

Susan V. Scott and Wanda J. Orlikowski

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**Article (Accepted version)
(Refereed)**

Original citation: Scott, Susan V. and Orlikowski, Wanda J. (2014) *Entanglements in practice: performing anonymity through social media*. [MIS Quarterly](#), 38 (3). pp. 873-893. ISSN 0276-7783

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Forthcoming in an MISQ Special Issue on Sociomateriality

**Entanglements in Practice:
Performing Anonymity Through Social Media**

Susan V. Scott

Information Systems and Innovation Group
Department of Management
The London School of Economics
Houghton Street
London WC2A 2AE
United Kingdom
s.v.scott@lse.ac.uk

Wanda J. Orlikowski

Sloan School of Management
Massachusetts Institute of Technology
100 Main Street
Cambridge, MA 02142
USA
wanda@mit.edu

Acknowledgments

We would like to thank Stuart Madnick and Leslie Willcocks for their support of this project, Vasiliki Baka for her research assistance, and the study participants for their contributions to the fieldwork. Feedback from participants at events where we have presented earlier versions of this work is much appreciated. We also gratefully acknowledge the support of the Centennial Visiting Professors Program at the London School of Economics.

Entanglements in Practice: Performing Anonymity Through Social Media

Abstract

Information systems researchers have shown an increasing interest in the notion of sociomateriality. In this paper, we continue this exploration by focusing specifically on entanglement: the inseparability of meaning and matter. Our particular approach is differentiated by its grounding in a relational and performative ontology, and its use of agential realism. We explore some of the key ideas of entanglement through a comparison of two phenomena in the travel sector — an institutionalized accreditation scheme offered by the AA and an online social media website hosted by TripAdvisor. Our analysis centers on the production of anonymity in these two practices of hotel evaluation. By examining how anonymity is constituted through an entanglement of matter and meaning, we challenge the predominantly social treatments of anonymity to date and draw attention to the uncertainties and outcomes generated by specific performances of anonymity in practice. In closing, we consider what the particular agential realist concept of entanglement entails for understanding anonymity, and discuss its implications for research practice.

Keywords

anonymity; entanglement; agential realism; social media; materiality; sociomateriality

Introduction

In recent years, the theme of “sociomateriality” has served as a provocation in the field of information systems (IS), encouraging debate about foundational concepts. Our purpose in engaging with this theme has been to call for an open process of theoretical exploration that in the longer term will support the development of approaches capable of producing analyses of important issues in the IS field. Our existing IS toolkit — established over decades — has generated multiple theories, tools and findings about the design, impacts, interactions, and implications of information technologies. These findings have been both insightful and useful. However, the theoretical and methodological approaches involved have largely assumed a world of technologies and organizations that are relatively stable, singular, and separable. Given the current evidence of unprecedented shifts associated with technologies in practice — cloud computing, automated trading, data mining, mobile platforms, robotic assistance, and social media, to name just a few — it may be more germane to develop ways of thinking and working that allow us to investigate a reality that is dynamic, multiple, and entangled. To do so, we need to come to terms with and find terms for the constitutive and temporally emergent ways in which technologies are entailed in contemporary organizational realities.

Our goal in this paper is to contribute to the development of an alternative toolkit by focusing on sociomateriality and exploring the notion of entanglement in particular. In doing so, we theorize the ways in which technology is entangled with and productive of complex and distributed phenomena (Law and Urry 2004). Such an approach would neither overlay technology’s effects (seeing it as primarily deterministic) nor underplay its pliability (seeing it as primarily subject to human interpretations and intentions), and it would neither black-box the dynamics and entailments of technology nor diminish its workings and effects in the world.

Technology has been defined and theorized in many different ways over the years, both in the management literature (Barley, 1988; Goodman, Sproull et al., 1990; Orlikowski and Iacono, 2001; Zammuto et al. 2007), as well as in the literatures of history, economics, philosophy, psychology,

sociology, anthropology, design, and engineering. In his recent history of the concept, Marx (2010)

notes that initially the term “technology” referred to a field of study not an object of study:

The word *technology*, which joined the Greek root, *techne* (an art or craft) with the suffix *ology* (a branch of learning), first entered the English language in the seventeenth century. At that time, in keeping with its etymology, a *technology* was a branch of learning, or discourse, or treatise concerned with the mechanic arts. (p. 562)

Over time, however, usage changed, and by the early twentieth century, commentators felt,

... the need to replace the language associated with the mechanic arts, and to identify—literally to name—a wholly new form of human power that the abstract, intangible, neutral, and fittingly synthetic idea of *technology* was destined to fulfill. Whereas the term *mechanic* (or *industrial*, or *practical*) *arts* calls to mind men with soiled hands tinkering at workbenches, *technology* conjures clean, well-educated, white male technicians in control booths watching dials, instrument panels, or computer monitors. (p. 574)

Given the shifting history of this concept, it is problematic to settle on a single, final definition of technology; rather it is a phenomenon whose importance is worked out in practice in particular times and places. As technology becomes more pervasive we find ourselves charged with understanding it, but through our engagement with it come to experience it differently. We contend that the “openness” of technology serves us in important ways. It enables us to frame the process of organizing through technology as a “permanent existential question[s] rather than as fixed coordinates” (Callon and Law 2004, p. 3), which challenges us to think more broadly about organizing, innovation, and uncertainty. To this end, we build on recent intellectual developments that challenge the notion of a singular, static or pre-given definition of technology, and propose the timeliness of thinking in terms of materiality. The broad banner of *sociomateriality* presents us with an opportunity for reconceptualization — from thinking about how technologies as discrete artifacts influence humans to examining how actions and relations are materially constituted in practice, and thus sociomaterial in nature.

In exploring the ideas of sociomateriality and entanglement, it is important to keep in mind that these are open concepts and part of ongoing projects focused on theorizing relationality and performativity. Given their origins in fields other than information systems and organization studies, these concepts need further articulation, bridging, and development if they are to support scholarship in our field. We believe that this is a worthwhile undertaking and that these ideas have potency that

affords critical purchase on important contemporary IS and organizational phenomena: this is what has motivated our interest in them and our consideration of them here.

In this paper, we explore a way of theorizing sociomaterial entanglements in practice through the empirical case of a particularly prominent and increasingly pervasive digital technology — *social media*. Social media websites are characterized by the active engagement and online contributions of large numbers of people across time and space (Benkler 2006; Jenkins 2006; Surowiecki 2004), as evident, for example, in the distributed, collective, and largely anonymous creation of content on websites such as Wikipedia, Flickr, and YouTube. Such websites depend predominantly on what is known as user-generated content, provided through members' ongoing and often informal contributions. The immediacy and visibility of the websites both expand the range and accelerate the speed with which such collective knowledge is generated, spread, and updated. The novelty of these emerging forms of knowledge production and engagement make social media sites especially interesting to study. We have found that such a focus throws into sharp relief the deep entanglement of meaning and materiality, and thus offers an interesting arena for exploring sociomateriality in practice.

The particular aspect of social media examined here is associated with the anonymous reviewing, rating, and ranking of organizational products and services. Many social media websites post user opinions and ratings about all manner of goods and services, for example, consumer products (Amazon, Epinions), hotels (TripAdvisor), movies (Netflix), service providers (Angie's List), physicians (RateMDs), and teachers (RateMyProfessor). Social media is having a significant influence on a widely recognized process that contemporary contexts are increasingly subject to — the growing demand for transparency and accountability (Espeland and Sauder 2007; Power, 1997). This process, which Pentland (2000) has characterized as the “verification of everything,” is amplified through the global reach, availability, and ease of use provided by social media websites as well as the substantially lower barriers to participation associated with online reviewing (David and Pinch 2006). Anonymity is a key aspect of the user-generated knowledge produced on online review websites, contributing to their popularity but also raising issues of concern.

We are interested in how anonymous reviewing and rating configure the practices and possibilities of knowledge production and engagement. We see technology as constitutive of the enactment of anonymity, and are motivated to develop two themes within this broad position. Firstly, we wish to push back against a persistent tendency in some scholarly and professional practice to maintain a separation between the “social” and “material” because this overlooks important issues that are crucial to the development of social media; indeed, the (over)emphasis on the *social* is apparent in its very name. This emphasis is particularly apparent in the case of anonymity, which has been treated as an almost exclusively social phenomenon in the literature as well as in policy and legal spheres. Yet, as we will argue below, anonymity is a dynamic material enactment. Its constitution in practice requires specific and ongoing materializations. Secondly, we work specifically within a relational and performative ontology to examine the notion of sociomaterial entanglement in practice. This is a critical departure from much prior IS work as it explicitly regards materiality as constitutive rather than as mediating, supplemental, or optional.

The topic of anonymity makes an especially relevant domain for a sociomaterial framing because its discourse has been presented in predominantly socio-political terms that we argue has left us with blind spots in developmentally critical areas of civil and economic life. Our aim is to highlight the different line of inquiry that sociomateriality inspires and how it reframes issues that would otherwise presume separate entities or prioritize social meanings (Orlikowski and Scott, 2008). In contrast to a separatist logic, a relational and performative approach is interested in “examining the actions that perform particular phenomena” (Barad, 2003, p. 815), in this case the phenomenon of anonymity. We are thus concerned with how and when specific characteristics and consequences of anonymity are produced when a particular, sociomaterial practice enacts it.

We ground our discussion of anonymity in a field study of social media in the travel sector, with a particular focus on the practices of hotel evaluation. The enactment of anonymity within these practices has been central to the production of knowledge about hotels. We show how traditional hotel accreditation schemes, such as the Automobile Association (the AA), center their evaluation of hotels on anonymous “mystery guest” inspections in order to standardize their assessments and

increase their credibility. We then examine how online travel websites such as TripAdvisor enable users to leave anonymous reviews of hotels that give voice and visibility to customer experiences in a way that personalizes content and redistributes accountability. Indeed, the online user-generated reviews on TripAdvisor are of particular interest here as they represent a performance of anonymity that is currently the focus of both controversy and legal contest.

In what follows, we review the literature on anonymity, particularly as it pertains to online systems. We next discuss the notion of entanglement and position it within Karen Barad's (2003; 2007) relational and performative theory of agential realism. We then describe the empirical context of our research study and its emergent findings, and offer a theoretical analysis of anonymity through the lens of entanglement. We conclude by considering some implications of sociomaterial theorizing for information systems research and practice.

Literature on Anonymity

The notion of anonymity is related to freedom from identification, secrecy and lack of distinction. All of these have vital material grounds, not only in terms of laws and norms, but through processes of birthing, naming, and certification, involving bodies, signatures, records, images, passports, and the like. Set in an increasingly complex environment and traditionally dominated by ethical and legal discourse, a growing dissatisfaction with the state of disparate definitions in the key areas of scholarship, policy and corporate positioning has led to recent calls to approach the study of anonymity as an “interdisciplinary challenge” (Brazier et al. 2004).

At its core, anonymity is concerned with “nonidentifiability” — an outcome generally requiring the removal of key identifiers such as name and address (Wallace 1999). Literature on anonymity in computer systems has to be seen in historical context since it is bound up with technological developments and innovation. The advent of electronic communications and the Internet, in particular, has intensified the debate surrounding anonymity with arguments for and against it.¹ While some regard online anonymity as “a necessary tool” to preserve “informational

¹ The problematization of anonymity is not restricted solely to the Internet however. When Caller ID was introduced on telephone networks, anonymity was seen as infringing privacy by some and as the preservation of privacy by others: “Proponents view the

privacy” (Brazier et al. 2004), others believe that it creates an environment for defamation, hate speech and juvenile levels of responsibility (Levmore and Nussbaum 2010). If users post reviews in an environment where they are not held to account in any meaningful way, a process of “deindividuation” (Zimbardo 1969, Christopherson 2007) can emerge in their practices. In other words:

[P]eople tend to be less self aware, engage less in self-evaluation and are less concerned about social comparison and evaluation... people generally are less inhibited...[and]...may also experience a dissociation of their online pseudonyms from their offline selves which makes them feel less accountable for inappropriate online social behaviour. (Polder-Verkiel 2010)

Towards the end of the 1990s, there was a general awareness that a change in the character of the Internet had taken place. There was widespread discussion about whether the “wildness of the web” was being tamed by commercial Internet interests. Scholars traced out the contours of this debate, providing deliberations on the commercial gains that might emerge from moving from anonymous interactions on the Web to more cooperative interactions (Hoffman et al. 1999), the legal standing of anonymity (Froomkin 1999), its sociology (Marx 1999), and the technical composition of anonymity (Wayner 1999). Considerable effort was expended in attempting to define anonymity, understand its meaning (Nissenbaum 1999), examine the different ways in which it could be realized (Wallace 1999), and identify its variations across different contexts (Allen 1999).

More recently, developments in social media and the innovations of Web 2.0 have heralded excitement about new possibilities for online interaction, as well as the concern that:

What would take its place is an internet with some unattractive features: a depleted intellectual commons, pervasive filtering, the disappearance of privacy and anonymity, and a preponderance of precarious borders established by nervous sovereignties. In a few years it may be difficult for many of us to recognize the Net of 2001. (Spinello 2001)

The extent to which these dystopian predictions have been realized is debatable and we would argue that there have been interesting developments (such as Wikipedia, launched in 2001) that have mitigated some points while adding unexpected complexity to others (for instance, the launch of Wikileaks in 2006). The literature on anonymity and regulation of the Internet generated during the 1990s thus needs to be read through more contemporary eyes.

technology as a legitimate tool for protecting the privacy of their homes from anonymous telephone calls, while the opponents of Caller ID claim that being denied the opportunity to place anonymous calls violates their rights to privacy in communication” (Ferguson 2001).

What is notable in the study of offline and online anonymity is the considerable variation in its definition in both public policy and law. For example, there is no legal right to anonymity (Brazier et al. 2004), and the law regarding unveiling an anonymous person varies from country to country. The legal status of anonymity is therefore subtle (Nicoll and Prins 2003); indeed, rulings that have been established (offline) are not necessarily regarded as valid or applicable for online environments (see Sims 2003 for a discussion of court-assisted means of revealing identity on the Internet). Each of the subtle differences in definition manifests through specific materiality. Yet many discussions in academic as well as legal and policy realms have tended to treat anonymity as an exclusively social phenomenon (Ohm 2010).

Complicating these developments is the notable recent shift in practice associated with the increasing prevalence of online pseudonyms. Whereas anonymity requires all identifiable data to be removed, pseudonymity only partly hides the sender's identity:

Perhaps the most important difference is that pseudonymity allows for the creation and continuity of a "nym" – an alternate identity. (Froomkin 1999)

Although the terms anonymity and pseudonymity are used interchangeably in many discussions, there are subtle differences in terms of traceability (see Froomkin 1996, 1999). For the purposes of our study, we note that a profile can be built up around an online pseudonym, allowing others to follow a person's contributions and build reputational capital; in contrast, anonymous contributions tend to be stand-alone. This crucially repositions the debate about anonymity on the Internet; the complex distinctions outlined above put any binary for/against in a tenuous light, and the potential gains generated by the scale and scope of production models (commercial or open source) incorporating user-generated content mean that the stakes in this contest are higher than ever. Thus we find a curious mix of ethics, commerce, and enterprise in our study of anonymity.

Winner (1986) argues that technology is not value-neutral but the expression of political and material choices. The notion that code can undermine basic rights or liberties and therefore needs to be regarded as one of the ways in which cyberspace is regulated has been explored by Lessig (1999; also see Spinello 2001). Despite discussions that have spanned a multitude of technological developments — such as software code (Lessig 1999), databases and classification systems

(Bowker and Star 1999), cookies and personal computers (Elmer 2004), and online search engines (Introna and Nissenbaum 2000) — attempts to integrate values and ethics into the design of technologies have been slow and generally criticized (Manders-Huits 2010). Brazier et al. (2004) note that correlations between design requirements for software agents and the law are complex:

Technology is not a datum to which the law is applied. Instead there is a complicated interaction between technology and law in which technology also influences the law... Choices made during the design process may dramatically influence which legal issues arise.

Recent scholarship by Ohm (2010) exploring the often-precarious process of how anonymity has come into being on the Internet highlights this complex situation. His work has recently struck a blow for those who previously contended that anonymity was achievable online (see Marx 1999). Ohm notes that during the development of databases, when there were relatively few repositories for consumer records, it was proposed that removing fields such as name and address made the data stored anonymous. Over time, belief in these routine techniques to mask identity have endured and served to reassure public opinion. This particular conceptualization of anonymity has become embedded in law and is now enshrined in many key articles protecting free speech. Virtually every privacy law enables organizations to claim “due diligence” if they “anonymize” their data. However, research on reidentification (Ohm 2010) highlights the substantive technological shifts that change the possibilities of producing anonymity on the Internet and significantly challenge the ability of individuals to maintain their privacy online.

Ohm (2010) discusses how the increasing number and complexity of databases has made a material difference to the grounds upon which anonymity is assured, arguing that the political debate about anonymity is now out of step with the realities of its constitution. He points to research showing that 87% of a population can be identified by just three data fields — date of birth, sex, and postcode. These fields were routinely requested from people, included in databases that now form our corporate and governmental technoscape, and typically left in place after a process of “anonymization” has stripped out names, addresses, and identification numbers. This material legacy means that such data are commonly available and widely shared. As Ohm (2010) notes, in such a world, online anonymity is a “broken promise.” Furthermore, the development of capabilities

to correlate flows of data has become the focus of intensified effort. For example, research has found that data produced by mobile phone networks using the location of antennas can identify the vast majority of people from just four pieces of information (de Montjoye et al. 2013). The possibility of re-identification is no longer a matter just for scientists, but has become a growing public concern.²

Anonymity is an interesting way to approach the study of social media because it is a deeply relational concept that is constitutive of the production and use of knowledge in organizational phenomena, and particularly in the case of online phenomena. How anonymity is enacted depends on the particular ways it is materially instantiated in practice. Yet, in most scholarly analyses, anonymity has been treated as an entirely separate, social and political issue, without any consideration of materiality. As we will discuss below, the particular performances of anonymity that we observed in our study are both materially constituted and enacted in multiple forms. Grounding our approach in sociomateriality, we use the notion of entanglement to explore the implications of this further.

Conceptualizing Sociomateriality

The term “sociomaterial” has circulated in various forms (hyphenated, unhyphenated) in different fields (anthropology, sociology, science studies, literary theory, education, legal studies), but its relevance to information systems can perhaps be traced to its usage by Lucy Suchman (2002). In recent years, various scholars have discussed sociomateriality as a promising approach to the study of technology and organizations (Suchman 2007; Orlikowski and Scott 2008; Fenwick 2010; Leonardi and Barley 2010; Styhre 2010; Yoo 2010). Empirically, it has been used to explore phenomena such as plagiarism (Introna and Hayes 2011), automotive design (Leonardi 2011), customer service (Nyberg 2009), online reviewing (Scott and Orlikowski 2012), virtual worlds (Schultze 2010), and ERP systems (Wagner, Moll and Newell 2011).

The project of sociomateriality provides for multiple potential underpinnings and it is necessary to articulate the particular foundations from which we build our approach. Our research

² <http://www.telegraph.co.uk/technology/news/9952841/Online-anonymity-impossible-after-four-phone-calls.html>;
http://www.bigdatarepublic.com/author.asp?section_id=2817&doc_id=260128

practice assumes a relational ontology (Pickering 1995; Latour 2005), central to which is the assumption that relations are more fundamental than entities. It is worth pausing here to position this and note its consequentiality for configuring processes of inquiry particularly because the commitment to a relational ontology is far removed from adding a consideration of relationships to an analysis of interactions. Rather than holding that substances of various kinds (things, properties, essences) are fundamental, with relationships serving to supplement or modify them, we ground our work in the understanding that the world is constituted by relations. In other words, things are “not first self-contained entities and then interactive. Each thing, including each person, is first and always a nexus of relations” (Slife 2004, p. 159). Qualities, properties, and identities do not reside from something inherent or “inside” a substance but instead depend on how, when and where they are related to each (Emirbayer 1997, p. 282).

But surely, here we have set ourselves a conundrum? If relations do not sit between entities or substances, if they are not contained as internal attributes, or have impact on things from the outside, then how, when and where are relations? Here we make a turn to practice. Instead of seeking *a priori* relationships among self-contained entities, we regard relations as existing in and through enactment. They are located in action and performed in practice. We take practice to mean recurrent, situated activities informed by shared meanings (Schatzki, Knorr Cetina and von Savigny, 2001). Through studying practices we gain insights into broader processes of reconfiguration over time at multiple levels.

This does not mean, as has been suggested, that the world is made anew moment-by-moment through some process of extreme emergence but rather that structure is enacted through recurrent practices and stability is an ongoing accomplishment. The term that is often used to evoke the stability and dynamism associated with this way of thinking about practice is “becoming.” This is because practices are not bounded in and of themselves but rather are open and ongoing. They do not so much reproduce (in the sense of replicate) the world, but rather in their historical reconfiguration, they *perform* the world. Practices always have the potential to perform something different. As practice-based researchers, we are not only charged with questioning the relations that make specific

reconfigurations of particular practices possible, but also with remaining alert to the performativity of practices, that is, to their “powerful productive consequences” (Law 2004, p. 56).

The tendency in much practice research has been to privilege the social, and in so doing to displace the vital contribution of materiality, a particular concern for IS scholars. We thus turn to a theory that entails a relational and performative ontology, is centered on practices, and positions materiality as constitutive — Karen Barad’s (2003, 2007) *agential realism*, and particularly her distinctive notion of *entanglement*.

Entanglement

For Barad, a theoretical physicist and philosopher of technology, entanglement is not metaphorical; it is grounded in an understanding of quantum entanglement and the ontological inseparability that this entails. In other words, reality is the entanglement of matter and meaning produced *in practice* within specific phenomena. Taking this position seriously means that instead of focusing on separate entities or agencies with inherent boundaries and properties we regard phenomena as the primary ontological units. Entanglement calls into question the idea of pre-existing categories such as “subject” and “object,” “human” and “nonhuman,” and “matter” and “meaning,” seeing these instead as enacted in practice. Barad focuses specifically on “doings” and “actions,” coining the term *intra-action* to describe the resulting entanglements of matter and meaning that produce the world in practice. “Intra-action” is purposefully distinguished from the more common “inter-action.” Where the latter “suggests two entities, given in advance, that come together and engage in some kind of exchange ... intra-action underscores the sense in which subjects and objects emerge through their encounters with one another” (Suchman 2007, p. 267).

Barad (2007, p. ix) explains,

To be entangled is not simply to be intertwined with another, as in the joining of separate entities, but to lack an independent, self-contained existence. Existence is not an individual affair. Individuals do not pre-exist their interactions; rather, individuals emerge through and as part of their entangled intra-relating.

Thinking of entanglement in terms of intra-action focuses attention on the particular practices through which distinctions and boundaries (e.g., between humans and technologies) are produced,

stabilized, and destabilized. There is a strong temporality within this view, but one based on lived time rather than linear time, enacted through ongoing materializations in practice rather than traced through unit-by-unit measurements of clock time. Barad (2007, p. 439n85) uses the metaphor of tree rings to evoke “the sedimenting materiality of an ongoing process of becoming.” Notions of becoming shift the focus, as Barad (2003, p. 802) notes “to matters of practices/doings/actions.”

An emphasis on practices directs attention to how “everyday doings” constitute reality. Such a focus has been gaining considerable interest in the organizational literature in recent years, where scholars have found it to be a powerful lens for examining the emergence, dynamism, and multiplicity of organizational life (Feldman and Orlikowski, 2011; Gherardi, 2006; Reckwitz, 2002; Schatzki, 2005; Tsoukas and Chia, 2002; Whittington, 2006). While materiality is a component in many practice studies, it has typically been cast in a mediating or supporting role. In contrast, Barad argues that practices are constituted — simultaneously and inseparably — by both meanings and materialities. As she explains (2003, p. 822):

The relationship between the material and the discursive is one of mutual entailment. Neither is articulated/articulate in the absence of the other; matter and meaning are mutually articulated. Neither discursive practices nor material phenomena are ontologically or epistemologically prior. Neither can be explained in terms of the other. Neither has privileged status in determining the other.

Barad (2007) captures this mutual entailment by noting that practices are both material and discursive. Alberti and Marshall (2009, p. 353) observe:

The existence of a strong correspondence between matter, practice and meaning in Barad’s work (2007), indicates that ‘matter’ can be seen as inseparable from the actions it engenders. As such, separate worlds of, on the one hand, obdurate matter, and on the other, active practices do not exist.

In other words, materiality is not understood as mediating or supporting some pre-existing practice, but rather as constituting the practice. Indeed, it is the “material enactment” (Introna 2011, p. 116) of all practices that furnishes them with the capacities to produce outcomes. Thus, a practice can have no meaning or existence without the specific materiality that produces it. In this view, materiality is understood not as a “thing” or “an inherent fixed property of abstract independently existing objects of Newtonian physics” (Barad 2003, p. 822), but a process of materialization that configures reality. Even concepts, rules, language, or software (which are often offered as examples

of immateriality) cannot exist without material enactment — whether embodied in thoughts, produced in action, or expressed in texts, machines, or running code.

Barad (1998, p. 108) argues that the materializations in question in a specific situation are significant to the outcomes that are produced in practice: “There is a difference between the material instantiation of language in bodily gestures, or in sound waves propagating through the air, or in measuring devices: matter matters and so the nature of the specific embodiment matters.” It is important to keep in mind that materiality is not the same as tangibility. That we cannot touch or point to something (intangibility) does not make it immaterial. While sound waves may be intangible, they are no less material. The same applies to information systems phenomena such as software whose apparent intangibility is often taken as evidence of immateriality. To exist in the world as software, some specific materialization is required.

For Barad, practices are *material-discursive* and their specific discursivity and materialization enact phenomena in certain ways, including some things and excluding others. In so doing, they make specific distinctions, boundaries, and properties of phenomena determinate in practice. These practices of determination enact what Barad (2003) refers to as *agential cuts* — local resolutions to “the inherent ontological indeterminacy” of the world (Barad 2003, p. 815). These cuts are distinct from the more familiar “Cartesian cuts” that enact a determinate ontology with independent objects and inherent distinctions, boundaries, and properties. Agential cuts thus are always enactments — producing and stabilizing/destabilizing particular distinctions, boundaries, and properties in practice. It is not that there are no distinctions, boundaries and properties, but that these are contingently performed in practice — rather than available naturally or as Law (1999, p. 3) observes “given in the order of things.” Barad suggests that taking distinctions, boundaries, and properties for granted is a habit seeded in our language that predisposes us towards thinking in terms of pre-existing and self-standing “objects,” or “entities” with determinate boundaries, properties, and identities. As she argues (2003, p. 802), “The belief that grammatical categories reflect the underlying structure of the world is a continuing seductive habit of mind worth questioning.”

Attempting to break the habit, Barad argues for a performative understanding of phenomena. *Performativity* builds on the idea that the world is enacted in practice. Scholars have drawn on a constitutive notion of performativity to study the enactment of identities (Butler 1997), geographies (Nash 2000; Thrift 2003), and markets (Callon 1998; MacKenzie 2006). In this view, realities such as identities, spaces, and markets are performed — made real — in ongoing practices. While a performative ontology may appear counterintuitive given that empirical reality tends to appear as “independent, prior, single, and determinate,” performativity reframes this understanding towards a view of reality as a contingent, dynamic, and practical accomplishment (Law 2004, p. 137).

As researchers embracing a position of entanglement, we shift from assuming a determinate world and searching for theories to explain or predict it, to assuming indeterminacy and exploring how the world is ongoingly performed in practice. This does not mean, as some have suggested, that we regard the object of study as an amorphous conflation. Instead, we too make our own agential cuts in our (research) practice, producing specific distinctions, boundaries, and properties. However, this production — which Barad (2003) refers to as “agential separability” — is not a matter of selecting from a set of self-standing entities or presuming essential distinctions, boundaries, and properties but of foregrounding particular reconfigurations in practice, and noting their constitutive inclusions and exclusions. Such foregrounding is a theoretically mindful way of focusing attention on a moment of analytic interest within an understanding of the world as relational and performative.

Together, the agential realist ideas constituting entanglement focus our attention on the ongoing material-discursive practices that enact particular phenomena by making differential agential cuts, performing certain distinctions, boundaries and properties that imbue them with more or less stability and duration. Material-discursive practices are thus integral to structuring processes through which institutions and organizations are constituted over time. These are enacted in practice as specific entanglements of meanings and materialities. Turning to our phenomenon of interest, we use Barad’s ideas to view anonymity — not as a given thing or static state — but as an ongoing accomplishment that is enacted in different ways in specific material-discursive practices at particular times and places. We explore these themes below.

Research Setting and Methods

The travel sector is one of the largest industries in the world. In 2012, there were 1,035 billion international tourists,³ and searching for travel-related information and making travel reservations has become a popular Internet activity across all age groups.⁴ Social media websites such as Expedia and TripAdvisor allow users to submit feedback on their travel experiences, and these “candid reviews” have become especially influential in travelers’ purchasing behavior (Xiang and Gretzel 2010). Indeed, industry analysts estimate that online user reviews influence over \$10 billion annually in travel purchases (Vermeulen and Seegers 2009).

As part of a larger research project into the constitution and implications of social media within organizations, we have been studying user-generated content on one specific social media platform, TripAdvisor. Founded in 2000, TripAdvisor’s mission is to “Help travelers around the world plan and have the perfect trip.” It is the world’s largest online travel community, and it continues to grow rapidly. The company operates websites in 30 countries, providing user-generated content in 21 languages in the form of some 100 million reviews and opinions that cover about 2.5 million hotels, restaurants, and venues.⁵ Receiving over 200 million unique visitors per month, TripAdvisor is significantly impacting traveler decision-making (Xiang and Gretzel 2010). TripAdvisor currently employs approximately 1,600 people in various offices throughout the world, and is headquartered in Newton, Massachusetts (just outside Boston).

In our study of TripAdvisor, we have been comparing its knowledge production practices to more longstanding ones in the hospitality industry. In particular, we have examined the UK-based Automobile Association (AA), which has been evaluating hotel accommodation for over a century. The history at stake here is important because it not only informs our understanding of the phenomenon but also sensitizes us to reconfiguration over time. Founded in 1905 as a motoring association to help drivers avoid speeding penalties, the AA has expanded and diversified to provide a range of services for its members, including: breakdown and roadside assistance; roadworthiness

³ <http://www2.unwto.org/en/publication/unwto-annual-report-2012>

⁴ <http://www.pewinternet.org/Reports/2010/Generations-2010/Overview.aspx?view=all>

⁵ http://www.tripadvisor.com/PressCenter-c4-Fact_Sheet.html (retrieved July 5, 2013)

tests; travel advice and route maps; hotel accreditation; accommodation discounts; driver training; insurance; financial services; and business services. For its evaluation practices, the AA relies on a team of full-time, professional inspectors, who have considerable expertise and experience in the hospitality industry, and who have been thoroughly trained in the standards, criteria, policies, and procedures of the AA star grading scheme. For its most recent 2013 Hotel and B&B Guides, the AA reviewed and rated over 6,300 establishments throughout the UK.

Our research includes two years of systematic fieldwork including interviews with TripAdvisor and AA staff, hoteliers, and travel professionals, as well as observations within multiple hotels and hotel accreditation agencies. We conducted 55 interviews across these sites (see Table 1), ranging from 45 minutes to 2 hours. Nearly all interviews were recorded and transcribed. We also attended specialist conferences in the travel industry, and collected hundreds of pages of documentation, website reviews, blog entries, trade press articles, and archival materials from the AA, TripAdvisor, hotels, and hospitality industry associations. The diversity of data sources not only helps to stabilize findings from in-depth field studies such as ours, but also is particularly important in research on materiality where language is decentered in order to take account of historical reconfigurations in relational practice.

Our research is exploratory, and thus the process of data analysis was inductive and iterative, involving several rounds of coding and frequent references to the literature as particular themes emerged (Dougherty 2002; Strauss and Corbin 1990). We began analysis during fieldwork, summarizing, reviewing and discussing our observations of practice and interviews throughout the two years of data collection. We paid close attention to knowledge practices, materiality, and outcomes, while remaining open to emerging ideas. We cycled through multiple readings of the interview transcripts, field notes, website postings, reports, articles, and archival documents. We did this to understand what was included and what was excluded in the enacted practices of professional hotel inspection in the AA and those of crowd-sourced user-generated reviews within TripAdvisor. Our data analysis highlighted how critically both of these hotel evaluation schemes depend upon different forms of anonymity — the production of “mystery guest” inspections by the AA and the

posting of pseudonymous user reviews on TripAdvisor. We found that focusing on how anonymity is specifically produced in practice offered us a valuable point of entry to probing and understanding the different consequences of these two hotel evaluation schemes in the travel sector.

Turning to the literature on anonymity, we realized that the debate on anonymity was largely fixed on achieving a binary outcome (either anonymity exists or it does not), and predominantly framed in social and political terms. Missing from these accounts was an understanding of how anonymity is produced in practice, and how such production is necessarily contingent and dependent on materiality. We thus re-turned to the data adopting a sociomaterial approach that positioned us differently in relation to the phenomenon of research. Rather than focusing our analytic energy primarily on interpreting language from interviews with actors or the texts of reviewers, we gave our attention to the practices that make phenomena work, and how these practices entail both meanings and materialities together.

This focus redirected our attention from (human-centered) semantics to material-discursive practices. To make sense of the ongoing production of anonymity in practice, we drew on Barad's (2007) ideas of entanglement, material-discursive practices, agential cuts, and performativity. These helped us invert the conventional view of anonymity as a social attribute, and to view it as a material doing. This allowed us to focus our analysis more deeply on how the phenomenon of anonymity was enacted in the two pivotal practices — “mystery guest” AA inspections and pseudonymous TripAdvisor reviews.

Drawing on our various data sources, we developed tables that compared the material enactment of the different forms of anonymity within our two research settings. For each practice, we identified the specific everyday doings that enacted the particular forms of anonymity entailed within the AA (mystery guest inspections) and TripAdvisor (posting of pseudonymous reviews). For the AA, we analyzed an inspection from the booking of a hotel stay by an inspector, through the activities he/she performed during and after the inspection, along with his/her training, experience, knowledge of standards, engagement with quality criteria, spreadsheets, observations, recordings, reports, and discussions with hotel staff, editors and other inspectors. For TripAdvisor, we analyzed

the production of pseudonymous reviews from a member's engagement with the TripAdvisor website via a computer, the Internet, browser software, and sign-in procedure, through the activities of writing a review (following the various prompts, answering questions, making rating selections, and providing free-form information — as directed by the website interface), along with the immediate on-screen feedback, representation of hotels and other reviews in the databases, rating and ranking mechanisms in play, verification protocols, and subsequent email communication from the website.

While this analytic process performed particular agential cuts, it was not attempting to reveal the interaction of discrete entities with determinate properties, but rather focused attention on enactment over time, things in action, normative practices, inclusions, exclusions, and what is at stake. Inrona (forthcoming, p. 3) notes: “We may impose ontological boundaries on becoming (to create beings) for analytical purposes ...but that is an arbitrary epistemological act. In the same way we impose seconds and hours on the flow and duration of time, again for epistemological and practical reasons.” By investigating the entangled materializations of anonymity in the AA and TripAdvisor, we examined specific details of particular practices that helped us to produce an analysis of the differences that matter, for whom, and at what costs. These are the sociomaterial entanglements that we explore below.

Practices of Anonymity in the Travel Sector

In studying the production of knowledge associated with hotel evaluation in the travel sector, we observed two practices of anonymity — one associated with the AA and one with TripAdvisor. We frame these as practices because we see anonymity not as a status or attribute of an entity or system, but as an ongoing sociomaterial enactment. That is, anonymity is accomplished by its specific instantiation through a particular entanglement of meaning and materiality. In our study, we found that the different conceptual configurations of anonymity within the AA and TripAdvisor were enacted through highly specific material-discursive practices with particular performative outcomes.

Anonymity in the AA

The AA was founded as a service provider, servicing both the 15 million motorists who participate in its multiple travel products, and the 4,000 hotels enrolled in its grading scheme. These services all relate to an enduring theme in travel: how do we experience quality? What constitutes a quality experience? Since its inception in 1905, AA set out to become a legitimate contributor to the British motoring public, and part of its business case rests on the efficacy of its institutional being (a company of standing with a rich history and a royal warrant above the entrance of the very solid concrete tower block that is the AA Headquarters). AA has configured itself with practices that establish and reinforce this position. Change has moved at a relatively stately pace for the AA but it has been regular (due in part to competition, changing expectations, political context, market pressures, voluntary compliance, etc.).

For the AA, anonymity is part of an established, formal organizational evaluation practice. It is defined as the temporary suppression of identifying details and bounded within a specific phase of the inspection process. To become part of the AA accreditation scheme, a hotel must sign up and pay an annual fee. In so doing, the owners/managers submit their hotel for review by AA staff every 12 to 18 months. An AA star rating has traditionally been regarded as a reputational asset and actively incorporated into hotel marketing. As part of the process through which star ratings are achieved, hotels must open themselves to an overnight “mystery guest” evaluation conducted by a professional hotel inspector. It is at this point in the review cycle that a particular formulation of anonymity is employed, starting with a hotel reservation in which the inspector conceals his/her identity by using a fake name and email address. As one of the AA inspectors explained,

We book under many different names to try to keep our anonymity. We have many private email addresses for confirmations to be sent to and use each others' addresses or friends and family addresses for postal confirmation.

Mystery guest anonymity continues throughout the inspector's arrival and stay at the hotel, during which he/she conducts the inspection and evaluation. This form of anonymity is used so that the inspector can replicate a guest experience and ensure — as far as possible — that staff and facilities continue to function unaffected by the inspector's presence. The mystery guest performance has been refined over 100 years of inspection experience and honed through multiple,

cross-referencing practices: senior inspectors check the work of their junior colleagues and regular calibration exercises are undertaken to ensure consistency and quality in the use of standards. The inspection protocol has been distilled into a custom software program that is loaded on the laptops carried by each inspector to every hotel. It is designed around multiple key areas relating to service and facilities with standard, industry approved categories arranged as a “dashboard” of scores. During the visit, the inspector works through each of the 19 screens, entering his/her assessment by clicking check boxes (from 11 to 40 depending on the area) and writing comments in free text boxes throughout his/her stay in a hotel. A senior AA inspector described the way she performs an inspection as follows:

I check-in under my mystery guest name... if I am inspecting a four-star hotel then I'm normally escorted to the bedroom with luggage assistance from a porter and shown into the room. I expect the porter to do what we call a 'rooming,' during which he will point out the air conditioning to me, explain how the heating works, how the television works or if there's anything awkward in the room I need to know about. Once the porter is gone and before I unpack, I will check all the cleanliness levels under the bed, behind the furniture, on top of the wardrobes. In the bathroom, I will check underneath the towels, is all the chrome polished, are the towels neatly presented? How clean is it, is it sparkling? And each area receives an assessment mark of between one-to-five.

In his/her guise as a mystery guest, the inspector then proceeds to participate in the services of the hotel, for example, using the gym, going to the lounge to order refreshments, checking the menus, inspecting the public spaces and other facilities, and then taking dinner in the restaurant. While performing the inspection, he/she is interacting with staff, noticing nametags and taking notes that are written up before bedtime. Next morning, after sampling the breakfast menu and evaluating how it is served, the inspector makes a final tour of the hotel and its grounds. During the checkout departure process, he/she hands a business card to the staff member at the front desk, reveals his/her identity and requests to meet with the hotel manager and staff. At the group meeting that follows, the inspector shares his/her findings and justifies how the hotel has been scored within the AA grading scheme. The meeting includes feedback — later written up as a report— regarding specific improvements needed if the hotel is to realize the next level of star award in the accreditation scheme. This report then serves as the basis of the 150-word description of the hotel that is published in the annual AA Hotel Guide.

Many hotels use the AA inspection report findings in their business development and strategy practices. Within each star category, there is a further scale divided into percentages to indicate how close the hotel is to achieving particular kinds of merit. Indeed, the AA offers consultancy services to help hotels improve their performance and star rating. One hotel manager commented on his experience with an AA inspector:

He booked himself as a Mr. Smith. His actual name is [real name]... He created a hotmail account for himself because he knew the hotel knew him. He'd been here [before]. We had actually engaged his services as a consultant for our food. How did we get our first AA rosette? [The inspector had] said, "Well...with the food. OK, you've got this, this and this: you've got too many flavors. Make it simple. Buy it local. Keep it fresh." So, we took him on board, and [snaps fingers], we got our first rosette.

After the identity of the inspector is revealed, the hotel manager is given his/her contact details and encouraged to regard the inspector as part of a responsive and accountable communication channel within the AA scheme. Thus the anonymity cloaking the mystery guest is designed as a hallmark of assurance; this performance of anonymity helps to establish confidence in and credibility of the evaluation for both the hoteliers (who received a detailed and customized report) and the consumers (who are assured that a hotel bearing a particular AA star designation complies with a specified level of service and facilities).

This is not to say that the performance of anonymity by AA inspectors as mystery guests is immune to manipulation or focused efforts to circumvent it, as a hotel manager noted:

When I worked in the [name of group] hotels and we knew we were about to get an inspector come around, we were always looking at the arrival and departure list to see if we could pick him out. You know? And generally you could. So you spend ten or fifteen minutes of your day, every day, just trying to pick out who going to conduct your inspection.

Indeed, there are a number of resources on the web that offer hints for spotting hotel inspectors.⁶ However, not only are these possibilities recognized by the AA but formal policies and procedures have been developed to mitigate it. For example, in addition to the matrix of cross-referencing described above, AA inspectors are moved from region to region every three years to avoid identification. In general, it is not in the interest of hoteliers to undermine the AA inspection process too far, since they are paying members of the AA scheme whose aim is to offer them long term, strategic input so that they may improve their hotel over time.

⁶ <http://www.fawlty-towers.com/Inspectors/recognise.htm>

Anonymity in TripAdvisor

Founded by four software entrepreneurs in 2000, TripAdvisor was intended to be a technology solution to the problems people face when planning a trip. The original design was focused on the development of a search engine for easily locating travel information from multiple sources (e.g., guidebooks, newspaper or magazine articles, and discussion forums), and to license this content to travel businesses. Over time, this business model was refocused and TripAdvisor developed into an online platform hosting a dynamic repository of hotel/venue descriptions, traveler reviews and opinions, organized through an array of algorithms, databases, software developers, and content managers. Within TripAdvisor, anonymity is meant to empower consumers and from this perspective it is the most recent manifestation in a long-standing practice of anonymous consumer feedback mechanisms. On TripAdvisor, there is no standard form of anonymization; here anonymity is actively defined through elective forms of quasi-identity (pseudonymity) that allow members to position their engagement as more or less identifiable in relation to tags and monikers.

While casual browsing on TripAdvisor is commonplace, to post a review one must be a member. Anyone with an Internet connection can register and create a member profile on TripAdvisor. Registration involves giving a location and a name or pseudonym but these are not validated. Policies and practices of anonymity are not always at the forefront of people's minds as they engage in the informal contemporary travel habit of reading online reviews and weighing up hotel ratings as they make their travel plans. However, as they sift and filter through reviews on TripAdvisor, some users may choose to note the profile of the person that has posted: where are they from?; where else have they travelled?; how many other reviews have they written?; and how have they chosen to identify themselves — through a witty pseudonym (“330_tea_please,” “pauldawg,” “travelger1999,” “julesverne241), a generic category tag (“traveller10485,” “a tripadvisor member”) or a version of their personal name (“cambridge_sam,” “mike2570,” “alisonjohnson,” “Dr-S-and-Mr-S”)?

The design of the online review mechanism is centered on six click-button rating scales (e.g., cleanliness, value, etc.) that relieves reviewers of the obligation to provide other

distinguishing information — such as specific date or duration of stay, type of accommodation booked or number of room stayed in — unless they elect to do so in the free text review box. Reviews posted are subject to a light form of central monitoring and filtering but proof that the reviewer stayed at the hotel is not required or verified. Hoteliers and other readers are thus left to their own devices to work out the specific details of guests and their stay.

The ranking that TripAdvisor algorithms compute is largely contingent on the quantitative ratings posted by the user-generated content. As suggested by its name, the Popularity Index organizes content by the (dynamically-computed) user ratings rather than by market segment or user profile. In other words, there is no systematic analysis of the population using TripAdvisor, making the data open to statistical skew on a number of levels. As a hotel owner noted:

I would say that there's no particular correlation between the reviews that we get and where we stand in the scheme of things. A sort of local and regional discrepancy has developed, shall we say. I look at really top properties nationally and they don't top these rankings, they appear maybe fifth or sixth or seventh. So you say, well, why is that? Well one reason is, I think, that the higher spending customer is least likely to actually write a review. Now, I don't say that with any scientific evidence. It's just a feeling I get. The second thing is that the places that are perhaps working at a lower level are the ones that probably work harder to try and get the customers to write reviews. In fact locally there are some establishments who positively campaign to get people to write reviews.

The possibility of fake or defamatory reviews posted in TripAdvisor has been well documented and can have considerable consequences for a hotel's position in the rankings. Whereas a judicious reader of the reviews on TripAdvisor might choose to discount both the most glowing and the worst of the postings in favor of balanced assessments or specific interest, the algorithmically-computed ratings and rankings are not designed to do so. One hotel owner noted that TripAdvisor's response to the problem of fake reviews is that it is not a serious concern: "... with hundreds of reviews out there, if someone's putting five or six phony reviews, it's not going to affect things very much." But as he went on to observe, this logic ignores the total number of reviews posted for a hotel:

[I]t's not like you've got hundreds of reviews and the three or four wouldn't skew things. Three or four could be 10% or 20% of the reviews, particularly if it's a more specialized or not a high-volume place which a lot of places I've seen fall in that category... All it takes is two or three to rate you poorly... I mean I have not done the math, but just a small number of negatives will move you down from 4.8 to a 4.6.

The anonymous online reviews on TripAdvisor have recently been attracting considerable attention. Numerous news outlets such as the *Wall Street Journal*, the *New York Times*, NBC's

Today TV show, and London's *Sunday Times* have published stories about inappropriate or fake reviews. Recently, an article in the British newspaper, *Telegraph*, reported on some of these apparent abuses (Starmer-Smith, 2010):

Reviews are the words of "trusted members of the travel community," according to TripAdvisor – and yet no checks are made on the identity of the people who post them and no proof of stay is needed. In fact, all that is required to upload these travel "truths" is an anonymous username and email address (which can easily be faked).

TripAdvisor is also awash with references to food poisoning (10,951), bed bugs (31,429), assault (1,064) and theft (7,554) – accusations that leave an indelible stain on the establishment concerned, but which can be made without a shred of evidence.

TripAdvisor has always maintained that it screens out inappropriate or fraudulent postings. The company does not reveal the details of how it detects such problematic content, but notes the following on its website:

TripAdvisor screens reviews to ensure they meet our posting guidelines. We have a team of moderators that examine questionable reviews. We also use automated tools on the site that help flag questionable content for review, and our large and passionate community of millions of travelers keep an eye out on our site as well.

Hoteliers subject to anonymous consumer reviews can post a management response but many of the hoteliers we interviewed felt uncertain about whether and how to respond directly to specific guest reviews. Their concern was that responding would open the door to a negative "you said this, I said that" exchange that might further damage the hotel's reputation in the eyes of potential customers. For hoteliers, the arrival of new reviews on TripAdvisor is typically a stressful, unpredictable experience and they struggle with how to effectively act on them. If hoteliers feel a particular review is incorrect, misleading, or fake, they may lodge a complaint about it with TripAdvisor. TripAdvisor issues an automated reply to the hotelier and then content managers and automated tools judge the review, working from a position of presumed neutrality in which they are not held responsible for the content of user reviews. Current legal debate holds that posting an opinion online is equivalent to an expression of free speech and for the most part TripAdvisor endorses this position, only censoring personally insulting or threatening content.

Many hoteliers now feel that monitoring the flow of user-generated knowledge is a managerial obligation and are learning how to integrate it into their hotel practices. In the past, hoteliers received private feedback from their guests on feedback forms, but through the open

design and relatively anonymized knowledge practices of TripAdvisor, hoteliers are now digitally and visibly exposed. While most professionals within the hospitality industry welcome the personal touch of the review process, which enables them to get close to guests, unattributable and/or fake reviews erodes their reputation capital and exposes them to public derision through an information system designed with a light approach to online regulation. Fake reviews have an especially pointed reputational asymmetry on TripAdvisor: by posting a warning badge to alert users to potential manipulation, TripAdvisor wins credit for effective content management whereas the hotel loses potential guests who are scared off in the process.

Professionals in the travel sector recognize that social media are a source of innovation that need to be integrated into their ongoing practices, but the difficulty of attributing reviews and engaging with reviewers, compounded by what they regard as a lack of responsiveness from TripAdvisor, has raised the question of regulation. As Bob Cotton, the Chairman of the British Hospitality Association, noted in a recent published interview:

Websites have a responsibility that the person has actually stayed at the hotel or dined at the restaurant. I have been having discussions in Brussels on behalf of the industry so that some sort of common sense should prevail, as it does on sites such as eBay. ... You can't ban these on-line comments – that is like de-inventing the atomic bomb – and I am in favour of all these methods of modern communication. But we need a fair crack of the whip. It might be that someone has picked up some business from a competitor and the competitor wasn't very happy and they put a whole series of comments saying how bad the visit was by the people who stayed at the hotel. It can really affect a business.

Some social media travel sites such as Expedia guard against fraudulent reviews by allowing only people who have booked a hotel room to post a review about it. This recognizes that the value of user-generated reviews depends on others' trust in the content, and that without verification mechanisms, placing trust in the so-called "wisdom of the crowd" is a precarious matter.

Performing Anonymity

We found that anonymity was critical to the hotel evaluation apparatuses of the AA and TripAdvisor. We further found that while existing literature and policy on anonymity consider it to be entirely social, we found that its performance in practice depends crucially on specific material enactments. Indeed, we see how anonymity is an entanglement of meanings and materialities

produced through the ongoing material-discursive practices constituting the AA and TripAdvisor hotel evaluation schemes.

In comparing the practices of the AA with those of TripAdvisor, we see different agential cuts reconfiguring relations of anonymity and accountability. For the AA, anonymity is performed as a critical part of hotel assessment — the obscuring of an inspector's identity so as to ensure, as much as possible, an experience of the hotel by the everyday person. Once the inspection is completed, the cloak of anonymity is dropped producing a cut through which the inspector enacts a professional relationship with the hotel staff, reporting formally on the hotel's assessment, offering guidance on its improvement, and being accountable for the star rating assigned and the official hotel description published in the Hotel Guides. In contrast, for TripAdvisor, anonymity becomes salient after the hotel assessment has occurred. Travelers experience the hotel as named individuals,⁷ and only obscure their identities afterwards, when publishing their reviews online. Here the cloak of anonymity is raised once the inspection is completed, producing a cut that allows for posting a wide variety of opinions online, but makes verification and accountability difficult to achieve. Reputational symmetry is neither strived for, nor achieved. In material detail as well as in timing and placing, anonymity on TripAdvisor is thus distinctly enacted, generating an array of corresponding challenges.

Conventional approaches to studying a topic such as social media might focus on the rate of its diffusion, how users adopt it (what their priorities are, how it serves them), typologies and classifications, agendas for its management, strategies examining how it fits into the IS portfolio, and identifying the distinctive qualities of crowd-sourced wisdom. Agential realist entanglement focuses on the relationality of what happens within a phenomenon such as anonymity, centering on material-discursive practices as the site of action, identifying the specific details of their configurations, and how these may become boundary making. By calling out what becomes included and what becomes excluded through material enactment, we begin to understand how such agential cuts define what endures in practice (normalizing and institutionalizing) as well as what may be less stable, and

⁷ Except of course, when guests choose to disguise their identities by using pseudonyms, as with the hotel inspector or someone wishing to remain incognito.

available for re-articulation. For example, when an AA mystery guest tours a hotel and sees that the pool is shut for maintenance mid-season, s/he may inquire into the timeframe for repairs but this will not make a substantial difference to the cut that positions the hotel in the accreditation scheme. Although the practice of being an anonymous mystery guest is designed to take account of differences between the hotel's claims and its actual facilities, the observation about the pool on that day is in relation to the long term and focused on evaluating what is standardly available. In contrast, when a family — comprising an active pseudonymous TripAdvisor reviewer — arrives at the hotel for their annual holiday the unavailability of a key facility, however temporary, makes a critical difference because the parents depend upon the pool for entertainment in the present moment and have made promises to their high-energy kids about what they would be able to do in that timeframe.

While the unavailability of the pool would be revealed by the mystery guest through the AA inspection, an agential cut is enacted through which the AA accreditation in the Hotel Guide reinforces the institutional standing of the hotel regardless of how timely the pool repairs may be. The membership governance structure of the AA ensures that the review produced by the mystery guest is negotiable in the final account. The AA includes an established protocol both for challenges from hoteliers and complaints for consumers. In contrast, if the family posts a TripAdvisor review berating the hotel for not informing them in advance of the unavailability of the pool or the inadequacy of alternative facilities, the accessibility of the website and its review-centered design means their experiences are available on a global scale within 24 hours to others who will relate them to their own expectations and requirements. There is no set procedure or predetermined outcome with regard to the pool complaint posted in the review, only uncertainty and openness both in terms of the number of potential guests that may be deterred (some will care about the pool, others won't) and whether or not the review offends the hotelier giving momentum to other practices such as detective work to identify the reviewer.

The likelihood of a problematic mystery guest review achieving closure is high within the AA scheme because its particular governance structure ensures hoteliers have recourse to redress. However, when hoteliers read anonymous personal accounts at-a-distance on TripAdvisor, they

already know that the probability of closure is unlikely whether through specific mechanisms on the website, informal means, or the courts. While it is not possible to link these practices into neat, linear cause and effect, we would argue that a sociomaterial lens provides us with a different perspective on causality in which we can claim that the travelers primarily guided by the AA evaluation scheme and those informed by TripAdvisor are different in important ways. The AA traveler is pacified, accepting that the time delay between accreditation and publication gives them a right to complain about the pool but not a way to make their experience count. TripAdvisor travelers begin auditing from the moment they encounter the hotel and are more able to insist that available resources materialize their expectations. These travelers arrive armed with certain expectations based on particular accounts of the hotel and indeed audit those accounts secure in the knowledge that the hotelier will not be able to challenge their anonymous reviews and are not concerned about whether it will influence future reservations. In effect, the entanglement of TripAdvisor has produced a different kind of traveler and a different world of travel.

It is important to note that our research analysis marks an agential cut in ongoing reconfigurations: the materializations and outcomes of anonymity have not been brought to close here. Indeed, the point upon which this analysis rests is on the inseparability of matter and meaning. The increased volume, scale and influence of online, distributed, user-generated content is rapidly transforming networks, algorithms, and databases. And the performance of anonymity within such practices is only likely to become more critical.

Implications

In this paper, we have focused on the specific details and consequences of anonymity as performed in hotel evaluation practices: conducted in person through AA inspections and produced online through the TripAdvisor website. A key motivation for our use of Barad's agential realist entanglement is a commitment to bringing critical issues to the foreground, raising ethical questions, and stimulating discussions about how materiality makes a difference. With this in mind, we explore the implications of our research for issues of anonymity and sociomateriality.

Implications for Anonymity

By assuming entanglement as a theoretical premise and focusing on materiality in our analyses, our study challenges the tendency in the literature to view anonymity as a largely social and singular attribute of some agent or system. In contrast to prior work in this area, we found that anonymity is multiple, dynamic, and sociomaterial. Furthermore, our findings highlight how anonymity is not a fixed and binary state but actively constituted in ongoing material-discursive practices. This is an important contribution to the literature on anonymity as it provides a way of understanding anonymity as dynamic and materially enacted and thus dependent on specific practices. Such a lens is particularly valuable given the increasing digitization of many spheres of activity and the need to examine the possibilities and challenges of anonymity within those areas.

To understand anonymity as multiple, dynamic and sociomaterial requires holding practices as always already in relation and entangled with materiality. This frames anonymity not as a state or status but as a concept in-phenomenon. An entangled understanding of anonymity would then ask, “how is this instantiation of anonymity produced?” and focus on the material-discursive practices through which it is produced. Critically, an entanglement approach prompts us to go beyond the definition of categories to ask, “what is being included *and what is being excluded?*” And then to consider, “how might these inclusions and exclusions be consequential?” If we hope to understand the material enactment of anonymity, it is imperative to recognize and account for how material-discursive practices create determinacy through material instantiations of particular distinctions, boundaries and properties in practice. More generally for IS researchers, this suggests that our understanding of phenomena requires explicitly inquiring into their constitutive materiality and not treating technology as mediating, supplemental or optional.

Our examination of the two performances of anonymity in the travel sector has drawn attention to the performative consequences of different material enactments of anonymity for issues of verification and accountability. Doing so has emphasized how technology is the expression of political and material practices. This analysis has thrown into stark relief the interesting position of TripAdvisor which, along with other social media platforms, has consistently argued the case for neutrality with regard to content: they moderate but do not adjudicate. This position is designed into

the material-discursive practices that are available through TripAdvisor, a design that allows for multiple degrees of authenticity in reviews. To date, the company has chosen not to consider further ways to verify content (for example, ensuring that a reviewer has stayed at a hotel). Its commitment to achieving global scale (in terms of multiple websites and large database of hotels) limits its ability to verify content, and respond to requests from hoteliers. This along with the lack of transparency about its practices as well as the public unavailability of its algorithms has meant that the company has been subject to some degree of criticism. It is important not only to analyze what is included in practice but also what is excluded because these remain in play as constitutive exclusions (Barad 2003). TripAdvisor finds itself confronted with shifting expectations about openness and accountability online, expectations specifically addressing the emerging phenomena of social media and software code:

... software developers, ISPs, and others who function as gateways to the internet have a special obligation. They write the code that regulates the Net and they set the rules of access. They are shaping the internet's future architecture and are obligated to do so in a way that is attentive to core moral values. If self-regulation is to work effectively, "code writers" must aspire to greater accountability for their work along with the moral competence to write code as carefully as lawmakers formulate and execute laws. This means, for example, that code should be as open and transparent as possible so that the user's autonomy and capacity for informed consent is fully respected. (Spinello 2001)

Analyses of the recent financial crisis have highlighted the way in which the designers of databases, networks, and algorithms in overlapping, interdependent high-transaction sectors can find themselves implicated in life-changing, world-making consequences. The journey of the Internet has taken us from an open-book through booms, busts, and frontiers of ongoing innovation. It is important to recognize that TripAdvisor is part of a wave of organizational forms and initiatives harnessing crowd-sourced content and therefore part of a reconfiguring movement of distributed knowledge production and consumption. As a pioneer of user-generated reviews, bound up with what has been called a "travolution," TripAdvisor highlights issues characterizing the current status quo in social media that warrant debate and further research.

As more and more knowledge is produced anonymously online, materiality becomes increasingly enfolded in everyday practices that obscure the arrays of networked databases, access criteria, and algorithms marshaled to manage the scale and volume of the distributed crowd. This is

particularly concerning because as surely as algorithms are permeating organizational practices, we know that their model of the world is partial, highly abstract, and “leaves out a lot.” As Introna (2013, p. 4, emphasis in original):

[T]here is often a sort of implicit but powerful computational reductionism at work in the practice of programming. Namely problems are reduced to what can be expressed algorithmically (and especially, in terms of the technical expertise available to the programmer). This reductionism can have significant performative consequences *for what software actually does*.

While we rarely have access to the commercial algorithms through which corporate ratings and rankings are produced, we are able to observe their effects in practice as we have done in this study. This suggests that future IS research should pay careful attention to the performative consequences of multiple forms of anonymity as algorithmically produced in sociomaterial practices.

When assurances of anonymity are viewed through a sociomaterial analysis, it becomes apparent that providing global, enduring anonymity is almost impossible. Anonymity is troubled and troubling; it has become multiple and fluid rather than binary and fixed, and we don’t have to reach out far to find expressions of concern on this point.⁸ Levmore (2010, p. 59) observes, “One cost of Internet anonymity is that a successful site must monitor and censor in order to inhibit what might become overwhelming noise.” He notes that websites such as Amazon.com and CNET.com “work to delete juvenile and even superfluous contributions” so as to control the content on their sites (Levmore, 2010, p. 57). While this “policy requires effort, some automated and some expensive ... it is necessary in order to keep a valuable, popular site alive.” The problem with proposing stronger regulation as a solution to the wildness of the Internet is the mutable and contingent relations between code and law.

Focusing analytic effort on how anonymity is enacted through material-discursive practices not only helps us understand why this is the case but also better equips us for an informed debate about relational and performative anonymity. In particular, it prompts us to attend to the entanglement of particular models of anonymity with specific material-discursive practices, to examine the redistribution of agency generated by different agential cuts through pseudonymity, to

⁸ See for example, recent debates about online anonymity in: http://www.huffingtonpost.com/2011/07/27/randi-zuckerberg-anonymity-online_n_910892.html; and <http://online.wsj.com/article/SB10001424127887323468604578245841828280344.html>; and <https://www.eff.org/issues/anonymity>.

question the inclusions/exclusions produced by the practices, and to identify performative outcomes. This is hard work but such effort is necessary because we need to learn to manage multiplicity. In the case of anonymity, multiplicity leads researchers to ask: when and where is anonymity? We may want to be anonymous when posting a critical comment about a company online but do we want enforcement agencies to be able to identify us? Does this position hold for both civil and corporate agencies? How, when and where do we want to make data available that will identify who was on what device using a given IP address? While we have focused on anonymity here, there are corresponding issues that relate to identity. How anonymity is materialized in practice has far-reaching implications for whether and how reidentification is possible, particularly because “identity is impossible, imperfect, and attempts to require identity will restrict and exclude.”⁹ Further indepth field research is needed to understand these issues

There are many developments with implications for the debates about anonymity and identity. For example, Amazon has trademarked Real Name™ to offer validation options alongside established practices of either anonymity or “Pen Names” (pseudonyms) to participants wishing to post product reviews:¹⁰

A Real Name™ attribution is a signature based on the name entered by the author as the cardholder name on his or her credit card, i.e. the author represents this name as his/her identity in the “real world.”... In general, we believe that a community in which people use their Real Name™ attributions will ultimately have higher quality content, since an author willing to sign his or her real-world name on a piece of content is essentially saying “With my real-world identity, I stand by what I have written here.”

This design reflects Amazon’s position that verifiable attribution strengthens the standing of user-generated content and encourages trust in the knowledge produced within and through its platform.¹¹ In practice, when Real Name™ contributions become input for Amazon’s algorithms, they receive stronger weighting in the product ratings and rankings that are produced online. This suggests a further important implication, namely that particular ways of practicing anonymity, their relations to

⁹ Dr Gus Hosein, LSE, personal communication, March 12, 2013.

¹⁰ <http://www.amazon.com/gp/help/customer/display.html?ie=UTF8&nodeId=14279641>. Also note Google’s recent call for the use of real names in YouTube (<http://www.telegraph.co.uk/technology/google/9423630/Google-encouraging-YouTube-users-to-ditch-anonymity.html>).

¹¹ See also Facebook’s position in this debate: <http://www.zdnet.com/blog/facebook/facebook-anonymity-on-the-internet-has-to-go-away/2270>; and counters to this at: <http://online.wsj.com/article/SB10001424127887323468604578245841828280344.html>

identification, the user content that is generated, and associated data streams are increasingly enfolded into marketing value and become crucial to the configuration of Internet business models.

We have noted that anonymity on TripAdvisor is also a matter of degree: when creating a member profile, users can enter their offline name and address or enter an online pseudonym. Indeed, reviews that have been imported from other affiliated sites, such as Facebook, currently appear with no name simply a tag reading “A TripAdvisor Member.” It may be more accurate to say that anonymity on TripAdvisor is made up of “grades of pseudonymity.”¹² Prior research has established that our behavior changes when we are in a crowd because it gives us a heightened sense of anonymity (Latane and Rodin 1969; Lea and Spears 1991; Zimbardo 1969). In crowd-sourcing, however, a further relational identity comes into play — that of reputation. While a single online post does not establish a pattern of quality reviews that will attract esteem, when a user is able to check across a member’s multiple posts this can generate a better sense of the quality of the member’s contributions.

Where a reputation lever has been designed into the process of posting — as illustrated on Amazon — using pseudonyms does not necessarily mean dissolution of accountability.

More generally, the Internet seems to be an especially fruitful source of possible esteem. It offers potentially large audiences of an appropriately fine-grained kind. What is crucial, of course, for the effectiveness of esteem on the Internet is that agents care about the reputations that their e-identities secure. The fact that such e-identities are often pseudonymous — and where not, are difficult to check — certainly moderates the forces of disesteem for some range of actions and actors. The kind of anonymity involved means that e-identities that lack reputation have nothing to lose by acting in a disesteemable manner. However, the same is not true for e-identities who have established a reputation already; they have esteem to lose. And even those without a (positive) reputation aspire to have one. (Brennan and Pettit 2009, p. 191)

Although there are mechanisms designed to support esteem building on TripAdvisor, for example “earning a senior contributor badge,” users cannot filter reviews by reputational standing or other profile preferences, nor do these details influence the rankings which are produced algorithmically. The specific materializations of anonymity in social media are thus raising important concerns for researchers and practitioners — not just for how they configure outcomes on the ground (the

¹² Dr Gus Hosein, LSE, personal communication, March 12, 2013.

practices of hoteliers and travelers in our case) but for what they imply for the kinds of knowledge and forms of accountability that are generated by a society that is increasingly performed online.

Implications for Sociomateriality

Our sociomaterial approach offers a powerful lens for thinking differently about issues that were previously displaced or regarded separately. By choosing a different starting point — entangled material-discursive practices — we make specific material enactments core to our research priorities and analyses. The agenda of agential realism encourages us to ask: how and when do information systems make a difference? By working through the concepts that we have drawn upon in this paper — entanglement, material-discursive practices, agential cuts, and performativity — our analysis encompasses a particular understanding of materiality that offers different terms of reference for studying practice. When conducting research, it centers our empirical interest upon how and when specific characteristics and consequences of practice are produced through particular material enactments. Reframing phenomena as ongoing reconfigurations produced over time draws attention to what gets included and what gets excluded in these reconfigurations. These are important questions to raise about the generativity of innovation and the new ambiguities and uncertainties that are entailed. This is particularly salient in the case of the Internet, where considerations of current phenomena such as social media, user-generated content, and digital convergence have tended to separate the “social” and the “material,” and to treat phenomena as exclusively one or the other. This habitual distinction overlooks the entanglement of matter and meaning in practice and diminishes the possibilities of understanding contemporary IS phenomena through time.

Of the many points raised in this paper, we emphasize the capacity of the agential realist notion of entanglement to challenge given boundaries, fixed distinctions, and taken-for-granted assumptions. For IS research, this highlights the importance of observing the production of distinctions, boundaries, and properties in particular practices, and to examine how and why agential cuts are made that include some things, exclude others, and perform specific material enactments of phenomena. Attending to agential cuts opens up research inquiry to ethical and political considerations. Barad (2007) notes that each cut has political consequences — it is not a matter of good or bad cuts, just different ones, each

of which produce different distinctions, boundaries, properties, and outcomes. Cuts do not reveal more or less “right” knowledge. Rather, as she notes (2007, p. 91):

...the fact that we make knowledge not from outside but as part of the world does not mean that knowledge is necessarily subjective (a notion that already presumes the preexisting distinction between object and subject that feeds representationalist thinking). At the same time, objectivity cannot be about producing undistorted representations from afar; rather, objectivity is about being accountable to the specific materializations of which we are a part. And this requires a methodology that is attentive to, and responsive/responsible to, the specificity of material entanglements in their agential becoming.

Academic research can claim no exemption or privileged status with respect to entanglement. Entanglement positions analysts differently and compels an acknowledgement of the material-discursive practices of research. This means recognizing that we become knowers through entangled encounters that focus agencies of observation on one thing instead of another. Thus the results of any analysis must take into account the apparatus through which they were produced. This is an especially challenging shift in perspective for those engaged in theory-centered research because it means regarding concepts in-practice as material-discursive. In a relational ontology, while concepts are intangible they are relational and have materiality. In other words, concepts cannot be fully understood without taking the material-discursive practices through which they are instantiated into account. They are also performative, enacting local resolutions within the ontological indeterminacy of phenomena. This is consequential, both for the specific knowledge that is produced and its performative effects in the world.

Ethics are integral to agential realist entanglement because by definition we are implicated in the knowledge that is produced. As Barad (1998, p. 102) notes, “Reality is sedimented out of the process of making the world intelligible through certain practices and not others. Therefore, we are not only responsible for the knowledge that we seek, but, in part, for what exists.” Taking these ideas seriously changes where we position ourselves in relation to the object of research, or in plain language: what we focus on in our research practice. Thinking in terms of entanglement alters what we “take account of.” In this study, we have chosen to focus on and take account of anonymity in hotel evaluation practices, and how its enactment in practice has important consequences for the travel sector as a whole and the hospitality industry in particular.

Conclusion

In our exploration of sociomateriality we have contributed to a palette of ideas that work within a relational approach to challenge the ontology of independent agents and things. We have acknowledged that this is an area that is under discussion and shared the ways in which our thinking has been influenced by Barad's work on agential realism and the concept of entanglement. Our investigation of entangled anonymity in the hospitality industry has highlighted the different performative consequences of the material enactments that produce the AA and TripAdvisor evaluations. Such an approach encourages us to question taken-for-granted assumptions of separation, independence, and essentialism, and to attend to concrete practices through the specific details of actual material-discursive doings within particular historical moments and places. It also opens up possibilities for redrawing analytical boundaries, which we find especially useful for studying practices that are thoroughly constituted by information systems.

Much work in organizations today depends heavily on information technology including networks, databases, algorithms, mobile devices, and social media. Their widespread use attests to their increasing role in our everyday personal and organizational lives. Yet, our ability to theorize these digital developments has not kept pace with practices on the ground. Writing about the social sciences, Law and Urry (2004) argue that part of the difficulty is that we are using outdated lenses and methods to study contemporary phenomena. We believe a similar concern may be raised about studies of technology, where there has been a tendency to use concepts, theories, and approaches developed decades earlier (in the 1970s, 1980s, and 1990s) to investigate contemporary technological phenomena. Different approaches are thus needed to help us engage with the dynamic, multiple, and contingent materialities constituting contemporary organizational realities. We have found that notions of sociomateriality in general, and entanglement in particular, offer a particularly powerful approach for this kind of exploration.

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Table 1: Interviews in the Hospitality Industry

	Number of Interviews	Positions
Hoteliers	21	12 Owners; 9 Managers
AA employees	11	2 Executives; 4 Editors; 5 Inspectors
TripAdvisor employees	14	3 Executives; 5 Directors; 6 Managers
Hospitality Industry Representatives	9	British Hospitality Association, English Tourist Board, Institute of Hospitality, Association of British Travel Agents, VisitBritain, VisitEngland
Total	55	

Author bios

Susan V. Scott is a Reader in the Information Systems and Innovation Group, Department of Management, at The London School of Economics and Political Science. Her research focuses on technology, work and organization from a management studies perspective. She is currently involved in research projects exploring the sociomateriality of rating and ranking mechanisms.

Wanda J. Orlikowski is the Alfred P. Sloan Professor of Information Technologies and Organization Studies in the Sloan School of Management at the Massachusetts Institute of Technology. Her research examines the dynamic relationship between organizations and information technologies, with particular emphases on organizing structures, cultural norms, communication genres, and work practices. She is currently exploring the sociomaterial entailments of social media.