



Queensland University of Technology
Brisbane Australia

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TWITTER AND SOCIETY



Steve Jones
General Editor

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TWITTER AND SOCIETY

EDITED BY KATRIN WELLER, AXEL BRUNS,
JEAN BURGESS, MERJA MAHRT, & CORNELIUS PUSCHMANN



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Twitter and Society: An Introduction

INTRO-
DUCTION

Katrin Weller, Axel Bruns, Jean Burgess, Merja
Mahrt, & Cornelius Puschmann



welcome to #twitsocbook, welcome to Twitter
research! (Pls RT.)

Since its launch in 2006, Twitter has turned from a niche service to a mass phenomenon. By the beginning of 2013, the platform claims to have more than 200 million active users, who “post over 400 million tweets per day” (Twitter, 2013). Its success is spreading globally; Twitter is now available in 33 different languages, and has significantly increased its support for languages that use non-Latin character sets. While Twitter, Inc. has occasionally changed the appearance of the service and added new features—often in reaction to users’ developing their own conventions, such as adding ‘#’ in front of important keywords to tag them—the basic idea behind the service has stayed the same: users may post short messages (tweets) of up to 140 characters and follow the updates posted by other users. This leads to the formation of complex follower networks with unidirectional as well as bidirectional connections between individuals,

but also between media outlets, NGOs, and other organisations. While originally ‘microblogs’ were perceived as a new genre of online communication, of which Twitter was just one exemplar, the platform has become synonymous with microblogging in most countries. A notable exception is Sina Weibo, popular in China where Twitter is not available. Other similar platforms have been shut down (e.g., Jaiku), or are being used in slightly different ways (e.g., Tumblr), thus making Twitter a unique service within the social media landscape.

In addition to interpersonal communication, Twitter is increasingly used as a source of real-time information and a place for debate in news, politics, business, and entertainment. Televised sports events such as the FIFA World Cup or the NBA Finals cause massive real-time spikes in global Twitter activity; other entertainment news and events also result in particularly high tweet volumes, be it the death of Michael Jackson, the annual Academy Awards, or the royal wedding of Prince William and Kate Middleton in 2011. Public figures and celebrities from the Pope to Lady Gaga attract enormous numbers of followers, and a photo of Barack and Michelle Obama, posted immediately after Obama’s re-election as President of the United States in November 2012, rapidly became the single most retweeted message in the history of Twitter. Disasters such as Hurricane Sandy, and tragedies like the shooting spree of a gunman at the Sandy Hook Elementary School in Connecticut (both in the autumn of 2012) show their immediate aftereffects on the platform, as users report their experiences and search for information, often as events are unfolding—a dynamic that makes Twitter seemingly irresistible to the mass media. Such moments demonstrate how deeply embedded the service has become into the media ecology, and, arguably, into the everyday lives of its users around the world. Increasingly, when noteworthy events occur—both on a global and a local level—there will be Twitter users who share the news.

Beyond the spectacle of major news events, Twitter remains a space for mundane expressiveness and interaction: millions of private users chat with their friends and share photos or URLs via Twitter at any one point, using the service as a journal of their thoughts and everyday activities. This is why Twitter has been bluntly criticised at times for consisting largely of ‘pointless babble’, ‘useless information’, or ‘phatic communication’, but such criticism is simplistic. Rather, the highly personal use by each user as a tool for outreach, spreading information, or connecting to friends is at the very heart of Twitter’s utility for individuals and organisations alike, and indeed underpins its very success as a platform for global news media and public communication.

Twitter's dominant uses and norms have been co-created over time, not only by the company, Twitter, Inc., but also by third-party developers and users themselves. Users shape the service through their practices of use, and these activities have led to new forms of communication and new phenomena in participatory culture, for example in the form of Twitter-specific communicative trends and memes. It is therefore as important to investigate Twitter users' everyday activities and their perceptions of publicity, privacy, intimacy, and friendship as they are experienced through and reconfigured by the platform, as it is to study the use of Twitter in the context of major societal themes and events. With this volume, we aim to present both a broad and a detailed picture of the many specific practices through which Twitter is located *in* society, in order to explore the intersections between Twitter *and* society. This not only provides a fascinating insight into how this important social network itself is being used, but also continues a tradition of platform-specific studies—covering blogs (Bruns & Jacobs, 2006), social networking sites (boyd & Ellison, 2007), virtual worlds (Meadows, 2007), search engines (Halavais, 2009; Lewandowski, 2012), Wikipedia (Lih, 2009; Reagle, 2010), YouTube (Burgess & Green, 2009), and many others—which document the social co-construction of new media technologies in the often conflicted interplay between platform users, platform providers, and other stakeholders.

The substantial amount of content generated and shared by Twitter users, from individuals to institutions, also opens up exciting new research possibilities across a variety of disciplines, including media and communication studies, linguistics, sociology, psychology, political science, information and computer science, education, and economics. There remains a significant need for the further development of innovative methods and approaches which are able to deal with such new sources of research data, and for the training of a new generation of scholars who are deeply familiar with such methodological frameworks.

Large datasets can be retrieved from the Twitter Application Programming Interface (API), and can subsequently be mined with a range of specialised tools (programming languages, statistics packages, network analysis frameworks, text and data mining tools). API-based access to Twitter data has contributed to the emergence of a variety of tools and services that promise to measure and compare impact, influence, and audience reach on Twitter—which in turn leads to a growing interest in strategies for maximising such 'impact', and a number of books promising swift success for corporate marketing and political campaigns. However, reliably measuring activity or popularity, or quantifying any other aspects of social media use, is far from trivial, and current approaches

are usually neither standardised nor independently verifiable, acting instead as black box analytics frameworks whose outcomes the researcher is asked to trust with blind faith. Several chapters in this collection seek to remedy this situation by establishing common frameworks for Twitter analytics beyond merely quantifying attention, and thereby initiating a conversation about methods in researching Twitter.

Furthermore, the opportunities for advanced Twitter analytics are matched by challenges surrounding the long-term availability of data, research ethics, the interpretation of user-generated information, and the relation of qualitative and quantitative, as well as user-based and content-based research approaches. Such challenges extend well beyond the study of Twitter itself, and are instead shared with the wider field of ‘big data’ research in the digital humanities which is currently emerging. If the current “computational turn” (Berry, 2011) in our research is to result in what Richard Rogers (2009) has described as “natively digital” methodologies or in “computational social science” (Lazer et al., 2009), then a significant amount of further thought must go into the conceptual, methodological, and ethical frameworks which we apply to such work. In the foreword to the present volume, Richard Rogers introduces the key characteristics of Twitter, its history and usage, and provides a sketch of how Twitter research can keep up with the platform’s impressive journey from a frowned-upon niche medium to a global information hub. His foreword presents the many challenges which Twitter research must rise to meet. In their contributions to the main body of the book, our authors respond to these challenges by sharing the diverse insights gained through their own research, across a wide range of disciplines, perspectives, and methodologies, and by raising further questions for future Twitter research.

This collection is divided into four thematic sections. Part I, “Concepts and Methods”, presents a selection of theoretical frameworks for the study of Twitter, followed by a range of practical approaches for investigating the platform. It opens with Jan-Hinrik Schmidt’s introduction of the concept of “personal publics”, which describes the multitude of overlapping, hybrid, public/private spaces that are constituted by each individual user’s account and its network of followers. The chapter raises important questions for our understanding of tweeting as a form of communication which can be at once intensely personal and highly public. Axel Bruns and Hallvard Moe follow suit with a reflection on the different layers of communication on the platform, supported by a range of sociotechnical constructs ranging from @replies to hashtags. Their contribution serves as a reminder that Twitter can be used strategically to achieve different

levels of publicness and publicity, and provides a framework for defining these levels. Alexander Halavais further explores the social and technological conventions which have given rise to the different formations of interpersonal, publicly personal, or all-out public communication which are possible on Twitter, and traces the processes of co-evolution of the platform and its functionality as they are driven by corporate as well as user activities and interventions. Finally, Cornelius Puschmann and Jean Burgess complete the “Concepts” section by offering a critical reflection on the politics of Twitter data, exploring both Twitter’s data policies and the politics of utilising such proprietary and increasingly restricted data sources in research projects. Together, these four chapters form the cornerstones for the conceptualisation of Twitter as a hybrid social network and communications platform on which this collection is based.

“Methods” introduces a number of crucial practical approaches to the study of Twitter, from both qualitative and quantitative perspectives. Devin Gaffney and Cornelius Puschmann discuss the Twitter API, and outline a number of key tools for gathering and processing API data. They also consider the limitations and challenges of API-based work. Axel Bruns and Stefan Stieglitz present a range of key metrics for the quantitative analysis of Twitter activity, and demonstrate their use in practice; these metrics provide a standardised basis for Twitter analytics which improves the reliability and reproducibility of Twitter research. Mike Thelwall outlines the use of time-series-based sentiment analysis for corpora of Twitter data, in order to explore and document the mood of tweeting activity in a given dataset at any one point. Jessica Einspänner, Mark Dang-Anh, and Caja Thimm broaden the perspective from sentiment to computer-assisted content analysis, outlining how automated, semi-automated, and manual analysis approaches may be combined to develop a detailed perspective of the communicative activities captured in Twitter datasets. Alice E. Marwick offers an alternative and strongly qualitative approach to the study of Twitter, employing interviews, ethnographic methods, and close reading of tweeted interactions in order to develop a very detailed, fine-grained picture of who uses Twitter, and of how they use it. Michael Beurskens, finally, considers the legal frameworks within which Twitter researchers operate as they draw on the tweets of a wide range of users, access them through proprietary APIs, and collect them in large corpora. Often overlooked in the day-to-day processes of data analysis, such legal questions are crucial for assuring researchers and protecting their research subjects.

Part II, “Perspectives and Practices”, presents a set of thematic and conceptual approaches to the study of Twitter, demonstrating the diverse societal con-

texts in which Twitter has found application. “Perspectives” explores a range of common aspects of Twitter activity. It begins with Alex Leavitt’s chapter on the origins of Twitter memes. Memes as a means to contextualise and label information and participate in discussions have become a substantial part of communicating on Twitter, mainly in the form of hashtags. Leavitt describes several popular memes and their contexts, pointing out that they are both influenced by the users’ intentions and the technical environment provided by Twitter, which highlights currently trending topics and may thus enforce already existing memes. But not only topics and hashtags can be used to contextualise and mark information; Rowan Wilken describes Twitter’s potential as a locative medium, referring to human desire to assign information to places. Not many tweets include actual geocodes that enable us to trace back the origin of a tweet to an exact longitude and latitude, but users provide information about their locations in different ways, for example in their personal information section or within the tweet itself. By doing so, users may accidentally reveal more personal information than they intended. Michael Zimmer and Nicholas Proferes address controversial issues of privacy on Twitter in their chapter, arguing that far too little is known about whether the users themselves perceive their activities as public. Although Twitter works with very basic privacy settings (a user’s profile and all of their tweets are either public or restricted), users may not know that what they are writing is publicly accessible by default.

Miranda Mowbray proceeds by examining a type of Twitter user largely unaffected by issues of privacy: automated Twitter accounts are programs that post messages to Twitter without direct human intervention. These bots are not welcomed by Twitter, Inc. (as the service is intended for human users, according to the company’s policies), but not all of them are harmful. While spam may be the most common type of automated tweet, other bots provide useful services or entertain human users (and possibly, one another). The final two chapters in this section address information overload as a perceived adverse effect of using Twitter. Ke Tao, Claudia Hauff, Fabian Abel, and Geert-Jan Houben describe the difficulties of finding very specific information in large volumes of Twitter data. Applying information retrieval theory, they show that individual tweets are a problematic form of document which cannot be easily classified as relevant to a specific search query; new approaches are necessary to make sense of tweets in context. Finally, Thomas Risse, Wim Peters, Pierre Senellart, and Diana Maynard discuss a topic that is relevant for both Twitter users and researchers: the storage and archiving of tweets as a knowledge resource for future generations. In addition to the restrictions imposed by Twitter, Inc.’s Terms of Service,

this requires that significant technical challenges be addressed: for example, archiving approaches should also seek to capture the original context of posts by preserving the content of any URLs which are included in the tweets.

The final section of this volume, “Practices”, is organised around different forms of social interaction as mediated through Twitter. We have selected a variety of case studies that reflect the richness of usage scenarios and illustrate how users with different backgrounds apply Twitter for their purposes. The section begins with four chapters on Twitter’s role in popular culture. These consider, among other themes, the changing practices of fandom and fan interactions. Nancy Baym points out the role of Twitter in audience management as perceived by musicians and other artists. As artists are increasingly dependent on being discovered by and on building relationships with their audiences, they use Twitter to reach out and personalise such relationships. How audience members are enabled to find and interact with each other is also the topic of Stephen Harrington’s chapter on tweeting about the television. He discusses the ways in which microblogging during live TV broadcasts transcends the small screen and provides shared experiences beyond the anonymity of a mass medium. Through such practices, Twitter can become a medium for actual fan interaction, where celebrities or media personalities share personal observations with fans, and fans may address them directly in return. This is true in sports as much as in the arts: Tim Highfield’s chapter, therefore, focusses on interactions during a particular sporting event, the annual Tour de France. He shows how different groups—cyclists, media, and fans—connect through event-related hashtags and engage with each other. In the following chapter, Axel Bruns, Katrin Weller, and Stephen Harrington move beyond specific sporting events to compare the activities of football clubs over the course of an entire season. Their case studies of the English, German, and Australian leagues reveal substantial differences in tweeting practices across these sports markets. As football clubs can be considered a very specific type of brand, this chapter provides a useful link to a more general investigation of brand communication on Twitter. Here, two different perspectives are explored: Stefan Stieglitz and Nina Krüger investigate the strategies of various major brands in dealing with Twitter during brand crises. Their conclusions from these examples may also provide useful advice for other businesses seeking to make better corporate use of Twitter. Further, Tanya Nitins and Jean Burgess concentrate on the discussion between brands and users that can ensue in Twitter’s two-way communicative environment. Some brands successfully create an online space for participation and engage-

ment—in other cases, users are deliberately searching for PR mistakes, or set up parody accounts in order to spread satirical messages.

Twitter has received much attention both within mass media and from communication researchers for its role in political discourse, especially when connected to elections and campaigning. Our three chapters on politics and activism apply diverse approaches to this topic. Axel Maireder and Julian Ausserhofer conduct parallel content analyses of news reports and tweets relating to three different events in Austrian national politics. They show that Twitter discourses develop on a trajectory that is partially independent from mass media reporting. Anders Olof Larsson and Hallvard Moe examine three major elections held in Sweden, Denmark, and Norway in 2011. They focus on the debates surrounding the elections' main hashtags, analysing user activities and different types of tweets. Finally, Johannes Paßmann, Thomas Boeschoten, and Mirko Tobias Schäfer critically investigate whether retweeting establishes a novel kind of gift culture within social media, analysing the Dutch parliamentary Twittersphere in a case study. This also reveals how messages circulate within a specific community. The following chapters address broader perspectives on Twitter in the news ecosystem: Christoph Neuberger, Hanna Jo vom Hofe, and Christian Nuernbergk describe different dimensions of the use of Twitter in journalism, including interactions with readers and viewers, and real-time coverage from the scene of news events. They observe that only in exceptional cases, private individuals report exclusively on public events. In the next chapter, Alfred Hermida notes the role played by an individual user who acted as a central distributor of news about the mass shooting at a cinema in Aurora, Colorado. Hermida illustrates how Twitter can serve as a channel for the distribution of materials from journalists and the mainstream media, especially around breaking news, when rumours and speculation play a crucial role.

These issues are salient in the cases covered by our chapters on crisis communication as well. Social media have helped to involve a larger proportion of the general population in online crisis communication during political and religious uprisings, mass violence, and natural disasters. Axel Bruns and Jean Burgess investigate the use of Twitter during natural disasters in Australia and New Zealand, where the platform helped to share information about the unfolding situation and to coordinate emergency responses. Focussing in particular on the role of visual information in a crisis scenario, Farida Vis, Simon Faulkner, Katy Parry, Yana Manyukhina, and Lisa Evans analyse tweets during the civil unrest in the UK in August 2011 that became known as the London Riots. Analysing the distribution of original photos as well as television screen-

shots, they make a strong argument for the growing relevance of image-sharing on Twitter. While these case studies serve to underline the point that Twitter has become a subject of research across diverse scientific disciplines, we finally also examine the take-up of Twitter in academia itself—as a tool for scholarly communication. The final two chapters in this section reflect the two sides of the academic coin: research and teaching. Merja Mahrt, Katrin Weller, and Isabella Peters provide a broad overview of how scholars use Twitter for their everyday work, concluding that, for now, the use of Twitter remains rare among scholars in general, although there are some differences across disciplines. In education, Twitter—among other tools—is considered to be a valuable addition for e-learning environments. Timo van Treeck and Martin Ebner analyse two massive open online courses (MOOCs) that integrated Twitter as a communication channel. It appears that both in scholarly communication and in learning environments, retweeting and sharing URLs play an important role as a means of information distribution.

The breadth and diversity of these uses of Twitter in contemporary society document the considerable adoption of Twitter as a platform for everyday and extraordinary, personal, and public communication. The work collected in this volume also showcases the rich insights—not only into Twitter itself, but into society as such—which research in this field is able to generate. Thus, the epilogue to the present collection reflects more generally on Twitter's role in society and its relationship with society. The interplay between the platform, with its technical and political restrictions, and the individuals who make use of this service can inform a wide range of questions on modern societies, largely due to the fact that Twitter makes people's activities, communication, and reactions to outside events publicly accessible at an unprecedented level. The study of Twitter and its uses, therefore, extends well beyond platform studies; rather, it forms part of the broader agenda which Richard Rogers (2009) has outlined: to study society *through* the Internet.

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Notes on Contributors

FABIAN ABEL (@fabianabel) is working as Postdoctoral Researcher in the Web Information Systems group at Delft University of Technology, The Netherlands, and is performing research activities in the line of user modelling and personalisation on the Social Web. Fabian completed his PhD at L3S Research Center and was concerned with (distributed) user modelling on the Social Semantic Web, covering topics such as linking, integrating and enriching user models as well as personalised retrieval of social media content. In his young career, he has published more than 50 scientific articles in the field of Semantic Web, User Modelling and Personalisation.

JULIAN AUSSERHOFER (@boomblitz) is a Digital Media Researcher at the Institute for Journalism and PR at Graz University of Applied Sciences (FH JOANNEUM), Austria. He is also a PhD candidate at the University of Vienna, Department of Communication. Ausserhofer co-founded the Web Literacy Lab in Graz and acts as a member of the Board of the Open Knowledge Foundation in Austria. His research interests include the political use of social media, open (government) data, online publishing practices and data driven journalism. He blogs at <http://ausserhofer.net/>

NANCY BAYM (@nancybaym) is a Principal Researcher at Microsoft Research in Cambridge, MA, USA. She is the author of *Personal Connections in the Digital Age* (Polity), *Internet Inquiry* (co-edited with Annette Markham, Sage) and *Tune In, Log On: Soaps, Fandom and Online Community* (Sage). Her website is <http://www.nancybaym.com/>

MICHAEL BEURSKENS (@mbeurskens) is a Lecturer and Researcher in the field of Internet and Intellectual Property Law. His research covers general issues pertaining to the ownership of information, privacy law, and network neutrality. He teaches copyright law at the specialised LL.M.-program on information law. Beurskens holds both a Master's degree in intellectual property law received from Heinrich-Heine University and a general LL.M. from the University of Chicago. He passed both German state exams with honours, and is admitted to the New York State bar. He received his doctoral degree (Dr.iur., s.j.d.-equivalent) based on a thesis on capital market information. He is an active member of the German law blogging community and also supervises the faculty-run blogs at HHU. Beurskens is currently involved in the development of Web 2.0-based eLearning-technologies, including collaborative game design.

THOMAS BOESCHOTEN (@boeschoten) is a Master's student at the New Media and Digital Culture programme at Utrecht University, the Netherlands. He specialises in Twitter and other new media that use big data. After focusing on the use of Twitter by politicians and the Occupy movements, he is now a member of the 'Project X' Research Committee that is investigating the 2012 'Facebook' riots in the small northern village of Haren in the Netherlands. His website is at <http://www.boeschoten.eu/>

AXEL BRUNS (@snurb_dot_info) is an Associate Professor in the Creative Industries Faculty at Queensland University of Technology in Brisbane, Australia, and a Chief Investigator in the ARC Centre of Excellence for Creative Industries and Innovation (<http://cci.edu.au/>). He is the author of *Blogs, Wikipedia, Second Life and Beyond: From Production to Producership* (2008), and *Gatewatching: Collaborative Online News Production* (2005), and a co-editor of *A Companion to New Media Dynamics* (2013, with John Hartley and Jean Burgess), and *Uses of Blogs* (2006, with Joanne Jacobs). His research blog is at <http://snurb.info/>; see <http://mappingonlinepublics.net/> for more details on his current social media research.

JEAN BURGESS (@jeanburgess) is Deputy Director of the ARC Centre of Excellence for Creative Industries & Innovation (CCI) and an Associate Professor in the Creative Industries Faculty at Queensland University of Technology, Australia. She has published widely on social media, user-created content, and community-based co-creative media such as digital storytelling. Her books include *YouTube: Online Video and Participatory Culture* (Polity Press, 2009), which has been translated into Polish, Portuguese, and Italian; *Studying Mobile Media* (Routledge, 2012); and *A Companion to New Media Dynamics* (Wiley-Blackwell, 2013). Her current research focusses on methodological innovation in the context of the changing media ecology, and in particular on the development of computational methods for media and communication studies.

MARK DANG-ANH (@mdanganh) received his Magister Artium degree from the RWTH Aachen. He is a Research Assistant in the Department of Media Studies at the Institute of Linguistics, Media and Sound Studies, University of Bonn, Germany. He currently works on the project “Political Deliberation on the Internet: Forms and Functions of Digital Discourse Based on the Microblogging System Twitter”, which is part of the Priority Program 1505 “Mediatized Worlds” funded by the German Research Foundation (DFG). His research interests lie at the intersection of linguistics and media studies, primarily focussing on political communication in online media.

MARTIN EBNER (@mebner) is Head of the Department for Social Learning at Graz University of Technology, Austria, and therefore responsible for all university-wide e-learning activities. He is an Associate Professor of Media Informatics and also works at the Institute for Information System Computer Media as Senior Researcher. His research focusses strongly on e-learning, mobile learning, learning analytics, social media, and the usage of Web 2.0 technologies for teaching and learning. Martin gives a number of lectures in this area as well as workshops and talks at international conferences. For publications as well as further research activities, please visit <http://martinebner.at/>

JESSICA EINSPÄNNER (@jeinspaenner) studied media & communications at Bonn University (Germany) and the National University of Singapore. She is currently working as a Research Fellow at Bonn University within the project “Political Deliberation on the Internet: Forms and Functions of Digital Discourse Based on the Microblogging Platform Twitter“, which is part of

the DFG priority program “Mediatized Worlds”. She is also writing her doctoral thesis on “User Generated Privacy: Mechanisms of Constructing Privacy Online”. Her main teaching and research areas are social media communication, political communication, and online journalism.

LISA EVANS (@objectgroup) was a Writer, Data Researcher, and Programmer for *The Guardian*, with interests including statistics, public spending, data journalism, and accounting. Much of this work was published on *The Guardian’s* Datablog. She is now investigating where money flows around the world with the Open Knowledge Foundation’s (England) Open Spending project, and completing her degree in mathematics from the Open University. In the near future, she will be producing training materials and tools for the open spending community to help journalists and non-government organisations use open financial data in more meaningful ways.

SIMON FAULKNER (@simonfaulkner2) is a Senior Lecturer in Art History and Visual Culture at Manchester Metropolitan University, England. He has published on the subject of British art in the mid-twentieth century, and is the editor (with Anandi Ramamurthy) of *Visual Culture and Decolonisation in Britain* (2006). His current research is on relationships between visual culture and the Israeli–Palestinian conflict. This work includes the development of an artist/writer’s book, *Between States*, with the Israeli artist David Reeb.

DEVIN GAFFNEY (@dgaff) is a Research Assistant at the Oxford Internet Institute, England, and recent graduate of its Master’s Program in the Social Science of the Internet. Since 2009, he has concentrated on research surrounding Twitter’s various legal, ethical, methodological, and practical aspects, and has most recently focussed on the measurable role of geographic distance in interactions between users. Beyond this work, he has also worked on assessing the impact of Twitter on the 2009 Iran Election and 2011’s Arab Spring, and is most recently working on assessing the merits of social media influence metrics, and the various issues surrounding projections of quantifiable methods on online users and activity.

ALEXANDER HALAVAIS (@halavais) is Associate Professor of Social and Behavioral Sciences at Arizona State University, where he researches the role of social media in social learning. He is also the president of the Association of Internet Researchers, and technical director of the Digital Media and Learning Hub at the University of California. His work investigates the use

of social media by activists and others hoping to create social change. His most recent book is *Search Engine Society*, and his upcoming book examines new forms of participatory surveillance.

STEPHEN HARRINGTON (@_StephenH) is a Senior Lecturer in Journalism, Media and Communication at the Queensland University of Technology (QUT), Australia. His research has focussed mainly on the changing relationships between television, journalism, politics, and popular culture, and, in particular, understanding the qualitative impact of these changes in terms of public knowledge and engagement. His book *Australian TV News: New Forms, Functions and Futures* (Intellect, 2013) focusses on emergent news formats, and their potential to generate public knowledge and deeper levels of audience engagement. He is currently studying how Twitter and other online communication platforms affect or shape the audience experience for traditional media forms and events (e.g., TV, sport), and how to use social media data capture, analysis, and mapping methods as an audience research technique.

CLAUDIA HAUFF (@charlottehase) is a Postdoctoral Researcher in the Web Information Systems group at Delft University of Technology, The Netherlands, working in the areas of Information Retrieval and User Modelling & Personalisation. Claudia received her PhD from the University of Twente, where her research focussed on system-oriented Information Retrieval, in particular query performance prediction and retrieval system evaluation.

ALFRED HERMIDA (@hermida) is an award-winning online news pioneer, digital media scholar, and journalism educator. He is an Associate Professor at the Graduate School of Journalism at the University of British Columbia, Canada. His research focusses on changes in journalistic practices, social media, and emerging genres of journalism, with his work appearing in *Journalism Practice* and *Journalism Studies*. He co-authored *Participatory Journalism: Guarding Open Gates at Online Newspapers* (Wiley-Blackwell, 2011). Hermida was a BBC journalist for 16 years, including four as a correspondent in the Middle East, and was a founding member of the BBC News website in 1997. A regular media commentator, his work has appeared in *The Globe and Mail*, *PBS*, *BBCNews.com* and the Nieman Journalism Lab.

TIM HIGHFIELD (@timhighfield) is a Research Fellow with the ARC Centre of Excellence in Creative Industries and Innovation, and a Sessional Academic

at Curtin University, Perth, Australia. He was awarded his PhD in 2011 from Queensland University of Technology, Australia. His PhD thesis studied political blogging in Australia and France, while his current research interests include examining the uses of social media, such as Twitter, within discussions and commentary around political debates and popular culture. His recent publications include co-authored journal articles in *Media International Australia* and *Social Science Computer Review*.

GEERT-JAN HOUBEN (@gjhouben) is Professor of Web Information Systems at the Software Technology department at Delft University of Technology, The Netherlands. His main research interests are in Web Engineering, in particular the engineering of Web information systems that involve Web and Semantic, Web technology, and User Modelling, Adaptation and Personalisation. He is Managing Editor of the *Journal of Web Engineering*; Chair of the Steering Committee for ICWE, the International Conference on Web Engineering; and member of the Editorial Board of ACM TWEB, ACM Transactions on the Web.

NINA KRÜGER (@NinaKrger) is a Research Assistant in the research group of communication and collaboration management at the Institute of Information Systems at the University of Münster, Germany. She studied communication science, ethnology, and psychology, and completed her Magister in 2011. As grounding for her studies, she underwent job training in an IT enterprise, where she gained practical experience in dealing with social media and their use for collaborative purposes in business. Nina's research focusses on the internal and external use of social media for corporate communication in all its facets.

ANDERS OLOF LARSSON (@a_larsson) is a Postdoctoral Fellow at the Department of Media and Communication, University of Oslo, Norway. He is also associated with the Swedish Research School for Management and Information Technology. His work has been published in journals such as *New Media and Society*, *Convergence*, *The Information Society*, and *Journal of Information Technology and Politics*. Larsson's Web site can be found at <http://andersoloflarsson.se/>

ALEX LEAVITT (@alexleavitt) is a PhD student and Researcher in the Annenberg School for Communication & Journalism at the University of Southern California, USA, where he is advised by Professor Henry Jenkins. Alex studies participation and online communication across networked tech-

nologies, particularly social media platforms, emergent online communities, and the information practices of media subcultures. More information about his research is available at <http://alexleavitt.com/>

MERJA MAHRT is a media and communication scholar currently working at Heinrich Heine University, Düsseldorf, Germany. Her research focusses on the audience of media and the functions media fulfil for their users and society, from traditional mass media like television, newspapers, and magazines to Web 2.0 applications. She is the spokesperson of the interdisciplinary researchers group, Science and the Internet (<http://www.nfg-win.uni-duesseldorf.de/en/>). Within this project, her research is concerned with academic blogs, their readership, and the different uses bloggers and readers make of them.

AXEL MAIREDER (@axelmaireder) has been a Research Assistant and Doctoral Student at the Department of Communication, University of Vienna, Austria, since 2009. After graduating from this department in 2006, he has been working as Researcher for projects on the Internet use of teachers and students, funded by the Austrian Ministry of Education. His current research focusses on practices, networks, and dynamics of social media communication within public discourses, and particularly in political communication.

YANA MANYUKHINA has a BA in International Relations from Baku State University, Azerbaijan (2009), and an MA in Mass Communications from the University of Leicester, UK (2011), both with distinction. Her research interests include: research methods for the social sciences, especially applied to issues around health communication, nutrition, and public health; food advertising and food media; food policies; consumer research; brands and culture. She commenced a PhD in this area in 2012. She was a Researcher on the “Reading the Riots on Twitter” investigation, from which her interest for researching social media stems.

ALICE MARWICK (@alicetiara) is an Assistant Professor at Fordham University in the Department of Communication and Media Studies, and a Research Affiliate at the Berkman Center for Internet and Society. Her work looks at online identity and consumer culture through lenses of privacy, consumption, and celebrity. She is currently working on two ethnographic projects—one examining youth technology use, and the other looking at femininity and domesticity in social media such as fashion blogs, Tumblr, and Pinterest. Her book *Status Update: Celebrity, Publicity and Self-Branding in Web 2.0*

is under contract with Yale University Press. Alice has a PhD from New York University's Department of Media, Culture and Communication, and was previously a Postdoctoral Researcher in social media at Microsoft Research New England.

DIANA MAYNARD (@dianamaynard) is a Research Fellow at the University of Sheffield, UK. She has a PhD in Automatic Term Recognition from Manchester Metropolitan University, and has been involved in research in NLP since 1994. Her main interests are in information extraction, opinion mining, terminology, and social media. Since 2000, she has led the development of USFD's open-source multilingual IE tools, and has led research teams on a number of UK and EU projects. She is Chair of the annual GATE training courses, and leads the GATE consultancy on IE and opinion mining. She has published extensively, organised a number of national and international conferences, workshops, and tutorials, given invited talks and keynote speeches, and reviews project proposals for RNTL. She is currently joint Coordinator of the Semantic Web Challenge.

HALLVARD MOE (@halmoe) is Associate Professor of Media Studies at the University of Bergen, Norway. In 2011, he was a visiting scholar at the ARC Centre of Excellence for Creative Industries and Innovation at Queensland University of Technology. Moe's research interests include media policy, democratic theory, and the use of new media platforms in the public sphere. His recent work on Twitter, published in journals such as *New Media & Society*, *International Journal of Communication*, and *Nordicom Review*, focusses on their uses in public debate in the Scandinavian countries.

MIRANDA MOWBRAY is a Senior Researcher at HP Labs, Bristol, UK, where her research interests include big data for security, and online communities. Her recent publications include "Enhancing Privacy in Cloud Computing via Policy-Based Obfuscation", *J. Supercomputing*, 61 (2012): 267–291, with Siani Pearson and Yun Shen; "Business-Driven Short-Term Management of a Hybrid IT Infrastructure", *JPDC* 72.2 (2012): 106–119, with Paolo Ditarso Maciel Jr. et al.; "Efficient Prevention of Credit Card Leakage from Enterprise Networks", CMS 2011, LNCS 7025: 238–240, with Matthew Hall and Reinoud Koornstra; and "A Rice Cooker Wants to Be My Friend on Twitter", *Proc. Ethicomp 2011*, 322–329.

CHRISTOPH NEUBERGER is a full Professor at the Department of Communication Science and Media Research (IfKW) at the Ludwig-

Maximilians-University Munich, Germany. His research interests include media change, online journalism, activities of press and broadcasting on the Internet, social media, journalism theory, and media quality. Recent book publications include: Christoph Neuberger, Hanna Jo vom Hofe, and Christian Nuernbergk, *Twitter und Journalismus: Der Einfluss des "Social Web" auf die Nachrichten* [*Twitter and Journalism: The Influence of the Social Web on News*] (3rd edition, Düsseldorf, Germany: Landesanstalt für Medien Nordrhein-Westfalen (LfM), 2010); and Klaus Meier and Christoph Neuberger (eds.), *Journalismusforschung* [*Journalism Research*] (Baden-Baden: Nomos, 2012).

TANYA NITINS (@DrTNitins) is a Lecturer at Queensland University of Technology, Australia, in the area of Entertainment Industries. Her previous research has focussed on product placement, brand development, and new media. Her book *Selling James Bond: Product Placement in the James Bond Films* was published in 2011. Dr. Nitins has also been intrinsically involved in various research projects focussed on new media services and applications, locative media, and building online user communities.

CHRISTIAN NUERNBERGK (@nuernbergk) is a Postdoctoral Researcher and Lecturer at the Department of Communication Science and Media Research (IfKW) at the Ludwig-Maximilians-University Munich, Germany. His research interests include political communication, online journalism, networked public sphere, online social networks, the blogosphere / blogging and microblogging, and alternative journalism. Recent book publications include: Christoph Neuberger, Hanna Jo vom Hofe, and Christian Nuernbergk, *Twitter und Journalismus: Der Einfluss des "Social Web" auf die Nachrichten* [*Twitter and Journalism: The Influence of the Social Web on News*] (3rd edition, Düsseldorf, Germany: Landesanstalt für Medien Nordrhein-Westfalen (LfM), 2010).

KATY PARRY (@reticentk) is a Lecturer in Communication Studies at the Institute of Communication Studies at the University of Leeds, England. Her research interests include war and media; photojournalism and visual culture; and political communications and political culture across media genres. Prior to joining Leeds, she worked on an AHRC-funded project with Kay Richardson and John Corner at the University of Liverpool, exploring the ways in which media formats other than journalism portray politics; now published as *Political Culture and Media Genre* (Palgrave, 2012). In

addition to publishing articles from this project, she continues to write on media visualisation of conflict.

JOHANNES PASSMANN (@J_Passmann) is a PhD candidate at the DFG Locating Media Graduate School at the University of Siegen in Germany. His PhD thesis is an ethnography of the Favstar scene on German-speaking Twitter, which he conceptualises as a gift economy. From this perspective, the history of the social web is described as a history of the accountability of gifts. Johannes has worked as a Lecturer in the New Media and Digital Culture Master's programme at Utrecht University in the Netherlands. His most recent publication is "Beinahe Medien: Die medialen Grenzen der Geomedien", with Tristan Thielmann, in R. Buschauer and K. S. Willis (eds.), *Locative Media: Multidisciplinary Perspectives on Media and Locality* (Bielefeld, 2012).

ISABELLA PETERS (@isabella83) is a Researcher at Heinrich Heine University Düsseldorf, Germany, and holds a PhD in information science. Her book *Folksonomies: Knowledge Representation and Information Retrieval in Web 2.0* was published in 2009. Peters's research priorities include folksonomies in knowledge representation, information retrieval, and knowledge management, as well as scholarly communication on the web and altmetrics.

WIM PETERS (@wilhelmus101) is a Senior Research Scientist in the Department of Computer Science at the University of Sheffield, UK. He has been active in the field of computational linguistics for 16 years, and has participated in various EU and national projects covering multilingual thesaurus creation, corpus building and annotation, lexical tuning, information extraction in various domains, semantic resource analysis, and ontology creation and evaluation. Some of the projects he has been involved with are EuroWordNet (multilingual resource creation), DotKom (adaptive information extraction), LOIS (legal wordnet building), DALOS (knowledge acquisition from legal texts), NeOn (life cycle of ontology networks), and CLARIN (the creation of a grid-based research infrastructure for the humanities and social sciences). For most of these projects, Wim coordinated the University of Sheffield's efforts. Presently, Wim is Coordinator of the FP7 IP Arcomem (<http://www.arcomem.eu/>), which addresses the needs of memory institutions in the age of the Social Web by creating a social- and semantic-aware Web preservation system that transforms archives into meaningful collective memories.

NICHOLAS PROFERES (@moduloone) is a PhD student at the University of Wisconsin-Milwaukee's School of Information Studies (USA). He holds a BS in Information Technology from George Mason University and an MA in Communication, Culture and Technology from Georgetown University. His research interests include Internet research ethics, big data, privacy, and information policy.

CORNELIUS PUSCHMANN (@coffee001) is a Postdoctoral Researcher at Humboldt Universität zu Berlin's School of Library and Information Science (Germany) who studies computer-mediated communication and the Internet's impact on society. His current project "Networking, Visibility, Information: A Study of Digital Genres of Scholarly Communication and the Motives of their Users" investigates the use of (micro)blogs in academia, combining qualitative social research with language analysis. His other interests include language-based approaches to CMC (stylistic analysis, pragmatics) and corpus linguistics. Cornelius holds a PhD in English Linguistics from Heinrich-Heine-Universität Düsseldorf, and is the author of *The Corporate Blog as an Emerging Genre of Computer-Mediated Communication*.

THOMAS RISSE is the Deputy Managing Director of the L3S Research Center in Hannover, Germany. He received a PhD in Computer Science from Darmstadt University of Technology, Germany, in 2006. Prior to joining the L3S Research Center in 2007, he led the intelligent information environments group at Fraunhofer IPSI, Darmstadt. He was the Technical Director of the European-funded project BRICKS, which explored decentralised digital library infrastructures, and Coordinator of FP7 Living Web Archive (LiWA) project. Currently, he is the Technical Director of the FP7 ARCOMEM project on Web archiving using social media information. Thomas Risse's research interests are Semantic Evolution, Digital Libraries, Web Archiving, Data Management in Distributed Systems and Self-Organising Systems.

RICHARD ROGERS is University Professor, and holds the Chair in New Media & Digital Culture at the University of Amsterdam, The Netherlands. He is Director of Govcom.org, the group responsible for the Issue Crawler and other info-political tools, and the Digital Methods Initiative, dedicated to developing methods and tools for online social research. Rogers is the author of *Digital Methods* (MIT Press, 2013).

MIRKO TOBIAS SCHÄFER (@mirkoschaefer) is Assistant Professor of New Media and Digital Culture at Utrecht University, the Netherlands, and Research Fellow at Vienna University of Applied Arts, Austria. Mirko studied theatre, film and media studies, and communication studies at Vienna University, and digital culture at Utrecht University. He obtained a Master's degree in theatre, film, and media studies from the University of Vienna in 2002, and a PhD from Utrecht University in 2008. Mirko's research interest revolves around the socio-political impact of media technology. His publications cover user participation in cultural production, hacking communities, the politics of software design, and communication in social media. He is co-editor and co-author of the volume *Digital Material: Tracing New Media in Everyday Life and Technology* (published by Amsterdam University in 2009), and author of *Bastard Culture! How User Participation Transforms Cultural Production* (published by Amsterdam University Press in 2011).

JAN-HINRIK SCHMIDT (@janschmidt) is Senior Researcher for Digital Interactive Media and Political Communication at the Hans-Bredow-Institute for Media Research in Hamburg, Germany. His research interests focus on the practices and consequences of the social Web, mainly the structural changes in identity management, social networks, the public sphere, and privacy. His most recent monograph *Das neue Netz (The New Web)* was published in an updated second edition in 2011. More detailed information on other publications, research projects, and activities can be found on his blog <http://www.schmidtmitdete.de/>

PIERRE SENELLART (@pierresenellart) is an Associate Professor in the DBWeb team at Télécom ParisTech, France, the leading French engineering school specialising in information technology. An alumnus of the École normale supérieure, he obtained his PhD (2007) in computer science from Université Paris-Sud under the supervision of Serge Abiteboul, and his Habilitation à diriger les recherches (2012) from Université Pierre et Marie Curie. His research interests focus around theoretical aspects of database management systems and the World Wide Web, and more specifically on the intentional indexing of the deep Web, probabilistic XML databases, and graph mining.

STEFAN STIEGLITZ (@wikuk) is Assistant Professor of Communication and Collaboration Management at the Institute of Information Systems at the University of Münster, Germany. He is founder and Academic Director of the Competence Center Smarter Work at the European Research Center for

Information Systems (ERCIS). His research focusses on economic, social, and technological aspects of social media. Of particular interest in his work is to investigate the usage of social media in the context of enterprises as well as politics. Stieglitz studied business economics at the universities of Cologne, Paderborn, and Potsdam. He published more than 60 articles in reputable international journals and conferences. He is also a reviewer for international journals and conferences in the field of information systems.

KE TAO (@taubau) is a PhD student working in the Web Information Systems Group, Delft University of Technology, The Netherlands. He holds Bachelor and Master degrees, majoring in Computer Science and Technology, from National University of Defense Technology in Changsha, China. His current research focusses on search in the Social Web, User Modelling, Personalisation, and Linked Data.

MIKE THELWALL (@mikethelwall) is Professor of Information Science and leader of the Statistical Cybermetrics Research Group at the University of Wolverhampton, UK, and a Research Associate at the Oxford Internet Institute. Mike has developed a wide range of tools for gathering and analysing Web data, including hyperlink analysis, sentiment analysis, and content analysis for Twitter, YouTube, blogs, and the general Web. His publications include 152 refereed journal articles, including D. Wilkinson and M. Thelwall, “Trending Twitter Topics in English: An International Comparison”, *Journal of the American Society for Information Science and Technology*, 63(8) (2012), 1631–1646; as well as seven book chapters and two books, including *Introduction to Webometrics*. He is an Associate Editor of the *Journal of the American Society for Information Science and Technology*, and sits on four other editorial boards.

CAJA THIMM (@CThimm) is Professor for Media Studies and Intermediality at the University of Bonn, Germany. Her main research interests are online communication theory, social media, and organisational and political communication online.

TIMO VAN TREECK (@timovt) is a Research Associate in the team for educational development at Cologne University of Applied Sciences, Germany. As a member of the interdisciplinary researchers group Science and the Internet, he analysed educational beliefs of teachers and decision-makers in universities, and organised media training and a seminar for doctoral students. He has worked in different projects relating to blended learn-

ing, especially in academic staff development and controlling. His current research and implementation activities focus on educational beliefs, eportfolios, and diversity management in (online) teaching and learning. He is a member of the research commission of the German Association for Educational and Academic Staff Development in Higher Education (dghd).

FARIDA VIS (@flygirltwo) is a Research Fellow in the Social Sciences in the Information School at the University of Sheffield, England. Her work is centrally concerned with researching social media, crisis communication, and citizen engagement. She led the social media analysis on an academic team that examined 2.6 million riot tweets as part of *The Guardian's* groundbreaking "Reading the Riots" project, which won a Data Journalism Award for showing the ways in which rumours spread on Twitter during the riots. Her textbook for Sage, *Researching Social Media* (2014), is written with computer scientist Mike Thelwall, highlighting the need for such interdisciplinary work in this area.

HANNA JO VOM HOFE works as a Communication Consultant at Media Authority of North Rhine-Westphalia (LfM) Nova in Düsseldorf, Germany. Prior to this, she was a Research Assistant at the Department of Communication Science and the Faculty of Educational and Social Sciences at the University of Münster, after graduating with a thesis on political communication on Twitter in 2010. Her research interests include political communication, online journalism, and social networks. Recent book publications include: Christoph Neuberger, Hanna Jo vom Hofe, and Christian Nuernbergk, *Twitter und Journalismus: Der Einfluss des "Social Web" auf die Nachrichten* [*Twitter and Journalism: The Influence of the Social Web on News*] (3rd edition, Düsseldorf, Germany: Landesanstalt für Medien Nordrhein-Westfalen (LfM), 2010).

KATRIN WELLER (@kwelle) is an Information Scientist working as a Post Doctoral Researcher at GESIS Leibniz Institute for the Social Sciences, Germany. Until December 2012, she worked at Heinrich Heine University Düsseldorf, Germany. She has been involved in different research projects on social media and their role in e-learning, knowledge sharing, and collaborative knowledge management. As a member of the interdisciplinary researchers group Science and the Internet, she has investigated how novel Internet technologies change scientists' work environments, with a particular focus on informetric indicators for Twitter communication. She is

author of *Knowledge Representation in the Social Semantic Web* (De Gruyter Saur, 2010), and co-author of a monthly column on social media trends for *Password*, a German journal for information professionals.

ROWAN WILKEN (@endotician) holds an Australian Research Council-funded Discovery Early Career Researcher Award (DECRA) in the Swinburne Institute for Social Research, Swinburne University of Technology, Melbourne, Australia, to research the cultural economy of locative media. His present research interests include locative and mobile media, digital technologies and culture, domestic technology consumption, old and new media, and theories and practices of everyday life. He is the author of *Teletechnologies, Place, and Community* (Routledge, 2011), and co-editor (with Gerard Goggin) of *Mobile Technology and Place* (Routledge, 2012).

MICHAEL ZIMMER (@michaelzimmer) is an Assistant Professor in the School of Information Studies at the University of Wisconsin-Milwaukee (USA), and Director of the Center for Information Policy Research. With a background in new media and Internet studies, the philosophy of technology, and information policy & ethics, Zimmer's research focusses on the ethical dimensions of new media and information technologies, with particular interest in privacy, social media, Internet research ethics, and values-in-design.



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