Department of Management

Information Systems **Group** London School of Economics and Political Science



Working Paper Series

177

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June 2009

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"Getting the Truth": Exploring the Material Grounds of Institutional Dynamics in Social Media

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June 2009

Abstract

Our research focuses on the fast-changing landscape of contemporary social media (e.g., Facebook, TripAdvisor), where recent technological innovations have facilitated the interaction of large numbers of people across time and space. In contrast to more traditional forms of web usage that focus predominantly on relatively passive, one-way information flow, social media are characterized by dynamic, peer-to-peer interactions and multi-media, user-generated content. Also referred to as Web 2.0, these websites represent new forms of distributed, collective knowledge creation/sharing that defy easy characterization, prompting us to reconsider conventional views of technology. Drawing on Barad's notion of "apparatus," we consider the differences in knowledge produced by institutionalized hotel grading schemes such as the AA and VisitBritain on the one hand, and those of TripAdvisor's reviews and rankings on the other. In particular, we draw attention to the way in which TripAdvisor's dynamic sociomateriality (re)configures the standing of hotels in our study so that previously valued criteria lose their significance. We contrast the purposeful practice of travelers using TripAdvisor with the consternation among hoteliers who raises ethical issues of fairness and honesty. Far from being a neutral channel or passive mediator, the sociomateriality of TripAdvisor is integrally and actively part of knowledge production, creating differences that have wide reaching implications for the relationships between travelers and hoteliers.

Introduction

Institutional practices are necessarily bound up with the material means through which they are performed. Whether human bodies, clothes, cell phones, computers, buildings, or infrastructures such as highways, electricity, and telecommunications, all such materiality shapes and defines the contours and possibilities of institutional life. This is particular evident in the fast-changing landscape of contemporary social media websites (e.g., Facebook, eBay, and TripAdvisor), where recent technological innovations have facilitated the interconnection and interaction of large numbers of people across time and space. Also referred to as Web 2.0, these websites represent phenomena entailing new institutional dynamics that defy easy characterization. Different scholars have attempted to do so by drawing attention to the digitization of the organization (Kallinikos, 2006), the wealth of networks (Benkler), the wisdom of crowds (Surowiecki, 2004), convergence culture (Jenkins, 2006), and digital formations (Latham and Sassen, 2005).

Effectively understanding the institutional consequences of such materiallymediated, user-generated-content websites will require a reconsideration of conventional views of technology. Institutional approaches to materiality have tended to focus on exogenous aspects of technology, as for example, in studies of technological innovation and discontinuities (Benner and Tushman, 2002; Tushman and Anderson, 1986) or on cultural aspects of artifacts, as for example, in the social construction of technology and technical routines (Barley and Tolbert, 1988; Garud and Rappa, 1994). In these cases, materiality is incorporated into the institutional vocabulary as either institutional force (for change or stability) or enabler/carrier of institutional elements (Scott, 1993). While offering important insights, both views treat materiality as an object separate from and secondary to core institutional dynamics. As noted by recent critiques (Bridgman and Willmott, 2006), contemporary institutional understandings of technology do not adequately engage with the productive role of materiality in constituting institutions. And, with a few exceptions (e.g., Avgerou, 2000; Barrett and Walsham, 1999; Kling and Iacono, 1988), most such research has not examined how institutions influence the design, use and consequences of technologies (and materiality more broadly) in organizations.

Yet, social relations are deeply intertwined with their material conditions (Knorr-Cetina, 1997; Latour 2005). Recent literature in technology studies has called for a view of materiality as entangled in every aspect of human life (Berg, 1997; Pickering, 1995; Suchman 2007). Scholars such as Latour (1987, 1992, 2005) have argued that there is no social that is not also material, and no material that is not also social. We follow this call by moving beyond the view that materiality shapes organizations by serving as an exogenous force, cultural symbol, or instrumental tool, and instead examine how materiality is intrinsic to the enactment of institutions over time. We argue that what is needed is an examination of how the material and the social are entangled in practice, and how these entanglements produce multiple, emergent, and dynamic sociomaterial configurations over time (Orlikowski and Scott, 2008).

We explore such a perspective in the context of an empirical investigation of one specific social media platform — TripAdvisor.¹ One of TripAdvisor's defining tag lines is "Get the truth, then go" (Kaufer 2009). We examine the sociomaterial conditions for the ongoing production and consumption of TripAdvisor's "truth," and consider how the website's dynamic materiality configures and reconfigures the practices and possibilities of different modes of engagement by multiple users (e.g., travelers, hoteliers). We explore some of the institutional and practical implications of such shifts in the grounds of institutional knowledge production and consumption.

The Idea of Sociomateriality

In their analysis of the production and flows of knowledge, Sahlin-Andersson and Engwall (2002) have noted that the institutional literature emphases the setting where action takes place, at the cost of exploring the nature of the carriers (2002: 10). Their critique draws attention to the carriers, flows and sources of knowledge. In particular, they maintain that the way the term "carrier" is used in institutional theory suggests a largely passive role, evoking images of conveying a package or travelling in a carriage in which nothing is changed by the experience whereas in practice carriers are sometimes active, sometimes not (2002: 9). We agree with this point, but wish to take it further, moving away from the position that mediators co-construct to the proposition that materiality is an integral part of phenomenon.

The sociomateriality perspective explored here embraces a more thoroughly entangled view in which we move away from the language of primary and secondary factors or forces in an effort to understand the way in which phenomena are "reciprocally and emergently intertwined" (Pickering 1995). This makes a conceptual break with prior views of institutions and technology that tend to see these as separate entities that influence each other, either through direct impacts or mutual interactions.

¹ http://www.tripadvisor.com/

Instead, the focus is on "agencies that have so thoroughly saturated each other that previously taken for granted boundaries are dissolved" (Orlikowski and Scott 2008). This is a move away from focusing on the relationship *between* materiality and institutions (that still presumes independent or interdependent entities with distinct and inherent characteristics), to examining how materiality is integral to everyday activities and relations. As Suchman (2009) notes, we need to give up on the notion of autonomous persons and autonomous machines as these narratives obscure the extended assemblages that constitute agency. As Barad (2003: 818) puts it, "Agencies are not attributes [of either humans or nonhumans] but ongoing reconfigurations of the world." The term sociomateriality points to the ontological fusion of technologies and humans/institutions.

The key ideas of a sociomaterial perspective are still emerging but some interesting and provocative directions have begun to appear (Barad 2003, 2007; Introna 2008; Suchman 2007). In what follows, we draw on Barad (2007), and in particular her articulation of the notion of *apparatus*.

Apparatus

Barad's work on sociomateriality emanates from the field of technoscience, an interdisciplinary community of science and technology studies interested in the social and material context of scientific practice. She builds upon the work of Neils Bohr who differentiated himself from his peers in natural science by developing a philosophy of physics alongside his research on atomic structure and quantum mechanics. A keystone of Bohr's thinking was that in order to have unambiguous accounts of scientific findings we need not only the research results, but also the relevant features of the experimental arrangement through which they were generated (Barad 2007: 160-161). It is the specific arrangement of an experiment at a particular time and place that gives it meaning. Bohr then takes this a step further to propose that apparatus are not passive observing instruments tangentially associated with the mechanics or method of producing knowledge, but in an important way they are *part* of the phenomena under study (Barad 2007: 141).

From this perspective, apparatus are boundary-making practices that tune us to a particular analytical experience; they enact a "cut" that focuses agencies of observation on one thing instead of another. Rather than regarding the results of an experiment as a mirror in which we can see the precise reflection of reality, we read the findings *through*

the apparatus. We don't inter-act with a fixed reality during the experiment, but rather an intra-action of meaning and matter takes place that makes a difference to knowledge. The distinction between interaction and intra-action points to a subtle shift in meaning that moves us away from thinking in terms of two separate things acting on each other toward an appreciation of the differences that occur when boundaries dissolve and things pass through each other. Bohr uses the example of a man with a stick to illustrate the entanglement of matter and meaning intended here:

One need only remember here the sensation, often cited by psychologists, which every one has experienced when attempting to orient himself in a dark room with a stick. When the stick is held loosely, it appears to the sense of touch to be an object. When, however, it is held firmly, we lose the sensation that it is a foreign body, and the impression of touch becomes immediately localized at the point where the stick is touching the body under investigation. (Bohr 1963 quoted in Barad 2007: p.154)

To usefully serve as an instrument of observation, the person has to forget that the stick is a stick and experience it as part of their body's capacity to analyze context. While this particular practice is being enacted, boundaries are redrawn in crucial ways that characterise the nature of knowledge that is produced. For example, the stick will give a sense of contour, but not of heat or cold. In other words, the know-how that is enacted is not arbitrary but is in fact materially specified and determinate for a given practice (Barad 2007: 154). That is, as Barad (2007: 19-20) puts it:

[G]iven a particular measuring apparatus, certain properties *become determinate*, while others are specifically excluded. Which properties become determinate is not governed by the desires or will of the experimenter but rather by the specificity of the experimental apparatus.

Barad's critique of Bohr's philosophy is that despite acknowledging the entanglement of matter and meaning, he remains steadfastly anthropocentric. The human scientist is aloof, separate from this messiness uniquely retaining the power to clinically manipulate the world at arms length through the arrangement of apparatus. Her extension of his thinking moves this boundary and in so doing acknowledges that humans are always already part of the apparatus of study. She illustrates this with an historical analysis of the Stern-Gerlach experiment.

The Stern-Gerlach Experiment: A cold day, warm bed, and cheap cigar

Bohr was part of the scientific community that had founded new theoretical territory, overturning traditional physics with quantum physics however these ideas had yet to be supported by evidence from the laboratory. The design for the experiment was based upon Stern's musings as he lingered in a warm bed at his Frankfurt digs one particularly cold winter's morning. The principle behind the experiment was that as a beam of atoms passed through a magnetic field they would be deflected into two separate traces on a detecting screen (Barad 2007:162-163). In so doing, Stern hoped to substantiate the claim (Bohr-Sommerfeld hypothesis) that electrons and atoms have intrinsically quantum properties.

In practice, the work was procedurally demanding and dependent upon a precarious combination of heated silver and delicate glass vacuum tubes with heatsensitive seals. Despite Gerlach's painstaking laboratory work during many overnight sessions, the traces of space quantization were not apparent. Then as Gerlach handed the glass detecting plates over to Stern to review their failed work they experienced a breakthrough:

[Gerlach] could see no trace of the silver atom beam and handed the flange to me. With Gerlach looking over my shoulder as I peered closely at the plate, we were surprised to see gradually emerge the trace of the beam...Finally we realized what [had happened]. I was then the equivalent of an assistant professor. My salary was too low to afford good cigars, so I smoked bad cigars. These had a lot of sulphur in them, so my breath on the plate turned the silver into silver sulfide, which is jet black, so easily visible. It was like developing a photographic film. (Friedrich and Herschbach 1998: 178-79, quoted in Barad 2007: 164)

In this moment, Stern was as much part of the apparatus in the laboratory as the vacuum tubes that were used. As the results of the experiment were analyzed further, it was realized that Stern and Gerlach had not achieved their original goal of proving spatial quantization but had instead demonstrated electron spin. Over time, the interpretation of these results was refined and the angular movement (or spin) of the electron that they discovered has become a key principle of measurement in quantum mechanics. What this highlights is that: "Apparatus are not static laboratory setups but a dynamic set of open-ended practices, iteratively refined and reconfigured" (Barad 2007:167).

In our study, we draw on Barad's reconceptualization of apparatus and use it to make sense of the sociomaterial entanglement that conditions social media knowledge production. Our particular interest is an analysis of the way that phenomenon like Web 2.0 usergenerated content sites make a difference to the management of knowledge about institutions.

Research Site and Methods

Research Site

Social media have as central distinguishing feature the active creation of content by their users or members. These websites, as noted by Dellarocas (2003), are unique in that they enable individuals to "make their personal thoughts, reactions and opinions easily accessible to the global community." There are a variety of social media sites (Valkenburg et al. 2006) including content development sites such Wikipedia, networking sites where members are building and maintaining a network of friends or colleagues, and interest sites where participants with similar interests can share ideas, views, and information. The website we focus on here, TripAdvisor, is a common interest site.

TripAdvisor is purported to be the largest online travel community, acting as repository for over 20 million reviews and opinions about approximately 1 million hotels, restaurants, and venues, contributed by almost 30 million unique visitors per month (Media Metrix, 2007). To put this traffic in context, the travel publisher Frommer's sells about 2.5 million travel guidebooks each year. Founded in 2000 with a mission to "Help travelers around the world plan and have the perfect trip," TripAdvisor's growth has been rapid. For example, in one year (between June 2006 and June 2007) the number of traveler-submitted reviews and opinions on the site doubled from five million to ten million (Hospitality News, 2007). This increase in website visitors is purportedly also having an impact on consumer decision-making. A survey of the European hotel and restaurant industry in 2007 found that 80% of UK consumers conduct online research before booking accommodations, and half of these indicated that they "refrained from booking a hotel as a direct result of a negative review on websites such as TripAdvisor" (Starkov and Price, 2007). TripAdvisor currently operates sites for 14 countries and content is available in 10 languages.

Tourism is one of the largest industries in the world accounting for 11.7 percent of world GDP, 8 per cent of world exports and 8 percent of employment (Urry 2003). In 2007, there were 903 million tourists globally.² As O'Connor (2008: 51) observes, the Internet is now playing a central role in the travel planning process. According to the Pew Internet and American Life project (2005), searching for travel related information is now one of the most popular online activities. And travel reviews by users are particularly popular. Sites such as Expedia, Frommers, and TripAdvisor, allow users to submit both quantitative and qualitative feedback on their travel experiences, and these are then aggregated to generate overall scores of quality and satisfaction scores.

The growth of user-generated content on travel sites is influencing traveler decision making and behavior. Gretzel, Hyan-Yoo and Purifoy (2007) report that almost

² http://en.wikipedia.org/wiki/World_Tourism_rankings

50 percent of travelers base their travel purchase decisions on user-generated travel content. Furthermore most of the users of user-generated content believe that it is more likely to be relevant, reliable, and enjoyable information, as compared to the information provided by travel service providers (Gretzel et al. 2007). Users report using the content for travel planning to get ideas, to narrow choices, and to confirm selections. Trip Advisor has won a series of accolades recognizing its growing significance, for example, in 2007 it was named one of the "Top 25 Travel Milestones" by *USA Today*. It was the only website included in the list and was cited as being instrumental in changing the way in which consumers research travel (O'Connor 2008). Then in 2009, it won the US Travel Association "Innovator of the Year" award, designed to honor companies whose innovations have had dramatic impact on the larger travel landscape. In a recent interview, Stephen Kaufer, Cofounder and current CEO of TripAdvisor spoke about the growing influence of his business (Livingstone, 2007: 371).

Our traffic is so high now that we know, for better or for worse, we have a significant impact on where visitors are choosing to stay. For every city, we kind of have a satisfaction index; we rate which hotels our travelers like the most. If you're ranked first or you're ranked 20th [on TripAdvisor], the number of reservation calls or bookings you're going to get is going to change. When we changed our algorithm, it dropped [the rankings of] some hotels and raised others. Our phones were ringing, because we had had a material effect on their businesses.

Research Methods

Given the collective, distributed, and fluid nature of social media, they are a particularly challenging phenomenon to study. Where and how are we to direct our analytical gaze and what agential cuts does this entail for the phenomenon of study? We build on Newman's (1998) reconceptualization of the site of research as the dynamic and negotiated assembly and reassembly of actors and issues, and focus here on the dynamic and negotiated (re)configuration of agencies, interests, and issues involved in user-generated content on TripAdvisor, and examine these in relation to the practices, conditions, and possibilities being enacted.

We conducted an exploratory netnography (Kozinets, 2002) of TripAdvisor, focusing on the content and structure of the website. Given the large amount of reviews and information available, we focused our attention in this phase of the research on the reviews associated with two different hotels in a single region of the UK. The profiles and target markets of these two hotels is quite distinct. One — PubInn — is a small village hotel centered around a large pub, and the other — ManorHouse — is a country

manor hotel situated some 30 miles outside of the nearest city. The accommodation at both institutions has been assessed by established hospitality recognition schemes (AA, British Tourist Board) and are highly rated (four stars, silver award, etc.). On TripAdvisor they are presented as the top two hotels in this region of the UK.

We collected all of the user reviews and their associated rankings for these two hotels (58 reviews for PubInn, and 52 reviews for ManorHouse as of April 15, 2009). The ratings were tabulated in relation to user profile (age, gender etc) in order to provide us with a way of identifying patterns in the review data. Site visits were conducted and the hotels' managers were interviewed. We supplemented this data with published information about TripAdvisor, its history, policies, and practices including postings on non-TripAdvisor discussion boards about specific cases. We reviewed academic papers relating to the travel sector as well as industry press articles on travel ranking systems and recent discussions of the influence of TripAdvisor (and related sites) on traveler behavior. One of the authors attended an international conference on technology in the travel sector and presented material on TripAdvisor for feedback.

As this study is exploratory, our analysis has been inductive and iterative, following a grounded theory approach (Eisenhardt 1989; Glaser and Strauss 1967). We began with a content analysis of the user reviews/rankings of the two hotels, and proceeded to readings of the interview transcripts and other materials, identifying threads associated with the uses and influences of TripAdvisor user-generated content. We then drew on the conceptual lens of sociomateriality and specifically the notion of apparatus (Barad 2007) to make sense of the emerging threads. This generated a central insight that focused on how the different ranking schemes (those of the established hospitality ranking bodies and those of TripAdvisor) configure these two hotels differently. More specifically, the different institutional knowledge and practices. We examine these ideas below.

Carriers of Management Knowledge: Rankings and Ratings

While TripAdvisor may mark the first time that many (particularly younger) people have encountered the notion of reviewing and rating hotels, its underlying principle recycles an idea that is almost a century old. The rating of UK hotels emerged hand-inhand with the rise of the automobile touring clubs like *The Automobile Association* (AA). Appendix A shows the summary of the various ratings associated with the AA hotel grading scheme. In 1913, the AA produced a Handbook quoting different star rating and tariff for hotels:

The AA Secretary, Stenson Cooke, had once been a wine and spirit salesman and felt that the star rating of brandy would be a familiar yardstick to apply to hotels. In his words, a "really decent, average, middle-class hotel" would merit the standard three stars. ... In the 1980s, the AA introduced the use of red stars for exceptional hotels and rosettes for good food. The inspection and quality standards for hotel appointments varied considerably between the AA, the RAC and the English Tourist Board. So in 1997, agreement was reached to harmonise the three schemes. Today, common quality standards are shared by the AA and the three tourist boards, who inspect and assess accommodation: VisitBritain, VisitScotland and Visit Wales.³

Sahlin-Andersson and Engwall maintain that the rise of this kind of institution can be traced back not only to an "expansion of management knowledge but also an increase in its formalization and a change in its packaging" (2002: 4). In their words, institutional forms such as AA ratings became self-sustaining and self-reinforcing "carriers" mediating the collection, processing, distribution and use of management knowledge. These activities are bound up in the development of the hotel sector; their translation transformed practice and came to define what it means to be a hotel. Even though institutions like the AA may present themselves as neutral, they play an important role in the development and adoption of standards that then shape the industry. As Meyer notes, "…they discuss, interpret, advise, suggest, codify, and sometimes pronounce and legislate [and] develop, promulgate, and certify some ideas as proper forms, and ignore or stigmatize other ideas" (1996: 244).

The AA has an inspectorate team who anonymously visit hotels to verify their rating. Inspectors also offer their services on a consultancy basis to hotels if they want help in achieving the next level of award. One of our interviewees described a recent inspection and the role that the inspector had played in achieving their first rating:

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] 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, [snaps fingers] we got our first rosette.

The AA rating scheme plays a pivotal role in the practices of the small business owners that we interviewed and since 80% of the tourism sector is comprised of small enterprises, they assume particular significance. It is easy to become absorbed into the day-to-day running of the hotel and as one of our interviewees put it "do what you've

³ http://www.theaa.com/travel_editorial/hotel_services_aa_history.html

always done." The AA ratings serve as a reference point, suggesting a benchmark for standards, populating an agenda for change, and providing the basis for a plan of action. As the hotel manager of ManorHouse noted:

[E]ach one of us had a slightly diverging image of where the [hotel] was going. Where we were going to be in five years' time? ... What were we going to be doing? What were our values? What were our priorities? What we decided we needed to do was to be on the same page of the hymnbook. ... So, what we wanted was a vision, a mission statement, and then goals and tasks for us to be able to do, collectively, independently, departmentally. Our vision was that within, by 2010, we would become the best country manor hotel in England. ... So, in order to become the best country manor hotel, what have we got to achieve? So, we broke this down into a number of components. One of which is to receive two rosettes from the AA. And we got that one. The next one is, we needed to achieve red stars, as opposed to black stars. I'm that far away, [gestures a small distance] *that* far away.

The AA guides that feature ManorHouse and PubInn are long-standing and traditional players in a publication niche that includes independent traveler books such as *Lonely Planet*. With the rise of user-generated content and Web 2.0 tools and communities, this commercial space has been reconfigured by websites like TripAdvisor whose business model relies upon advertising and sponsored links from travel service providers rather than on consumers purchasing a book or paying a subscription.

Sahlin-Andersson and Engwall's (2002) logic suggests that phenomena such as TripAdvisor have grown out of the success of their forerunners: "...the flow of management knowledge gives impetus to new and expanded carriers, as well as users of such knowledge and interactions between them. Hence, to better understand the expansion of management knowledge and the shape management knowledge has taken with this expansion, we need to analyze in more detail how such knowledge is circulated, under what conditions it is circulated, and how the knowledge is formed and transformed as it is circulated" (2002:19). We agree and would propose that with its emphasis on historicity, the notion of sociomateriality provides an important way to generate insights into this crucial on-going transformation in knowledge production.

The Sociomateriality of TripAdvisor

In this section, we consider how TripAdvisor's dynamic sociomateriality configures the two hotels we have studied — ManorHouse and PubInn — and with what consequences for knowledge and accountability.

Comparing Apples with Oranges: The Manor House and the Pub

As many guests have noted arriving at the ManorHouse, located a few miles into the countryside, sets up a stately expectation; set at a slight angle, the heritage building peers down at guests from a gentle mount with a parterre garden setting off the circular drive. Although they do have a loyal following of leisure-seeking guests, the ManorHouse specializes in providing a venue for important occasions, particularly weddings (the hotel hosted over 170 weddings in 2008). Original medieval features such as inset stone window seats and garderobes have been preserved to create a distinctive historical setting. The hotel has 30 guest rooms and its current rates range from £140 to £250 per night.

The PubInn is located in a village near local tourist attractions; travelers can pull up directly from the road and park in front of the converted stone farmhouse. Guests are greeted by bar staff as they walk through the entrance of the PubInn and a regular flow of "locals" eat in the conservatory extension at the back of the drinking area. The pub is pet-friendly and there is generally a very relaxed atmosphere with trophies won by the village sports team proudly on show. Old photographs of bygone days hang on the wall side-by-side with stuffed animals. The inn has 18 guest rooms and its current rates range from £90 to £125 per night.

Ostensibly, these two institutions would not be regarded as the same class of accommodation, and thus would not be seen to be direct competitors. Indeed, the AA lists them in two entirely separate guidebooks; the ManorHouse is profiled in the AAHotel Guide, while PubInn appears in the AA Pub Guide. On the British Tourist Board website, "Visit Britain," they are placed in different categories: "Hotel" and "Inn" respectively. Yet, in TripAdvisor, these institutions are judged by the same algorithm. According to the site's "Popularity Index," these two establishments are the top two hotels in this region of the UK: out of a total listing of twelve for the area, PubInn is ranked as the number one hotel and ManorHouse is ranked number two. TripAdvisor does not reveal the details of its ranking logic but notes that it measures overall traveler satisfaction based on ratings, reviews, and other sources (see Appendix B). Although TripAdvisor maintain that their proprietarty algorithm incorporates "Traveler Ratings, guidebook entries, newspaper articles and other web content into our popularity rankings existing classification schemes" (see Appendix B), this ranking appears incongruous. Both institutions have their relative merits and points of distinction but in this instances it would seem that TripAdvisor is comparing "apples with oranges." The algorithm that computes the popularity ranking scores on TripAdvisor has a homogenizing affect,

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rendering these two hotels not only similar and comparable, but also effectively configuring them as rivals.

A closer examination of the reviews relating to the ranking of these hotels, reveals some noticeable differences in the profile of travelers posting comments about their experiences (see Table 1). Most striking is the age range, with almost 70 percent of PubInn reviewers being over 50, while only a third of the reviewers for ManorHouse fall into this age group. Younger people are more likely to stay at ManorHouse (30 percent in the 18 to 34 range) than at PubInn (2.6%). This is not surprising given ManorHouse's emphasis on hosting wedding parties. Furthermore, a larger proportion of PubInn's reviewers are first time posters (61.1%) as compared to ManorHouse reviewers (31.1%), possibly reflecting the age distribution of reviewers (with younger travelers more likely to be frequent contributors of online content). It is notable that while ManorHouse lays emphasis on inhouse guest feedback cards, some institutions are more proactive and encourage customers to post TripAdvisor reviews.

Both the owner and hotel manager at ManorHouse were instead highly motivated and engaged by the AA rating criteria. The AA recognition scheme has achieved widespread adoption and legitimacy throughout the hospitality industry. Its evaluative performance of hospitality establishments has been normalized to be accepted practice and its standards seen to be appropriate. Many hoteliers share the views of the ManorHouse manager who regarded the AA rating as providing a more reliable source of organizational knowledge, for him

... the strength [of any feedback] should be the honesty of the guest who is either making or reading the review. That's the strength of it. But the strength starts to decay, if those reports are not honest reports. Good reviews, are those honest, as well? Are they genuinely submitted, as an honest report? The tone used, and the whole perception of these, has got to be based on, is it trustworthy? Is this a trustworthy setup?... The AA, those are the review standards which are more to be measured on. It's saying that, the general public has no bearing on that, they can't affect our status, as a four-star hotel...You know, but we've achieved the standards that are required for that status. That is undeniable.

The kind of reconfiguration of practices and possibilities accomplished by websites such as TripAdvisor has caused consternation among some hotel proprietors. When it comes to this competitive rivalry, as Sahlin-Andersson and Engwall note: "…it appears to be not so much the case of ideas flowing widely because they are so powerful, but rather, of ideas becoming powerful as they flow." Our core argument is that concepts such as competition are materially embedded in apparatus (Barad 2007: 143): [O]nly concepts defined by their specific embodiment as part of the material arrangement – which includes instrumentation (e.g., photographic plates, pointers, or digital readout devices) that marks definite values of the specifically defined properties and can be read by a human observer – are meaningful. That is, the larger material arrangement enacts a cut that resolves the inherent ontic-semantic indeterminacy through which the "subject" and the "object" emerge. Apparatus are the conditions of possibility for determinate boundaries and properties of objects and meanings of embodied concepts within phenomenon.

We will explore this proposition further with a detailed examination of the inclusion of TripAdvisor into the practices of hotel travel.

TripAdvisor as Apparatus

Using TripAdvisor simply involves typing an Internet address⁴ into a connected computer to go to the website, clicking on the hotel tab, and entering the name of a destination. TripAdvisor then lists the search results in order of "Traveller Recommendation" which is shown as a rating out of five accompanied by selected highlights from the reviews. If further details are required, the full reviews can be viewed detailing the experience of the person staying at the hotel. These vary in length from a sentence to a short essay and are written in a range of styles from clipped accounts of operational issues such as room cleanliness to intricate accounts of the hotel experience (particularly if it was the venue for a wedding). The postings can be multi-media and include images which often prove highly revealing when they illustrate critical points in the review such as broken toilets or insect infestation.

Below are two typical TripAdvisor reviews, one negative and one positive:⁵

Booked a business class room for 4 days in May 2006. Asked for a quiet room and we got a room facing a construction site that starts work at 7am including Saturdays. In addition the room was very noisy at night as the clubs and bars nearby emptied out and drunken patrons staggered home, singing and yelling at all hours. The staff were not particularly sympathetic in helping to resolve the problem. In my opinion the stay was definitely not worth the expensive rate we paid.

In the past six months, we have stayed in 17 hotels and have been disappointed with the quality and value of accommodation of all of them. So, we thought we would try something different on our recent trip to Amsterdam – an apartment. We heard about Prinsenhuis and after reading some of the positive reviews on the TripAdvisor website we decided to give it a try. And we are so glad we did – it was by far the best accommodation experience we have ever had!!!

⁴ tripadvisor.com, tripadvisor.co.uk, tripadvisor.fr, tripadvisor.de, tripadvisor.es, tripadvisor.it, tripadvisor.jp, tripadvisor.in, daodao.com

⁵ In the interests of confidentiality, we do not quote from actual reviews on either ManorHouse or PubInn.

Many people use TripAdvisor without ever posting a review. Writing a review of a hotel is part of a holistic travel practice for most people. As many authors have noted, travel is not simply about moving from a to b with a rest in-between, but the experience is bound up in a project of biography that is itself embedded in societal norms and a sense of individual aspirations. Although TripAdvisor does designate a minority of users "Destination Experts" in recognition of their regular and recommended contributions to the site, for the majority using a website such as TripAdvisor is a means to an end.

Engagement with AA guide books or Web 2.0 sites pattern practice; we are "using particular things in a certain way" as the practice theorist, Reckwitz (2002: 252-253) notes. Most of the time that people check a hotel on TripAdvisor, they do so without giving TripAdvisor itself much thought because the purposefulness of their travel habits overcome any interest in apparatus involved. The website becomes like the stick for the person in the dark room described by Bohr. But just as the stick has a defining influence, so TripAdvisor configures the nature of knowledge production that takes place. From this perspective: "apparatus are not assemblages of humans and nonhumans; they are open-ended practices involving specific intra-actions of humans and nonhumans" (Barad 2007: 171-172). This intra-action produces differences that matter, some things are included while others are excluded. Relations of accountability are redrawn.

In practice, the sociomaterial arrangements characterizing TripAdvisor's rating engine gives the hotels in our research particular standing. Criteria that have been valued in the past, such as class of accommodation or particular types of facilities and services, are excluded. TripAdvisor's rating system creates a particular determinacy within the phenomenon where there had been uncertainty. Like the AA, TripAdvisor produces physical symbols scoring the hotel out of five. However, unlike the AA, TripAdvisor's ratings are temporally sensitive, continually reconfigured, personal, and based upon relatively unregulated content.

In this reconfiguring of the phenomenon, hoteliers feel helpless. For a long time, the PubInn's listing on TripAdvisor mistakenly featured a photograph of an airport hotel forecourt. As the hotel manager says below, they found it hard to get this photo replaced with one showing their quaint country Inn:

The TripAdvisor problem is very annoying... as you can't actually ring them it is becoming increasingly difficult to solve the situation. It is the link to our page on their website which is incorrect, so this is something which they need to sort out. ... I have sent emails and [a TripAdvisor representative] said the photos could be changed by us and I was like "No, that isn't the problem." But when you go onto

their help section it is very confusing and when you email them you get no reply, etc., etc., etc.

Returning to the example of a negative review shown above, the majority of issues raised in it are ones over which hoteliers have little direct control (the time that the construction site begins work; drunks from nearby pubs making noise in the road outside). This highlights the highly personal, situated performance of both hosting and being a guest. When problems arise during a guest's stay, their resolution is not generally achieved by instrumental or mechanical means at the click of an icon alone, it is a matter of intra-action: dependent on intense inter-personality experiences, often requiring the reconfiguration of materiality (mending, fixing), and the re-making of boundaries (taking an item off the bill, a future discount).

Ethical questions of fairness and honesty were regularly raised in our interviews. One of our interviewees explained:

There's a bigger issue that worries me I guess, [and it's] the issue regarding knowledge. I have a suspicion regarding these user-generated content travel sites there's an issue of the reality, and an issue of what are people's perceptions. TripAdvisor's answer is "Well, you know, with hundreds of reviews out there, if someone's putting five or six phony reviews, it's not going to affect things very much." Well, there's a couple flaws in that logic. You know, except for obviously the main hotels ... it'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. ... The vast majority of people will rate things pretty good. So 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 other thing I was going to say regarding this is an issue called skewing. I don't know exactly how the rating system works on Trip Advisor, but the issue is context. So, for example, if you are a budget traveler, you've got, you know, $\pounds 65$ to spend and you've been to $\pounds 65$ hotels in the past, and this is the best $\pounds 65$ hotel you've stayed at. It may have nothing like what a $\pounds 240$ hotel has in it, but from your point view it is great. ... I suspect the issue has a lot to do with the different people's perception of what they're comparing your hotel against. Maybe this was a budget hotel, but boy, that the best budget hotel I ever was in. It doesn't mean it's a better hotel than this other one is. It just means that there's no way to say what are you comparing it against. What is the frame of reference? And so I think that is a concern.

While the AA hotel rating focuses on operational issues and standardized assessments of certain types of facilities, services, and levels of cleanliness, etc., the reviews on TripAdvisor reflect individual users' personalized and situated experiences of the hotel. While the TripAdvisor requests input on certain categories such as "Value", "Rooms", "Service", "Location" and "Cleanliness", the meaning of these is undefined and reviewers interpret these in their own way. Most of the reviews offer sometimes quite detailed descriptions and evocative accounts of the reviewers' particular experiences at the hotel and what they liked and didn't.

Although some hoteliers are proactive in their use of the Internet, it is not uncommon for small business people to be too busy to gather the necessary resources (whether that be skills or time) to equip themselves for engagement with the dynamic culture of Web 2.0 in general, and TripAdvisor in particular. Indeed, there was a sense among hoteliers that somehow the user travel reviews were set, static and when negative, ultimately damming.

Hotel manager: "Those reviews are there....It is on there for life.

Interviewer: And you don't feel you can respond.

Hotel manager: No."

Interviewer: You don't feel it's appropriate?

Hotel Manager: I don't think it's appropriate. All you do is open yourself up to "Yes, I do" and a "No, I didn't" battle. But those opinions, which I consider to be too subjective, are on that website, for life. Forever, they're going to be on there, for anybody who wishes to see them. ... If a report is contentious, then there should be a way [for] the hotel to speak to it: "Look, I'm sorry, this report is not helpful. Not helpful, not only to me, but also not helpful to other readers of TripAdvisor. Take it off." But no, ... I can place the response. That's all I can do... It is very difficult to get them to take a review off.

The hoteliers we interviewed declined to respond online to the travel reviews posted on TripAdvisor, indicating that this would merely 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. They appeared to prefer a form of feedback that was more controlled and less public. For example, ManorHouse has traditionally solicited input from feedback cards placed in guest rooms and they have found these quite useful, as on of our interviewees noted: "From my own point of view, we probably get more feedback [from the cards than from TripAdvisor] because we get 20 or 30 a month of our own."

As was evident in our content analysis of the written reviews, language is very much part of the sociomaterial apparatus at work. Rather than being treated as static text, the reviews need to be given textuality. In other words — as with the person and the stick — when engaging with TripAdvisor, there is a relationship between the way that a review is written and the nature of the knowledge produced. The written review should not be treated as a mirror of a fixed reality but part of the organizing texture of knowledge production. The review is a window into the world of the person writing it. Frequently users of TripAdvisor project identities onto reviewers and decide only to take account of those posted by people with whom they can relate (Keates 2007). The apparatus of knowledge production in the AA scheme and TripAdvisor produces subtle differences in the nature of the knowledge. The AA scheme emerged out of a long and close relationship between hoteliers and inspectors who pride themselves on expertise relating to operational issues and types of facilities. Intra-action in the context of TripAdvisor re-draws boundaries to encompass multiple personal situated accounts that pull us into the experiential phenomena of travel.

Implications

Analyzing social media phenomena through the lens of sociomateriality gives us a different perspective from conventional approaches that view technology as a passive mediator or discrete entity. The notion of apparatus as an open-ended boundary-making practice highlights how social media are not neutral pipes through which knowledge is delivered but integrally and materially part of knowledge production. This alternative view helps us to understand how social media is entangled in the everyday practices of hoteliers and travellers. The focus on sociomateriality affords a view on (trans)forming organizational knowledge, processes of codification and the legislation of practices. In their quest to arrive at quantifiable measures, management information systems have tended to depersonalize as they aggregate data. In contrast, as we see here, social media appear to amplify the personal in their quest for collective knowledge production.

Looking up a TripAdvisor review for a hotel, we are reading *through* TripAdvisor. We are intra-acting, diffracting and enacting a different agential cut with regard to the phenomena associated with travelling. Integrating TripAdvisor into traveller practices produces differences which have implications for inclusion and exclusion, and thus for issues of fairness. There is recognition among TripAdvisor's management team that this algorithm reconfigures the phenomenon that is made available, and that this "has a material effect on their businesses." Nevertheless, the proprietary algorithm that is core to TripAdvisor is neither open nor subject to public scrutiny. In the past, hoteliers received private feedback from their guest on feedback forms, but through the knowledge practices of TripAdvisor, hoteliers are now digitally exposed. This adds to the hoteliers' sense of "unfairness" and is somewhat ironic when we consider the charges of ratings manipulations that have been leveled at TripAdvisor (Kelly, 2009). Only if reviews can be proven to be fraudulent, can hoteliers request that they be removed. The boundary between the hotelier and travellers' opinions used to be indeterminate. The hotelier provided a context in which travellers created their own moment in a special place, a unique experience that they would take away with them as a personal memory shared only with friends, family and colleagues. Feedback requests were on the hotel's own questionnaires and handed directly to reception. Trip Advisor affords travelers an opportunity to publicly distribute what would previously have remained their own private sense of value. But it also obscures, as there is no regulatory process through which reviews are produced. There is content management but not content assurance. The phenomenon of user-generated content is thus involved in redrawing relations of accountability. Studies such as this provide insights into these relations as they are worked out in practice.

Unlike institutionalized hotel recognition schemes, TripAdvisor reviews and ratings do not relate to professionally standardized measures. However, TripAdvisor gives the subjective content of their reviews and ratings, a determinacy and reach they would not otherwise achieve. It is this reconfiguration that has challenged the hoteliers' primacy and control.

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Table 1: Comparison of Reviews Posted for ManorHouse and PubInn on TripAdvisor:April 15, 2009

Postings by Year	2003	2004	2005	2006	2007	2008	2009
ManorHouse	1.9%	11.5%	13.5%	9.6%	9.6%	40.4%	13.5%
PubInn	1.7%	0.0%	0.0%	20.7%	41.4%	25.9%	10.3%
Locations	UK	USA/Canada	Europe	MiddleEast	Australia		
ManorHouse	71.7%	26.1%	2.2%	0.0%	0.0%		
PubInn	80.4%	12.5%	3.6%	1.8%	1.8%		
Age Ranges	18-24	25-34	35-49	50-64	65+		
ManorHouse	3.3%	26.7%	36.7%	33.3%	0.0%		
PubInn	0.0%	2.6%	28.2%	61.5%	7.7%		
First Postings	Y	Ν					
ManorHouse	31.1%	68.9%					

PubInn 61.1% 33.9%

Appendix A: Automobile Association Accommodation Standards Star ratings

Star ratings, from one to five, show the standard of quality for hotels and guest accommodation. The following brief summary gives the main standards within their ratings. (Source: http://www.theaa.com/travel/accommodation_restaurants_grading.html)

Star Rating	Hotel	Guest Accommodation			
*	Courteous staff provide an informal yet competent service. The majority of rooms are en suite, and a designated eating area serves breakfast daily and dinner most evenings.	Minimum quality requirements for cleanliness, maintenance, hospitality, facilities and services. A cooked or substantial continental breakfast is served in a dining room or eating area, or bedroom only.			
**	All rooms are en suite or have private facilities. A restaurant or dining room serves breakfast daily and dinner most evenings.	Courteous service, well-maintained beds, and breakfast prepared with a good level of care.			
***	Staff are smartly and professionally presented. All rooms are en suite, and the restaurant or dining room is open to residents and non-residents.	Friendly welcome, and good-quality, well- presented beds and furniture. A choice of good-quality, freshly cooked food is available at breakfast.			
****	Professional, uniformed staff respond to your needs or requests, and there usually are well-appointed public areas. The restaurant or dining room is open to residents and non-residents, and lunch is available in a designated eating area.	Attentive, more personalised service. At least half of the bedrooms are en suite or have private bathrooms (from 1 Jan 2008). Very good beds and high quality furniture. Breakfast offers a greater choice, and fresh ingredients are cooked and presented with a high level of care.			
** * **	Luxurious accommodation and public areas, with a range of extra facilities and a multilingual service available. Guests are greeted at the hotel entrance. High quality menu and wine list.	Awareness of each guest's needs with nothing being too much trouble. All bedrooms are en suite or have a private bathroom (from 1 January 2008). Excellent quality beds and furnishings. Breakfast includes specials/home-made items, high quality ingredients, and fresh local produce.			

Appendix B: TripAdvisor Popularity Index

(Source: http://www.tripadvisor.com/help/how_does_the_popularity_index_work)

The TripAdvisor Popularity Index incorporates Traveler Ratings, guidebook entries, newspaper articles and other web content to determine traveler satisfaction. Emphasis is placed on the most recent information. We calculate the Popularity Index using an algorithm that takes into account not only individual Traveler Ratings, but also opinions from other content sources on the web (such as guidebooks).

How do you know if a particular hotel is right for you? The room price may fit your budget, but are the rooms clean? Is the location safe? How is the service? TripAdvisor created the Popularity Index to help quickly answer those questions and lead you to the best accommodation for your trip. Unlike other sites that simply rank a hotel by price or hotel class, our Popularity Index truly reflects what real travelers like you are saying. By incorporating Traveler Ratings, guidebook entries, newspaper articles and other web content into our popularity rankings, TripAdvisor creates the most up-to-date and accurate list.

TripAdvisor's Popularity Index is:

Pure: Completely organic. No paid results influence rankings.

Fresh: Constantly incorporates new information.

Global: Reflects reviews from around the world.

Unbiased: Based on the good and the bad!

Helpful tip: Throughout our site, hotel listings are, by default, presented in the order calculated by our Popularity Index. This ensures that you will always be looking at a fresh and unbiased view of the best hotels.