*

– R: parallel computing with (and without) a cluster, using C++ to speed up code, GIS, text analysis, package development
– Python: Introduction to python, text data analysis with Spacy, and web scraping

Methods Lab (WWS 403/404)   *2016–2018*

– Undergraduate research design and statistics preparing students for Junior Papers and Senior Theses.

Introduction to Quantitative Social Science (POL 345)   *2019-2020*

– Undergraduate research design and statistics course preparing undergraduate students for Junior Papers and Senior Theses (with Marc Ratkovic)

UNIVERSITY OF MANNHEIM

Theory Building and Causal Inference   *2011–2014*

– Core Graduate School course on explanation and theory construction
– Topics: Philosophy of social science, theory and practice of causal inference, including directed acyclic graphs and potential outcomes

UNIVERSITY OF COLOGNE

Research Design   *2014*

– Introduction to research design focusing on measurement strategies and causal inference

Bayesian and Multilevel Models   *2014*

– An introduction to Bayesian models and multivel models using MCMC

MAASTRICHT UNIVERSITY

Research Masters and PhD Courses   *2010–2011*

– Quantitative Data Analysis
– Research Design
– Formal Analysis

Undergraduate Courses *2010–2011*

– Quantitative Methods 1 & 2
– Qualitative Methods
– Discourse Analysis
– Conceptual Analysis
– Academic Research and Writing

University of Nottingham

The Methods and Data Institute offered two day workshops comprising 10-15 hours of instruction. Each course attracted between 10-40 students, researchers, and faculty. I designed those marked with an asterisk and co-taught all of them.

Workshops *2006–2009*

– Inference*
– Regression*
– Impact* (causal inference)
– Measurement and Scaling
– Text Analysis*
– Missing Data*
– Time Series Analysis

Short Courses

Computer Assisted Content 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.

Versions of this course have been given at:

Syracuse University 'Institute for Qualitative and Multi-method Research'	2011-present
Texas A&M University 'Winter Institute in Methods'	2015
University of Mannheim 'Empirical Implications of Theoretical Models'	2011
University of Ljubljana 'ECPR Summer School on Methods and Techniques'	2008–2011

Python for Event Data Analysis

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

GIGA Hamburg	2013

Tools for Middle-Sized Data Projects

Enough Python, Django, databasing, web servers and web pages to set up a complete data project site with coder interface, public-facing pages, and dynamically downloadable datasets.

American Political Science Association annual conference 'short course'	2009

Students	UNIVERSITY OF NOTTINGHAM

PhD students co-supervised

    Jon Sullivan 'Negativity and information in campaign advertising'
    Jessica Andersson 'Party competition over welfare policies in Sweden'
    Annika Jones 'War crimes and corporate responsibility'

MAASTRICHT UNIVERSITY

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

I was on the PhD committee of Elissaveta Radulova, and of Tom Louwerse (at Leiden University)

Commercial

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

After completing the company's role in the EU 5th Framework project Parmenides 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

Professor Gary King
Institute for Quantitative Social Science
Department of Government
Harvard University
Cambridge
MA 02138
United States of America

Professor Justin Grimmer
Department of Political Science
Stanford University
Stanford
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United States of America

Professor Sven-Oliver Proksch
Chair for European and Multilevel Politics
University of Cologne
50923 Köln
Germany

Professor Kenneth Benoit
Methodology Institute
London School of Economics and Political Science
London WC2A 2AE
United Kingdom