

Adopting a Sociomaterial Perspective for the Analysis of Digital Public Spheres

William R. Grace¹ and Frederico Fonseca¹

¹ The Pennsylvania State University

Abstract

This paper argues that theorizing computer-mediated communications as political engagement within a sociomaterial perspective, an understanding attentive to the mutual constitution of the social and material, allows researchers to conceptually analyze the unique political practices afforded by information and communication technologies and their function within a public sphere. This approach foregrounds the mutual constitution of sociomaterial practices, and recognizes the centrality of performativity and contextual multidimensionality in their constitution and analysis. In addition, articulating patterns of these practices as sociotechnical systems presents a framework for scaling local analyses toward increasing levels of analysis commensurate with public sphere theory.

Keywords: sociomaterial theory; sociotechnical systems; computer-mediated communication; public sphere

Citation: Grace, W. R., & Fonseca, F. (2014). Adopting a Sociomaterial Perspective for the Analysis of Digital Public Spheres. In *iConference 2014 Proceedings* (p. 791–797). doi:10.9776/14380

Copyright: Copyright is held by the authors.

Contact: wrg123@psu.edu (William R. Grace), ffonseca@ist.psu.edu

1 Introduction

manchester8117

This comment has received too many negative votes

As a gun owner, I'm appalled at how easy it is to get ammo on the spot. I have never said on a whim... "I need a couple of hundred bullets". I know how many are in the safe, How many I need. When I'm going hunting. Waiting a few days is no big deal. Knowing that a law may stop someone from stockpiling makes me sleep better at night. Having a gun is a right but right's have limits.

matthaus ayers

@manchester8117 your an idiot. I think your right to free speech should be limited to silence. How about that for limits? Thats the same as castrating my ak to 7 rounds. You can defend yourself from 2 mab 3 attackers with seven 7.62x39 rounds. You live in a whimsical land of fairytales where you think bad people are going to follow these asinine laws. WRONG! Whens the last time a criminal followed the law? Oh wait...thats not their cup of tea.¹

You most likely never read these comments. They were posted on YouTube in wake of the New York Secure Ammunition and Firearms (SAFE) Act which was signed into law on January 15, 2013. You never read them because they are but two among tens of thousands in the weeks following the legislation effectively banning firearms classified as assault rifles, and limiting magazine size on all weapons within the state of New York to seven rounds. They are two among the millions of comments posted each day on YouTube and across the web. It is understandable you did not read them, in fact, why would you?

This paper begins an answer to this question in a particular way. What, if anything, can be learned from this reading, and how should one read online civic discourse? More precisely, as researchers, what theoretical approaches disclose computer-mediated communication (CMC) as a distinct technologically-

¹ <http://www.youtube.com/watch?v=LZ1W45Aq7Gc>

mediated form of political engagement, and how can a particular digital text be read beyond the context of its own enactment?

These questions extend from an ongoing analysis of CMC of which the above comments are a part. We pursue here a theoretical approach for the analysis of digital public spheres in which such analyses may be more rigorously undertaken. We hope such a theoretical discussion will open avenues toward more effective analyses of political engagement online. This discussion bridges social science theorizations of the public sphere with recent scholarship in Information Science (IS) that offers a more robust approach to the analysis of CMC through their theorization as sociomaterial practices. An attempt will be made to redress the lack of theoretical crossover from IS to outside social science research recently identified by Sawyer & Jarrahi (2013).

Thus this paper argues that theorizing CMC as political engagement within a sociomaterial perspective, an understanding attentive to the mutual constitution of the social and material, allows researchers to conceptually analyze the unique political practices afforded by information and communication technologies (ICT) and their function within a public sphere.

Before proceeding, a brief clarification of the concept of “public sphere” must be made. Conceived originally “as the sphere of private people come together as a public,” Jurgen Habermas’s foundational work has been the source of extreme influence and criticism (Habermas, 2008/1962, p. 27). Calhoun (1992) alternatively describes the public sphere as “a socially organized field, with characteristic lines of division, relationships of force, and other constitutive features” (p. 38). The public sphere can thus be conceived of as a network of public discourse: “a field of discursive connections” within which “there will be clusters of relatively greater density of communication within the looser overall field” (p. 36).

With this concept of the public sphere in mind, this paper will explore a theoretical approach more suitable for the empirical analysis of its constituent elements. Turning first to a problematization of the theoretical foundation for much of CMC analyses, the importance of adopting a sociomaterial perspective will be then discussed. The central aspects of this perspective will next be described in consideration of their affordances for further research.

2 Problematizing Current Theoretical Approaches

Returning to his original thesis in *The Structural Transformation of the Public Sphere*, Habermas (1992), weighing thirty years of socio-political change, chooses to close his discussion with a curiously open conclusion:

“Thus if today I made another attempt to analyze the structural transformation of the public sphere, I am not sure what its outcome would be for a theory of democracy- maybe one that could give cause for a less pessimistic assessment and for an outlook going beyond the formulation of merely defiant postulates” (p. 456-7).

His speculative hope, though slight, follows from the emergence (between 1962 and 1992, the dates of the original publication and the quoted retrospective, respectively) of an “electronic mass media” that, although still considered as reifying civic communication toward commercial and administrative logics, allows at least an “ambivalent” democratic potential (Habermas, 1962/2008, p. 163-9; 1992, p. 457). The subsequent development of the internet and digital media expand the possibilities underlying this ambivalence yet, with slight elaboration, Habermas never reevaluated the communicative preconditions for a concept of the public sphere(s) despite the complex changes involving ICTs at all levels of social integration and reproduction (Habermas, 2006).

Nevertheless, the Habermasian model of communicative rationality, predicated on normative standards of formal discourse, has exerted far-reaching influence on CMC research and its contribution to the theorization of the public sphere (Lunt & Livingstone, 2013). Although this framework has often been

critically interrogated as counterfactual to the character of online discourse (Dahlberg, 2001; Wiklund, 2006), exclusionary and uncritical of power asymmetries (Fraser, 1992), privileging a particular form of rational communication (Dahlgren, 2002; Chouliaraki, 2013), or as insensitive to socio-historical context (Susen, 2011), relatively little attention has been accorded to the materiality of ICTs in empirical analyses. Although theoretical discussions routinely examine “affordances” of digital ICTs, these analyses homogenize technological artifacts and their contextual functions, foregrounding social processes and institutions without sufficient attention to their material constitution. Attention to materiality as an analytical concept is not to argue for a materialist epistemology. On the contrary, insufficient attention has been given to the social construction of artifacts, and the constitutive interaction between the social and material as enacted within sociomaterial practices (Leonardi, 2012).

The importance of adopting a sociomaterial perspective within political analyses of CMC is twofold. First, attending to the materiality of ICT enactments recovers the emergent capacities of modern digitally networked society (Castells, 2007; 2008; Latour, 2011). Dahlgren (2005) outlines a general destabilization of traditional mass media with the dispersion of counterpublics across an increasingly fragmented media topography. These are conceptualized according to an analytical framework of structure, representation, and interaction (p. 148). Typical of many theoretical discussions, Dahlgren’s work acknowledges a qualitative break with traditional mediatic relations within society, yet offers their theorization only at a high level, lacking analytical concepts necessary for articulating specific sociomaterial practices of representation and interaction within wider structural contexts.

Couldry’s (2008) distinction between the concepts of mediatization and mediality provides useful orientation in this respect. Whereas conceptualizing the public sphere with respect to mediatization would understand a particular media technology and its “media logic” as transforming an entire field of socio-political relations, mediality opens awareness to “specific questions about the role of media in the transformation of action in specific sites, on specific scales and in specific locales” (p. 380). Mediality, in short, orients research toward the negotiations between media production, consumption, and reception at the level of localized practices (Couldry, 2004). A sociomaterial perspective addresses the dual constitution of these practices and their relation to a digitalized public sphere.

Focusing attention to localized practices necessitates a theoretical framework in which these may be articulated as part of wider, political processes. Calhoun (1992) notes that Habermas originally neglects any discussion of the internal organization of the public sphere, an omission representative of the break between subsequent high-level theoretical articulations of the public sphere and empirically driven discussions of specific CMC use-scenarios (p. 38). This break is accentuated by the multidisciplinary nature of research in this area: analyses extending from political science, sociology, and communications studies often neglect the material aspects of sociomaterial practices taken up more extensively by CMC and information science research. Thus, the second importance of theorizing the materiality of CMC regards, as we propose to do here, the capacity for vertically theorizing ICT enactments from particular use-scenarios toward increasing levels of interaction within wider sociotechnical systems. The following sections will now begin to articulate the adoption of this perspective.

3 The Sociomaterial Perspective

Conceptualizing the public sphere as a field of discursive connections necessitates a theoretical approach sensitive to digital ICT practices and their relationship within expansive communicative networks. As discussed earlier, a sociomaterial perspective is recommended as a means of theorizing the particular character of political engagement through CMC, and of analyzing these practices beyond their particular contextual enactments. A sociomaterial perspective regards the mutual constitution of the social and material within enacted practices, and consists of three interrelated aspects: mutual constitution,

performativity, and contextual multidimensionality (Parmiggiani & Mikalsen, 2013; Sawyer & Jarrahi, 2013).

3.1 Mutual Constitution

Claiming CMC as both socially and materially constituted effects an analytical orientation acknowledging the social construction of material artifacts enacted in human practice, and that this socially-enacted materiality is a constitutive agent within these practices (Orlikowski & Scott, 2008; Leonardi, 2012; Parmiggiani & Mikalsen, 2013). The mutual constitution of artifacts thus opens up the black box of “technology” to analysis and critique.

Taking as example the ongoing research of YouTube discourse alluded to above, the act of commenting, producing electronic texts such as those in the preface, must be theorized as a sociomaterial practice in order to incorporate the qualities of the particular digital medium within analysis. As such, we “read” these comments differently. Pulling away from the presupposition of face-to-face dialog and returning to the asynchronous, digitally mediated practice at hand also removes us from assumed concepts such as author, audience, and community as context. As sociomaterial practice, commenting necessarily opens these concepts toward interpretations consistent with the specific material medium, and beyond those presumed within embodied intersubjective interaction. For example, as commenting on YouTube hyperlinks the commented upon media to an individual’s networked profile, empirical analysis could, for example, examine the distribution of media across YouTube subscription networks as a result of the expansion of networked media content embedded within the sociomaterial practice of commenting. Thus attention to the mutual constitution of CMC practices opens analysis to the unique affordances of ICT that subvert traditional presuppositions of discourse interaction.

3.2 Performativity

According to Orlikowski & Scott (2008), “the notion of performativity draws attention to how relations and boundaries between humans and technologies are not pre-given or fixed, but enacted in practice (p. 462). The latter example of YouTube commenting illustrates the centrality of performativity. Conceptualizing the practice of commenting entails an epistemic demarcation whereby a specific, contextualized performance determines an empirical set of entities for analysis. Leonardi (2012) thus explains practice “as the space in which social and material agencies are imbricated with each other and, through their distinct forms of imbrication, produce those empirically observable entities we call “technologies” (p. 38).

3.3 Contextual multidimensionality

Contextual multidimensionality constitutes the final aspect of a sociomaterial perspective. This aspect reiterates the contextual embeddedness of all sociomaterial practices, while remaining aware of the instability of these bounded contexts (Parmiggiani & Mikalsen, 2013; Sawyer & Jarrahi, 2013). Sociomaterial analysis revealing the dynamic spatio-temporal relationships of a practice extends awareness toward more expansive and complex contextual strata.

This internal movement toward greater contextual structures presents an affordance of a sociomaterial perspective in the analysis of the public sphere(s). Particularly relevant when contrasted to the normative theory of Habermas, the contextual multidimensionality of a sociomaterial perspective defers to dynamic and scalable empirical investigation for the description and analysis of networked structures.

Toward this end, Leonardi’s (2012) articulation of an integrated and hierarchical sociomaterial framework provides a promising resource. The previous description of practice as the space of a particular sociomaterial imbrication presents a concept suitable for low level theorization of “localized experiences around a particular or various technologies” (p. 41). As analysis implicates practices within more expansive patterns of organization, they may then be conceptualized as constituting a “sociotechnical system.” These concepts provide a framework by which empirically explored sociomaterial practices may be vertically

integrated in order to describe the internal organization of networked public spheres. This framework provides an avenue for bridging IS and CMC research with high-level socio-political analyses, and, thereby, addresses the deficit in rigorous empirical analysis of digital ICT in the latter.

	Mutual Constitution	Performativity	Contextual Multidimensionality
Structure	Interacting sociomaterial practices constituting sociotechnical systems	Dynamic structural configurations of enacted sociomaterial practices	Structure not fixed but spatio-temporally dynamic
Representation	Representation as both semantic and material datum	Texts as sociomaterial practices of graphic inscription	Conceptual instability of author, audience, and interpretive context
Interactivity	Entanglement and mutual shaping of social and material agencies	Interaction constitutive of subjects/artifacts	Interaction always involves particular sociomaterial practices embedded within localized contexts

Table 1: Sociomaterial perspective of digital public spheres (Theoretical approach for conceptualizing social and material practices as mutually constituting digital public spheres)

4 Discussion

Extending this framework toward contemporary IS research, we will now offer conclusions supported by the insights drawn throughout this discussion as they address and modify traditional notions of CMC research and the empirical analysis of the public sphere.

Following a sociomaterial approach, CMC research may begin assessing the structure of public spheres through a process of integrative analysis. First identifying local sociomaterial practices, these may then be analyzed according to their mutual interaction with the aim of delimiting performative patterns of interaction. Conceptualizing these assemblages as sociotechnical systems, research could thus begin articulating the internal structure of digitally networked public spheres.

Representation within the public sphere finds increasingly fragmented channels for media consumption, production, and distribution. Though these problematize traditional notions of author, audience, and producer/consumer, sociomaterial approaches return high-level theorizations toward localized practices of inscription and reveal often overlooked features of their enactment. Opening analysis of representation to both linguistic and nonlinguistic information flows within concrete material networks re-orient empirical analysis away from formal theories of deliberative discourse and toward enacted representational practice.

The notion of practice posits a constitutive interaction between social and material elements. Such an orientation refuses to neglect the materiality of CMC interactions, and focuses analysis not only on intersubjective relationships but on the recursive shaping of material and social agents as they are enacted within sociomaterial practices and, by extension, sociotechnical systems. The public sphere thereby exists only as a sociomaterial network, and thus requires research designs sensitive to its empirical analysis.

5 Conclusion

In returning to the questions posed at the outset what can now be said in answer? Though answers resist in their particular constitution, guidance can be offered in the way we approach their formulation.

Addressing CMC in light of the public sphere poses at least two central challenges: How do we adequately theorize ICTs? How do we integrate local empirical analysis within a discussion of general networked structures?

Attempt has been made to recommend a sociomaterial perspective as answer to these questions. This approach foregrounds the mutual constitution of sociomaterial practices, and recognizes the centrality of performativity and contextual multidimensionality in their constitution and analysis. In addition, articulating patterns of these practices as sociotechnical systems presents a framework for scaling local analyses toward increasing levels of analysis, providing the conditions by which we can, perhaps, more effectively analyze CMC toward an understanding of today's digitally shifting public spheres.

6 References

- Calhoun, C. (Ed.). (1992). *Habermas and the public sphere*. Cambridge, MA: MIT Press.
- Castells, M. (2007). Communication, power and counter-power in the network society. *International Journal of communication*, 1(1), 238-266. doi: 1932-8036
- Castells, M. (2008). The new public sphere: Global civil society, communication networks, and global governance. *The ANNALS of the American Academy of Political and Social Science*, 616(1), 78-93. doi: 10.1177/0002716207311877
- Chouliaraki, L. (2013). Mediating vulnerability: cosmopolitanism and the public sphere. *Media, Culture & Society*, 35(1), 105-112. doi: 10.1177/0163443712464564
- Dahlberg, L. (2001). The Internet and democratic discourse: Exploring the prospects of online deliberative forums extending the public sphere. *Information, Communication & Society*, 4(4), 615-633. doi: 10.1080/13691180110097030
- Dahlgren, P. (2002). In search of the talkative public: Media, deliberative democracy and civic culture. *Javnost/The Public*, 9(3), 5-26. Retrieved from <http://javnost-thepublic.org/article/pdf/2002/3/1/>
- Dahlgren, P. (2005). The Internet, public spheres, and political communication: Dispersion and deliberation. *Political Communication*, 22(2), 147-162. doi: 10.1080/10584600590933160
- Fraser, N. (1992). Rethinking the public sphere: A contribution to the critique of actually existing democracy. In C. Calhoun (Ed.), *Habermas and the public sphere* (pp. 109-142). Cambridge, MA: MIT Press.
- Habermas, J. (2008). *The Structural Transformation of the Public Sphere*. (T. Burger & F. Lawrence, Trans.). Cambridge, UK: Polity Press. (Original work published 1962).
- Latour, B. (2011). Networks, societies, spheres: Reflections of an actor-network theorist. *International Journal of Communication*, 5(2011), 796-810. doi: 1932-8036/20110796
- Leonardi, P. M. (2012). Materiality, Sociomateriality, and Socio-Technical Systems: What Do These Terms Mean? How Are They Related? Do We Need Them? In P. M. Leonardi, B. A. Nardi, & J. Kallinikos (Eds.), *Materiality and Organizing: Social Interaction in a Technological World* (pp. 25-48). Oxford: Oxford University Press.
- Orlikowski W.J. & Scott, S.V. (2008). Sociomateriality: Challenging the separation of technology, work and organization. *Annals of the Academy of Management*, 2(1), 433-474. doi: 10.1080/19416520802211644
- Parmiggiani, E. & Mikalsen, M. (2013). The Facets of Sociomateriality: A Systematic Mapping of Emerging Concepts and Definitions. In M. Aanestad & T. Bratteteig (Eds.), *Nordic Contributions in IS Research* (pp. 87-103). Springer Berlin Heidelberg.
- Sawyer, S. & Jarrahi, M. (2013, in press) Sociotechnical approaches to the study of Information Systems. In A. Tucker & H. Topi (Eds.), *CRC Handbook of Computing*. Chapman and Hall. Retrieved from <http://sawyer.syr.edu/publications/2013/sociotechnical%20chapter.pdf>

- Susen, S. (2011). Critical Notes on Habermas's Theory of the Public Sphere. *Sociological Analysis*, 5(1), 37-62. Retrieved from <http://openaccess.city.ac.uk/1101/>
- Wiklund, H. (2005). A Habermasian analysis of the deliberative democratic potential of ICT-enabled services in Swedish municipalities. *New Media & Society*, 7(2), 247-270. doi: 10.1177/1461444805050764

7 Table of Tables

Table 1: Sociomaterial perspective of digital public spheres (Theoretical approach for conceptualizing social and material practices as mutually constituting digital public spheres)	795
---	-----