

Michael Castelle

Assistant Professor

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Centre for Interdisciplinary Methodologies

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CURRENT POSITION

Assistant Professor, Centre for Interdisciplinary Methodologies

University of Warwick, Coventry UK

EDUCATION

2017 (Ph.D) **Sociology**, University of Chicago

Dissertation: "Transaction and Message: From Database to Marketplace, 1970-2000"

Committee: Andrew Abbott (Chair)

Adrian Johns (History / Conceptual and Historical Studies of Science)

Andreas Glaeser (Sociology)

2010 **M.A., Sociology**, University of Chicago

2001 **Sc.B., Computer Science**, Brown University

PUBLICATIONS

Peer-Reviewed Work

- 2020 "The Social Lives of Generative Adversarial Networks". *ACM Conference on Fairness, Accountability, and Transparency (FAT*)*. To be published in edited volume Be My GAN: a Philosophical Approach to AI and Art (2020).
- 2019 "Middleware's Message: The Financial Technology of Codata". *Philosophy & Technology*.
- 2018 "The Linguistic Ideology of Deep Abusive Language Classification". 2nd Abusive Language Workshop, *Proceedings of Empirical Methods in Natural Language Processing (EMNLP)*.
- 2016 "Where do Electronic Markets Come From? Regulation and the Transformation of Financial Exchanges" (1st author with Y. Millo, D. Beunza, and D. Lubin). *Economy and Society*, 45(2).
- 2013 "Relational and Non-Relational Models in the Entextualization of Bureaucracy." *Computational Culture* (3).
- 2008 "ECoG gamma activity during a language task: differentiating expressive and receptive speech areas". *Brain*, (131:8). (3rd author with V. Towle, H-A. Yoon, J. Edgar, N. Biassou, D. Frim, J-P. Spire, M. Kohrman)
- 2007 "Frequency domain analysis of human subdural recordings". *Journal of Clinical Neurophysiology*, (24:2). (5th author with V. Towle, J.D. Hunter, J. Edgar, S. Chkhenkeli, D. Frim, M. Kohrman, K. Hecox)

Essays

- 2018 "Social Theory for Generative Networks (and Vice Versa)".
- 2018 "Deep Learning as an Epistemic Ensemble".
- 2016 "Marketplace platforms or exchanges? Financial metaphors for regulating the collaborative economy". *Economic Sociology: European Electronic Newsletter*, Vol. 17, No. 3, July 2016.

Work in Progress

- 2021 "Are Neural Networks Neoclassical? Utility, Cost, and Loss from Wald to TensorFlow", to be

- submitted for Special Issue “Beyond Code and Craft” in *Osiris*.
- 2020 “What Kind of Learning is Machine Learning?” (with Tyler Reigeluth) in *The Cultural Life of Machine Learning*, edited volume (co-edited with Jonathan Roberge) to be published in 2020 by Palgrave Macmillan
- 2020 “The Epistemic Ensemble of Deep Learning: Experiment, Sign, and Loss”, to be submitted to *Big Data & Society*.
- 2020 “Riding the Rails of High-Dimensional Thought-Space: Sapir, Whorf, and Deep NLP”.
- 2020 “The Linguistic Ideologies of Natural Language Processing”.

HONORS, GRANTS AND FELLOWSHIPS

- 2018-2020 Turing Fellow, Alan Turing Institute, London
- 2016 American Journal of Sociology Dissertation Fellowship, University of Chicago
- 2015-2016 Park Lectureship, University of Chicago, Department of Sociology
- 2015 Cambridge University Press Doctoral Colloquium, Business History Conference
- 2014 Arthur L. Norberg Travel Grant, Charles Babbage Institute, University of Minnesota
- 2014 Nicholson Center for British Studies Fellowship, University of Chicago
- 2013 Data Science for Social Good Fellowship, University of Chicago
- 2008 Social Sciences Doctoral Fellowship, University of Chicago

PRESENTATIONS

Selected Conference Presentations

- 2020 “The Social Lives of Generative Adversarial Networks”. *ACM Conference on Fairness, Accountability, and Transparency (FAT*)*, 29th January 2020.
- 2019 “The Architecture of ‘Attention’: Uncrumpling NLP’s Linguistic Ideologies”, Society for Social Studies of Science (4S), 5th September 2019.
- 2019 “Are Neural Networks Neoclassical? Utility, Cost, and Loss from Wald to TensorFlow”, Towards a History of Artificial Intelligence, Workshop at Columbia University, 23rd May 2019.
- 2018 “Middleware’s Presentism: Asynchrony, Flow, Finance, and the Enterprise”, History and Philosophy of Programming (HaPoP), Oxford UK, 23rd March 2018.
- 2017 “Brokers, Queues, and Flows: Techniques of Financialization and Consolidation, 1985-2005”. Presented at the SIGCIS (Special Interest Group on Computers, Information and Society) conference “Command Lines: Software, Power, and Performance”, Computer History Museum, Mountain View, CA, March 18-19th 2017.
- 2016 “The Platform as Exchange”. Presented at the 2016 biennial Internet, Politics, and Policy (IPP) conference, “The Platform Society”, Oxford Internet Institute, September 2016.
- 2016 “Big Data or Big Codata? Flows in Historical and Contemporary Data Practices”. Presented at Society for Social Studies of Science (4S)/EASST, Barcelona, September 2016.
- 2016 “Platforms or Exchanges? Financial Metaphors for Regulating the Collaborative Economy”. To be presented at Society for the Advancement of Socio-Economics (SASE) Annual Conference, Berkeley, CA, June 2016.
- 2014 “Making Markets Durable: Transaction Processing in Finance and Commerce.” SIGCIS (Special Interest Group for Computers, Information and Society) Workshop at SHOT (Society for the History of Technology), Dearborn, MI.
- 2014 “Where do Electronic Markets Come From? Regulation and The Transformation of

Financial Exchanges”. Society for the Advancement of Socio-Economics (SASE) Annual Conference, Chicago, IL.

- 2014 “Where the ‘Robots’ Dominate: Lessons from Automated Trading”. Autonomy and Automation: Robotics, AI, and the Digital Cultural Future, DCRC/UWE Bristol, UK.
- 2013 “The Transaction Concept: Concurrency and Durability for Financial Markets”. Sociology of Market Microstructure Workshop, The New York Stock Exchange, New York NY.
- 2013 “Recontextualization and Rationalization in Open Data”. Penser l’écosystème des données: Les enjeux scientifiques et politiques des données numériques. Institut des Sciences de la Communication du CNRS (ISCC), Paris, France.
- 2013 “The Transaction Abstraction: a Prerequisite for Financialization”. American Sociological Association Annual Meeting, New York, NY.
- 2012 “Relational and Non-Relational Models in the Virtualization of Bureaucracy”. The Lived Logics of Database Machinery: a workshop organised by Computational Culture, London, UK.

Invited Talks

- 2019 “Experiment, Vector, and Loss: The Epistemic Ensemble of Deep Learning”, Alexander von Humboldt Institute for Internet and Society (HIIG), Berlin, 15th May 2019.
- 2018 “Deep Learning and the Coming Opportunity for Social Theory”, The Thinking Machine: Interdisciplinary Perspectives on Neural Networks, Aarhus Institute of Advanced Studies, 22nd August 2018.
- 2018 “Deep Learning and the Coming Crisis for Social Theory”, Beyond Code and Craft, Franke Institute for the Humanities, University of Chicago, 28th April 2018.
- 2016 "Distinguishing Big Codata." Centre for Interdisciplinary Methodologies, University of Warwick, March 2nd, 2016.
- 2014 “Data Representation in the 1970s: Consequences for Quantitative Social Science”. Centre for Interdisciplinary Methodologies, University of Warwick
- 2014 “From Do-Undo to Global Finance”. Centre for Interdisciplinary Methodologies, University of Warwick

ORGANIZATION AND SCIENTIFIC ACTIVITIES

- “The Cultural Life of Machine Learning: An Incursion into Critical AI Studies”, Association for Internet Researchers (AoIR) 1-day Preconference, 10th October 2018, *Institut national de la recherche scientifique* (INRS), Montréal, Canada. With Jonathan Roberge and Thomas Crosbie.

TEACHING EXPERIENCE

Instructor

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| Interdisciplinary Machine Learning, University of Warwick | Spring 2019-present |
| Big Data Research: Hype or Revolution?, University of Warwick | Fall 2017-present |
| Computing and Society, University of Chicago | Spring 2016 |
| Computing for the Social Sciences, University of Chicago | Winter 2015, Spring 2011-2014 |
| Transformative Technologies: Computing, Illinois Institute of Technology | Spring 2012 |

Teaching Assistant

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| Teaching Assistant to Dr. Andreas Glaeser, Sociological Theory | Spring 2012, 2014 |
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| Teaching Assistant to Dr. Karin Knorr Cetina, Global Society & Global Culture | Fall 2011, 2013 |
| Teaching Assistant to Dr. Karin Knorr Cetina, Consumption | Spring 2010 |
| Teaching Assistant to Dr. James Evans, Science, Culture and Society III | Spring 2010 |
| Teaching Assistant to Dr. James Evans, Content Analysis | Winter 2010 |

SERVICE

University and Professional Service

2010 Manuscript Board, *American Journal of Sociology*

Reviewer

Big Data & Society

American Journal of Sociology

Professional Memberships 2017-2020

Society for Social Studies of Science (4S)

American Sociological Association (ASA)

Association for Computational Linguistics (ACL)

Association for Computational Machinery (ACM)

Society for the Advancement of Socio-Economics (SASE)

SIGCIS (Special Interest Group for Computers, Information and Society)

Society for the History of Technology (SHOT)

Technical Skills

Programming Languages: Python, R, SQL, Haskell, C, Java, C++.

Operating Systems: OS X, Linux.

Software Tools/Libraries: PostgreSQL/MySQL, ArcGIS, scipy, matplotlib, Django, NLTK, HTML/CSS, GTK+ 2, VTK/ITK, Matlab, SPSS, LaTeX, OpenGL.

Languages Read

French (fair), Spanish (fair)

Revised 11th April, 2020