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Fuchs, Christian

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Christian Fuchs
University of Westminster, UK

Corresponding author:
Christian Fuchs, The Westminster Institute for Advanced Studies, Communication and Media Research Institute, University of Westminster, 309 Regent Street, London W1B 2HW, UK.
Email: christian.fuchs@uti.at

Abstract
This essay argues for a paradigm shift in the study of the Internet and digital/social media. Big data analytics is the dominant paradigm. It receives large amounts of funding, is administrative and a form of digital positivism. Critical social media research is an alternative approach that combines critical social media theory, critical digital methods and critical-realist social media research ethics. Strengthening the second approach is a material question of power in academia.

Introduction

Social media has become a popular term used for specific Internet platforms, especially social networking sites, blogs, microblogs, wikis and user-generated content-sharing sites. The term 'web 2.0' preceded the one of social media. The publisher Tim O'Reilly introduced it in 2005 (O'Reilly, 2005a, 2005b). He claimed that the Internet had become an 'architecture of participation' (O'Reilly, 2005b). Five years later, he reflected on the term and also referred to the 'social web' (O'Reilly and Battelle, 2010). This article reflects on the dominant paradigm in digital media studies. It argues for a paradigm shift from big data analytics towards critical digital media studies.

Why has there been so much talk about social media in recent years? In 2000, the Internet economy's financial bubble burst, which resulted in the so-called dot.com crisis. In and after a crisis, industry representatives try to restore investors' confidence. O'Reilly's organization of the *Web 2.0 Summit* in the years 2004–2011 and the branding of the web 2.0 concept can be seen as such attempts..

Social media is big business. Today, the video-sharing site YouTube is the world's second most used web platform and the social networking site Facebook the third most used one.[1] Google renamed itself to Alphabet Inc. It owns and operates YouTube. With annual profits of USD 17 billion, Alphabet was in 2016 the world's 27th largest transnational corporation. Facebook had annual profits of USD 3.7 billion in 2015, and in 2016 it was the world's 188th largest transnational corporation.[2] Alphabet and Facebook are the world's largest advertising agencies. Other social media corporations, such as Twitter and Weibo, have struggled to make profits, which shows that targeted advertising is a high-risk realm of capital accumulation. Only a small share of the presented targeted ads results in clicks and profits. Companies' expectations about targeted ads are, however, fairly high. Social media capitalism is based on a techno-fetishistic ideology, which assumes that the Internet has been revolutionized, has become 'participatory', and that profits can today be clicked (Fuchs, 2014d).

The myth of novelty has been accompanied by the myth that social media has radically transformed media use from passive reception to active participation and constant creativity. The *Occupy Media! Survey* showed that 81.9% of the participating activists watched YouTube videos at least four times per month as the source of political information, but only 28.5% created at least one political YouTube

video per month themselves (Fuchs, 2014b: 73 and 79). Although social media has bottom-up production potentials that make their affordances somewhat different from those of broadcasting, the reality is that the vast majority tends to use such media more like a television than a user-generated content platform. Only a minority of users is highly active and creative. Social media is both a tool of consumption and 'prosumption'. The most followed and active social media creators are not everyday users but the public relations teams of celebrities (Fuchs, 2014c). Social media's potentials differ from its actuality, which is an expression of the power asymmetries of time, skills, motivation, money, influence, attention, reputation and visibility in contemporary class societies.

Analysing the Internet and social media has become an important dimension of media and communication research. In this contribution, I provide some critical reflections on the status of social media research and argue for a critical turn and paradigm shift. This article proceeds by first presenting the dominant paradigm and then looking at theoretical-ontological, epistemological/methodological and ethical dimensions of a possible alternative paradigm.

Digital and social media research's mainstream: Positivist big data analytics

A study of 27,340 Internet Studies articles published between 2000 and 2009 and indexed in the Social Sciences and the Arts & Humanities Citation Indexes found that only 31% cited theoretical works (Peng et al., 2013). There is a tendency in Internet Studies to engage with theory only on the micro- and middle-range levels that theorize single online phenomena but neglect the larger picture of society as a totality (Rice and Fuller, 2013). Such theories tend to be atomized. They just focus on single phenomena and miss society's big picture.

The same study found that 59% of the conducted research used quantitative methods (Peng et al., 2013). A new trend in quantitative Internet Studies is big data analytics that has a focus on collecting large amounts of data from social media platforms and analysing it in a predominantly quantitative manner. The new media research guru Lev Manovich has argued that Internet Studies should be turned into the large-scale computational analysis of online data. He terms this approach Cultural Analytics (Manovich, 2009) and Software Studies.[3] Web Science has a strong focus on computational analysis, and mathematical methods have also been the foundation of the approach of Web Science that understands itself explicitly as a merger of physical science and computer science (Berners-Lee et al., 2006: 3). The obsession with quantification, the use of computation in the social sciences and big data have also manifested itself as a preoccupation with attempts to develop new digital methods in both the humanities and social sciences: 'Digital Humanities' often understands itself as humanities computing (Terras et al., 2013). The Collaborative Social Media Observatory (COSMOS), a strategic £1science and computer science .5 million investment project funded in the United Kingdom by institutions such as the Economic and Social Research Council (ESRC), the Engineering and Physical Sciences Research Council (EPSRC), the UK Department of Health and others in the years 2012–2015, understands 'social media research' explicitly as big data analytics, namely the analysis of 'aggregate information in "big social data" repositories, such as collective sentiment scores for sub-groups of twitter users'.[4]

In the United Kingdom, the Arts and Humanities Research Council's (AHRC) strategic theme 'Digital Transformations' received an injection of government funding specifically to boost big data research, which resulted in 2014 in funding of 21 big data research projects with a total funding sum of £4.7 million,[5] meaning that a very large part of projects funded via the AHRC Digital Transformations theme have been explorations and uses of big data.

These developments are not limited to the United Kingdom. In the EU Horizon 2020 Work Programme for 2016–2017, social science calls 'Europe in a Changing World – Inclusive, Innovative and Reflective Societies', data, big data and open data were key buzzwords. For example, the funding line 'Policy-development in the age of big data' invites submissions of projects that focus on 'using data analytics to generate new insights, increasing predictive power and identifying unexpected patterns and relationships that can help inform policy making'. The Trans-Atlantic Platform for the Social Sciences and Humanities's *Digging into Data Challenge* is a partnership of 18 research councils in the following 12 countries: Argentina, Brazil, Canada, Chile, Finland, France, Germany, Mexico, the Netherlands, Portugal, the United Kingdom and the United States. It funds international projects that focus on developing new 'techniques of large-scale digital data analysis',[6] using modelling and simulation

techniques and combining multiple data sources. Such funding initiatives privilege quantitative, computational approaches over qualitative, interpretative ones.

Big data analytics' trouble is that it often does not connect statistical and computational research results to a broader analysis of human meanings, interpretations, experiences, attitudes, moral values, ethical dilemmas, uses, contradictions and macro-sociological implications of social media. There is a danger that a de-emphasis of philosophy, theory, critique and qualitative analysis advances what Paul Lazarsfeld (2004 [1941]) termed administrative research, research that is predominantly concerned with how to make technologies and administration more efficient and effective. Paraphrasing Jürgen Habermas (1971), we can say that there is a danger that digital positivism advances an 'absolutism of pure [digital, quantitative] methodology' (p. 5), forgets about academia's educational role, falls short of fully understanding 'the meaning of knowledge' (p. 69) in the information society at large and is an 'immunization of the [Internet] sciences against philosophy' (p. 67).

Vincent Mosco (2014, 2016) calls the ideology of big data analytics digital positivism and cloud sublime. Big data is 'a myth, a sublime story about conjuring wisdom not from the flawed intelligence of humans, with all of our well-known limitations, but from the pure data stored in the cloud' (Mosco, 2014: 193). The 'hot new profession of data scientist knows only quantitative approaches' (Mosco, 2014: 197). Digital positivism's limit is that it remains stuck in the narrowness of the Lasswell Formula, focusing its research on the following question: Who communicates what to whom on social media with what effects? It forgets users' subjectivity, experiences, norms, values and interpretations, as well as the embeddedness of the media into society's power structures and social struggles. We need a paradigm shift from administrative digital positivist big data analytics towards critical social media research. Critical social media research combines critical social media theory, critical digital methods and critical-realist social media research ethics.

Challenging big data analytics as the mainstream of digital media studies requires us to think about theoretical (ontological), methodological (epistemological) and ethical dimensions of an alternative paradigm.

Theory: Karl Marx and critical digital and social media theory

Social media research is predominantly focused on quantitative case studies that lack grounding in social theory. Most approaches in Internet Studies that consider themselves to have theory foundations are limited to providing definitions of key categories or are purely micro-theoretical. They ignore the embeddedness of communication processes into society as totality. They are not grounded in theories of society, which provide models that allow asking the following fundamental questions: What is society? How should we understand structures, agency, power, social dynamics, social history and so on? What is capitalism and modernity? In what kind of society do we live today? What is the role of communication in society in general, capitalist society and contemporary society? Studying digital and social media could take inspiration by the tradition going back to Karl Marx and other critical theorists.

Social media emerged in a situation of deep societal crises. The world economic crisis continues to have negative social effects. It has turned into a political crisis of Europe and the world. We have seen the intensification of nationalism, racism, authoritarianism and elements of fascism. The mood is not unlike the prelude to a world war. Global society furthermore confronts a series of global problems that threaten its existence. Given conditions of exploitation, domination, warfare, violence and inequalities, we need not just social/sociological theory but critical theories of society.

Most definitions of social media are enumerative (for a list of example definitions, see Fuchs, 2017: Chapter 2). They lack an understanding of communication theory and the social. The term 'social media' takes on different meanings depending on what concept of the social is foregrounded. Example understandings of the social are Émile Durkheim's concept of social facts, Max Weber's categories of social action and social relations, Ferdinand Tönnies' notion of community or Karl Marx's understanding of the social as social problems and social co-production that implies the need for social ownership (Fuchs, 2017: Chapter 2).

Given that we live in a stratified global class society that is full of social problems and inequalities, I consider the tradition of theories of society that go back to Karl Marx as the most suited framework for the social sciences and humanities, including the study of media, communication and digital/social media (Fuchs, 2008, 2011, 2014a, 2014c, 2015a, 2016a, 2016b). There are at least six elements in

Marx's works that are of key relevance for understanding communications today (Fuchs, 2016b; Fuchs and Mosco, 2016a, 2016b):

(1) Praxis communication: Marx was not just a critical political economist but also a critical journalist and polemicist, whose writing style can inspire critical thought today.

(2) Global communication: Marx stressed the connection of communication technology and globalization. In an age, where there are lots of talk about both the Internet and globalization, we should remind ourselves that technology-mediated globalization has had a longer history.

(3) Dialectical philosophy: Marx elaborated a critical theory of technology that is based on dialectical logic. Dialectical philosophy can help us to avoid one-sided analyses of the media (Fuchs, 2014c).

(4) Class analysis: Marx stressed the relevance of the connection of labour, value, commodities and capital. He analysed modern society as a class society. Focusing on class today can counter the positivism of analyses of society as information society, network society, knowledge-based society, post-industrial society and so on.

(5) Crisis and social struggles: Marx described class struggle and crisis as factors in the historical dynamics of class societies. Class structures and struggles are in complex ways reflected on and entangled into mediated communication.

(6) Alternatives: Marx envisioned alternatives to capitalism and domination. Given capitalist crisis and monopoly control of social media today, it is important to envision alternatives to capitalism and capitalist social media.

Marxian concepts that matter for the understanding of digital/social media, include dialectics, capitalism, commodity/commodification, surplus value, exploitation, alienation, class, globalization, ideology/ideology critique, class struggle, commons, the public sphere, communism and aesthetics (Fuchs, 2012).

Marx certainly did not describe 21st-century society, although his analysis was very anticipatory. Marxian categories are historical and dialectical themselves, which means that for analysing a specific period of society, one needs to work out the dialectical continuities and changes of social phenomena. Marx opened his main work *Capital* with the analysis of the commodity: 'The wealth of societies in which the capitalist mode of production prevails appears as an "immense collection of commodities"' (Marx, 1867: 125). On targeted-advertising-based social media, the commodity takes on a peculiar form: Users create and re-create sociality as use value that is as data sold in commodity form to targeted advertisers. Users thereby become digital workers (Fuchs, 2014a, 2015a).

Marx is certainly not the only relevant critical social theorist who matters for understanding social media. The critical study of social media should be based on a broad range of critical theories of society. The crisis of capitalism and the devastating social and political effects of austerity and neoliberalism have made evident that political economy can no longer be ignored in the study of society. This does not mean that the economy determines society but rather that all social phenomena have an economy and are economic and non-economic at the same time (Fuchs, 2015a).

Marx's critical ontology of society is one of social co-production, in which humans produce the social under particular social relations. In class societies, co-production is embedded into alienated social relations. If we assume that those who co-produce the social have the right to collectively control their products, then the implication for social media platforms is that they are incompletely social: Private ownership of social media corporations should be replaced by forms of collective ownership, that is, public social media and commons-based social media. One can, for example, envision an alternative YouTube run by a network that is operated by public service broadcasters, on which all programme archives are made available with Creative Commons licences. And one can envision an alternative Facebook that is decentralized, owned and controlled by the community of users and funded by a combination of user contributions and a participatory media fee (Fuchs, 2015b).

The rise of big data and social media has resulted in particular transformations of academia. Deborah Lupton (2015) has, in this context, coined the notion of digital sociology. She argues that digital sociology consists of (a) professional digital practice so that sociologists employ 'digital tools as part of sociological practice – to build networks, construct an online profile, publicize and share research and instruct students' (p. 15); (b) the investigation of the use of digital technology; (c) digital data analysis, which has also been characterized as the rise of digital methods (Rogers, 2013); and (d) critical digital

sociology, the fourth aspect of digital sociology. Lupton (2015) defines critical digital sociology as the 'reflexive analysis of digital technologies informed by social and cultural theory' (p. 16).

All forms of social analysis reflect society in complex ways. Critical digital sociology is a particular reflexion of and on digital technologies' role in society. It is a theoretical approach grounded in critical and Marxist theory that tries to understand capitalism and domination as well as their possible alternatives. But one should note that there is a contradiction between critical sociology as digital sociology's fourth dimension and big data analytics that is part of Lupton's third dimension of digital sociology.

Epistemology and methodology: Critical digital methods

Sociology wants to better understand society by a dialectic of social theory and applied social research methods. Positivism reduces the analysis of society to empiricism and lacks critical theory's capacity of contextualizing social phenomena in the dynamics, dialectics and history of power structures. Big data analytics' positivism results in often very superficial analyses that highlight major topics, users or social relations in large amounts of data gathered from Twitter, Facebook and other social media platforms. It fails to understand users' motivations, experiences, interpretations, norms and values. We need critical digital methods as alternative to digital positivism.

It has, for example, been common to study contemporary revolutions and protests (such as the 2011 Arab Spring) by collecting large amounts of tweets and analysing them. Such analyses can, however, tell us nothing about the degree to which activists use social and other media in protest communication, what their motivations are to use or not use social media, what their experiences have been, what problems they encounter in such uses and so on. If we only analyse big data, then the one-sided conclusion that contemporary rebellions are Facebook and Twitter revolutions is often the logical consequence (see Aouragh, 2016; Gerbaudo, 2012). Digital methods do not outdate but require traditional methods in order to avoid the pitfall of digital positivism. Traditional sociological methods, such as semi-structured interviews, participant observation, surveys, content and critical discourse analysis, focus groups, experiments, creative methods, participatory action research, statistical analysis of secondary data and so on, have not lost importance. We do not just have to understand what people do on the Internet but also why they do it, what the broader implications are, and how power structures frame and shape online activities.

The OccupyMedia! Survey (Fuchs, 2014b) is a good example for a study that in contrast to big data analytics takes the broader context into account. It empirically studied the political economy, contradictions and power dynamics of contemporary activists' political communication. I conducted a survey among activists ($N = 418$). Eighty-five percent of the respondents used face-to-face communication at least once a month for trying to mobilize others to attend protests, 74.4% used Facebook for this purpose during the same time period, 70.2% sent personal e-mail, 63.1% called people on the phone, 53.8% employed e-mail lists, 50.3% texted people, 48.0% made use of Twitter and 14.1% of YouTube. Face-to-face communication, Facebook, e-mail, phone, SMS and Twitter are the most important media that Occupy activists employ for trying to mobilize others for protests. Activists use multiple media for mobilization-oriented communication. These include classical interpersonal communication via phones, e-mail, face-to-face and private social media profiles as well as more public forms of communication, such as Facebook groups, Twitter and e-mail lists.

Correlation analysis showed that there is a mutual positive influence of protest mobilization communication that is conducted face-to-face or on Facebook. The survey data provided empirical indications that contemporary protests are not social media rebellions, and that at the same time digital and social media are also not irrelevant in these protests.

Critical digital methods do not just mean the use of more established methods for studying digital media's contradictions in society. Digital media can also be used as tools of critical research themselves. One aspect is creative methods, in which one asks participants to use social media in order to generate data about society's problems for analysis. An example for studying precarious labour in the culture industries, one can ask participants to take a picture of their everyday working life that visualizes the main problem they have to face, to share it on an image blog and to accompany it by a 100-word long description of the problem. The result is not just rich data but also the possibility to, in a second step, make the participants interact with each other, which gives the method a more relational dimension.

Besides conducting qualitative social research with social media users in order to learn about their experiences, interpretations and perspectives, critical digital methods should not completely discard tools for digital data collection and analytics but take their use into a new direction. Critical digital methods should certainly engage in collecting and analysing samples of data from social media platforms with the help of tools and services, such as DiscoverText, Tweet Archivist, Netvizz, NodeXL, Gephi, NCapture/NVivo, Sodato, Import.io, InfoExtractor, Google Web Scraper, TAGS, SocioViz and so on.[7]

Critical digital methods, however, do not simply apply large-scale quantitative analysis to these data but use smaller samples ("small data" as opposed to "big data") that are analysed with the help of qualitative methods (critical visual analysis, critical discourse analysis, qualitative text/content analysis, etc.) and interpreted with the help of critical theory. The focus can, for example, be on key topics or the most followed, liked or re-tweeted users. In some cases, analysing single users' postings may be most appropriate; in other cases, focusing on a specific time period, discourse topic, particular group, specific characteristic and so on may be most suited.

One important aspect of critical social media research is the study of not just ideologies of the Internet but also ideologies on the Internet. Critical discourse analysis and ideology critique as research method have only been applied in a limited manner to social media data. Majid KhosraviNik (2013) argues in this context that 'critical discourse analysis appears to have shied away from new media research in the bulk of its research' (p. 292). Critical social media discourse analysis is a critical digital method for the study of how ideologies are expressed on social media in light of society's power structures and contradictions that form the texts' contexts.

Discourses tend to be intertextual and interdiscursive (Reisigl and Wodak, 2001: 39). They interlink various texts, discourses and contexts. Social media data are therefore not independent from other media but tend to be multimodal and connected with texts in traditional media. An example is that many political tweets tend to link to articles in the online versions of mainstream newspapers. Studying social media therefore does not substitute the study of other media but often requires studying various media's interconnection. Discourses are texts that stand in particular societal, political-economic, historical, cultural contexts. Understanding them requires taking a holistic point of view, that is, to situate them in history and society. This means that interpretation, explanation, evaluation and critique of discourses require theories of society (Fairclough, 2015). This, for example, means that when a case study of fascist ideology online is conducted, the critical theory and history of fascism will guide the analysis, and a new contribution to theory construction will emerge from the analysis.

Critical-realist social media research ethics

Critical digital methods challenge digital positivism. In this context, also ethical questions arise. All critical theories are inherently ethico-political. They reject the assumption that academic knowledge can be value neutral, and argue that all social construction of knowledge reflects power and norms and is therefore political. One of the critical theory's tasks is to lay open and criticize the ideologies inherent in specific knowledge. Critical theory's own knowledge is aimed at contributing to a better understanding of society's power contradictions and how to overcome them in order to create a better world.

But there is not just the role of ethics in research but also the ethics of conducting research. Research ethics concerns issues, such as privacy, anonymity, informed consent and the sensitivity of data. Given that social media is part of society's tendency to liquefy and blur the boundaries between the private and the public, labour/leisure, production/consumption (Fuchs, 2015a: Chapter 8), research ethics in social media research is particularly complex. The complexity and confusion resulting from Internet research are, for example, evident in the British Sociological Association's Statement of Ethical Practice. It is very unspecific about Internet research ethics, arguing that one should 'take special care when carrying out research via the Internet' and be 'familiar with ongoing debates on the ethics of Internet research' (BSA, 2002: §41). Zimmer and Proferes (2014) analysed 382 academic works that studied Twitter data. One hundred and sixty-eight (44.0%) analysed more than 100,000 tweets, and 216 more than 10,000 (56.5%). Only 4% (16) discussed ethical aspects.

Social media research ethics faces a contradiction between big data positivism and research ethics fundamentalism. Big data positivists tend to say, 'Most social media data is public data. It is like data in a newspaper. I can therefore gather big data without limits. Those talking about privacy want to limit the

progress of social science'. This position disregards any engagement with ethics and has a bias towards quantification. The ethical framework *Social Media Research: A Guide to Ethics* (Townsend and Wallace, 2016) that emerged from an ESRC-funded project tries to avoid both extremes and to take a critical-realist position: It recommends that social scientists neither ignore nor fetishize research ethics when studying digital media.

Research ethics fundamentalists in contrast tend to say,

You have to get informed consent for every piece of social media data you gather because we cannot assume automatic consent, users tend not to read platform's privacy policies, they may assume some of their data is private and they may not agree to their data being used in research. Even if you anonymize the users you quote, many can still be identified in the networked online environment.

There are, however, limits of informed consent in critical research. It can act as censorship of critical research. Imagine you study online fascism or online harassment of women. In most of such cases, it is not feasible but rather dangerous for the researcher to ask for informed consent. 'Dear Mr. Misogynist/Nazi, I am a social researcher gathering data from Twitter. Can you please give me the informed consent that I quote your violent threat against X?' Asking for informed consent in critical research can result in the circumstance that the researcher herself/himself becomes subject to violence or threats.

Some observers recommend to only use aggregated data and not to quote from social media data. Such an approach has, however, a bias towards quantitative methods, and critical social media discourse analysis thereby becomes impossible to conduct. In social media analysis, privacy's context matters in social media analysis (Nissenbaum, 2010). We cannot assume that social media data analysis can never cause harm and that therefore anything goes. At the same time, privacy fundamentalism risks to paralyse critical social media analysis. A realistic approach is needed. We need critical-realist social media research guidelines that go beyond research ethics fundamentalism and beyond big data positivism.

The British Psychological Society (BPS, 2009) argues that online observation should only take place when and where users 'reasonably expect to be observed by strangers' (p. 13). This criterion is feasible in many contexts. It implies, for example, that the use of a popular Twitter hashtag during specific mass events (e.g. the use of the hashtag #BBCDebate during the European Union referendum campaign's first televised TV debate) is aimed at public outreach, so that the user cannot reasonably expect to remain unobserved. It would therefore be acceptable to quote these tweets without asking for informed consent. Whether to obtain informed consent or not in critical social media research depends on the specific contexts of data.

For Roy Bhaskar, critical moral realism is part of the philosophy of critical realism. It assumes that 'moral propositions can be known; and, in particular, social-scientifically vindicated' (Bhaskar, 2008: 242). In critical social media research, the user expresses moral values online, and the researcher has a critical attitude towards power structures. The morality and ideologies underlying the online expression can be laid open:

Now the subject-matter of social science is composed not just by social objects but by beliefs about social objects, and if such beliefs are false (a judgment which is within the remit of social science), and one can explain the falsity, then, subject to a ceteris paribus clause, in virtue of the openness of the social world and the multiplicity of determinations therein, one can move without further ado to a negative evaluation of the explanans and a positive evaluation of any action rationally designed to absent it. (Bhaskar, 2008: 244)

Critical moral realism in social media research means that the research tries to create knowledge about social media that helps understanding what is absent in the world and needs to be created (absenting absences), in order to foster participatory democracy, freedom, justice, fairness and equality. This approach neither overdoes nor underdoes research ethics.

Conclusion

Digital media has become an important topic of study, as the emergence of the field of Internet Research shows. It is, however, not just a research topic but has influenced the social sciences in general. Big data analytics and computational social science are the newest developments in this respect. Their emergence is a reflection of the general tendency that critique and theory have in the past decades become less of a focus in academia, which may be one of the consequences of the pressures exerted by neoliberalism,

managerialism and political pragmatism on academia. Effects of instrumental reason in the social sciences include high-level specialization that is blind for society's big picture, a disregard for social philosophy, and management and business studies' influence on the social sciences. The search for a computational social science paradigm is another effect of the diminishing relevance of critique. The danger is that computer science colonizes the social sciences and tries to turn them into a subdomain of computer science. There should certainly be co-operations between computer scientists and social scientists in solving societal problems, but co-operation is different from a computational paradigm. Turning social scientists into programmers as part of social science methods education would almost inevitably leave no time for engagement with theory and social philosophy, except if one radically increased the duration of study programmes. Programming is not something you learn over night, but is a time-consuming field of education. Computer science's quantitative logic threatens to undermine critical social science. An alternative paradigm that does not reject, but critically scrutinize the digital, is needed. Critical theory is an alternative interdisciplinary approach that is of importance for both the social sciences and computer science.

Money is an important means for distributing power, positions, reputation and influence in academia. Research funding is the academic system's key monetary resource. In social media research, we can find a distributional inequality of funding: There tend to be special programmes focused on funding big data analytics. This approach is a form of digital positivism and administrative research.

I have in this essay argued for a paradigm shift from administrative, positivist big data analytics towards critical digital/social media research that combines critical social media theory, critical digital methods and critical-realist social media research ethics. Advancing such a paradigm is a material question whose solution requires not just changes of attitudes but also institutional transformations and a change of funding practices.

Notes
1. Data source: alexa.com, accessed on 29 May 2016.
2. Data source for both Alphabet and Facebook: Forbes 2000, 2016 list, www.forbes.com/global2000/list, accessed on 29 May 2016.
3. http://lab.softwarestudies.com.
4. http://www.cs.cf.ac.uk/cosmos/ethics-resource-guide/.
5. http://www.ahrc.ac.uk/research/fundedthemesandprogrammes/themes/digitaltransformations/bigdata/.
6. http://diggingintodata.org/file/1036/download?token=fqylXiET.
7. See http://socialmediadata.wikidot.com and https://wiki.digitalmethods.net/Dmi/ToolDatabase for overviews.

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