Reconfiguring relations of accountability: Materialization of social media in the travel sector

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ABSTRACT

Expanding use of Web 2.0 technologies has generated complex information dynamics that are propelling organizations in unexpected directions, redrawing boundaries and shifting relationships. Using research on user-generated content, we examine online rating and ranking mechanisms and analyze how their performance reconfigures relations of accountability. Our specific interest is in the use of so-called "social media" such as TripAdvisor, where participant reviews are used to rank the popularity of services provided by the travel sector. Although ranking mechanisms are not new, they become "power-charged"—to use Donna Haraway's term—when enacted through Web 2.0 technologies. As such, they perform a substantial redistribution of accountability. We draw on data from an on-going field study of small businesses in a remote geographical area for whom TripAdvisor has changed 'the rules of the game,' and we explore the moral and strategic implication of this transformation.

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Introduction

As has been well documented by numerous scholars (Miller & Rose, 2008; Munro & Mouritsen, 1996; Neyland & Woolgar, 2002; Pentland, 2000; Power, 1994, 1996, 1997; Strathern, 2000), the recent decades have witnessed an explosion in demands for transparency and accountability, and the emergence of what Power (1997) calls the "audit society." As Willmott (1996, p. 24) notes, "Accountability is endemic to our lives. As human beings, we are continuously engaged in the activity of making sense of the world, including the sense of self in the world, by giving and receiving accounts." The consequences for organizations of this increased attention on indicators, evaluation, and performance is both considerable and controversial (Espeland & Sauder, 2007). On the one hand, evaluative measures and performance indicators can make organizations more accountable to their constituencies by rendering information about operations available and accessible. On the other hand, they can give rise to negative unintended consequences as scrutiny and surveillance intensifies and organizations become overly focused on metrics rather than on the qualities the metrics are intended to assess. In an era where more and more contexts are rendered "auditable" (Jeacle & Carter, 2009)—a process Pentland (2000) refers to as the "verification of everything"—how these different consequences play out and in what conditions is thus an important empirical question with significant salience for organizational practices. Drawing on the work of Roberts (1991, 2005), Miller (1996), Espeland and Sauder (2007), and Stark (2009a), we take up this question in the context of the travel sector, specifically from the point of view of hotels faced with the recent intensification of interest in online verification mechanisms.

The aim of this paper is to understand how accountability is performed online using social media websites. It is widely recognized that the World Wide Web can form a

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key part of processes that give local phenomena greater scale, scope and reach but this is where many studies end. We need to move beyond the hubris and speculation that surrounded the emergence of the web to examine empirical-founded implications and reconsider the boundaries of the debate. To this end, we move the discussion surrounding its consequences to include the material grounds of performed accountability.

The use of online verification mechanisms is a recent development, emerging out of the evolution over the past decade of so-called Web 2.0 technologies[1]—technologies that facilitate active participation in websites on the part of the users. These web technologies are in specific contrast to the prior Web 1.0 technologies, which facilitated largely one-way information publication and distribution with limited opportunities for user engagement and interaction. Web 2.0 technologies have also come to be known as "social media," highlighting their central distinguishing feature—the active creation of content by their users or members. A variety of social media websites have emerged and while these categories overlap, they highlight differences in the website's primary purpose: *content development* (e.g., websites such as Wikipedia and Digg), *networking* where members build and maintain relationships with friends or colleagues (e.g., websites such as Facebook and LinkedIn), and *common interest* where participants with similar interests can share ideas, views, and information (e.g., websites such as Epinions and TripAdvisor). Our focus on this paper is on the third type of social media, the common interest website.

A characteristic aspect of common interest social media websites is the active, online sharing of recommendations, reviews, and advice among users that assess and rank the quality of a range of products and services such as books (Amazon), movies (Netflix), home services (AngiesList), healthcare (PatientsLikeMe), teachers (RateMyProfessor), and many more. The novelty of these websites, as Dellarocas (2003, p. 1407) notes, is that they enable individuals to "make their personal thoughts, reactions and opinions easily accessible to the global community."

The convergence of increasing demands for accountability and transparency with the rise of social media and user-generated content creates a powerful combination. While public measures of performance and ranking mechanisms are not new, they become "power-charged"—to use Haraway's (1988) term—when enacted through Web 2.0 technologies. In this paper, we focus specifically on TripAdvisor[2] where members share tips and post reviews of travel destinations, which are then used by the website infrastructure to rank the popularity and quality of services provided by the travel sector. One of TripAdvisor's defining tag lines is "Get the truth, then go". We examine the production and entailments of TripAdvisor's "truth," and consider how the knowledge produced through the website's dynamic ranking mechanism performs a substantial redistribution of accountability. We conclude by discussing some of the implications of such a shift in accountability. Before turning

to the travel sector and the expanding use of online reviews, we first discuss accountability and why considerations of accountability have taken on such a particular resonance in the contemporary information age.

Accountability and ranking mechanisms

The rise of web content has been discussed in the Information Systems literature in multiple ways including "information accountability" (Weitzner et al., 2008) focusing on ethics of design, access controls, privacy, copyright enfringement, identify theft, intellectual property, and fair information use (Friedman, Kahn, & Borning, 2006; Introna, 2000; Mingers & Walsham, 2010; Nissenbaum, 1996). While these matters are crucially important, our emphasis in this paper is on a more encompassing notion of accountability (Miller, 1996; Roberts, 1991).

The past few decades have seen an escalation of interest in forms of accountability, both that of institutions and individuals (Munro & Mouritsen, 1996). Our interest in this paper is in institutional accountability, both how organizations are being held to account by various constituencies (e.g., publics, governments, clients, interest groups, etc.) and how they hold themselves to account in response. The starting point for our analysis is Robert's (1991) notion of accountability which he defines as "a social practice that seeks to reflect symbolically upon the practical interdependence of action, an interdependence that always has both moral and strategic dimensions" (p. 356). In line with critical scholarship in this area, this notion counters the presentation of accounting as a "neutral arbiter of organizational truth" (Roberts, 1991, p. 355) and re-conceptualizes it as a form of instrumentality closely bound up with forms of governance, institutional norms and social practices.

A number of scholars have written extensively about the implications of increased demands for accountability and transparency (Miller & Rose, 2008; Munro & Mouritsen, 1996; Pentland, 2000; Power, 1994, 1996; Strathern, 2000). Miller and Rose (2008, p. 213) note that we become tied to novel techniques of accountability through the inscription of particular standards, norms, and modes of calculation into everyday practices: "Contracts, targets, indicators, performance measures, monitoring and evaluation are used to govern [our] conduct while according [us] a certain autonomy of decisional power and responsibility for [our] actions." Espeland and Sauder (2007, p. 2) – who have examined the pervasive and invasive expansion of rating and ranking mechanisms within professional law schools – write: "The growing use of quantitative indicators has transformed the meaning of accountability…Where accountability once included many different practices, making institutions accountable now usually means making them "auditable," which often involves devising indicators to measure performance." To this end, as they subsequently note (Sauder & Espeland, 2009, p. 64):

Accountability has become an expansive and elastic term for transparency, improving decision making, containing bias, and enhancing productivity. Audits, assessments,

measurement-driven instruction, management by objective, new public management, total quality management, risk assessment, clinical guidelines, and best practices are a few of the strategies devised for achieving accountability. All rely on performance measures such as service statistics, indicators, standardized test scores, score cards, ratings, cost–benefit ratios, and rankings.

One of the most remarkable achievements of these transformative interventions is that they link indicators, outcomes, and actions to particular objectives in such a way that practices become governed "at a distance" (Miller & Rose, 2008). The capacity and authority of such public measures to travel in this way is in part due to their operationalization as standards, matrices, and schema. Willmott (1996, p. 28) notes "Giving an account is a political act because it either confirms or unsettles whatever happens to be taken for granted as the world of normal appearances. In doing so, processes of accountability contribute to the continuation or disruption of the practices that they serve to sustain."

The capacity of accounts to govern at a distance was powerfully argued by Foucault (1979) in his explication of "disciplinary power" and the "penalty of the norm." As Covaleski, Dirsmith, Heian, and Samuel (1998, p. 296) explain:

> First, normalization requires that individual action be situated within a larger whole that provides the framework for ordering and arranging individual actions in relation to a norm or standard. Second, this norm or standard, which is also thereby normative, is stipulated as either a minimum threshold to be cleared, an average to be matched, or an optimum to be achieved and thereby permits a comparison and differentiation of individuals. Third, normalization produces hierarchies of differentiation by means of quantitative measurements and rankings. These rankings not only establish the fact of individual differences but also impose a value on them. Fourth, by factually evaluating individuals, the schema of the norm also specifies the adjustments and corrections that are necessary for those who fall away from the norm, thereby targeting them for programs of normalization. Hence, the action of the norm introduces homogeneity by situating the individual within a comparable grouping but also measures individual differences so that the individual is both the product of the norm and the target of normalization.

Sauder and Espeland (2009, p. 64) similarly draw on Foucault's notion of disciplinary power to make sense of institutional responses to ranking mechanisms. They show that through surveillance and normalization, rankings shape the institutional practices of law schools, changing actors' perceptions, expectations, decisions, and actions:

> Analyzing rankings as a form of disciplinary power reveals that rankings, through processes of surveillance and normalization, change how internal and external constituencies think about the field of legal education. These new understandings of legal education, in turn, encourage schools to self-impose the discipline that rankings foster. Rankings also offer external audiences

a means for compelling law schools to meet their demands. Rankings change perceptions of legal education through incentives that are simultaneously seductive and coercive.

Rankings disseminate knowledge about institutions but they also influence them. As Sauder and Espeland (2009, p. 74) argue: "The type of visibility that disciplinary processes confer shapes the kinds of interventions that seem possible or valuable."

Willmott (1996, p. 25) notes "Processes of accountability and their outcomes are invariably subject to interpretation and negotiation; they are never wholly predetermined." However, such processes are strongly shaped by the materiality of the metrics, calculations, and techniques that are enrolled in producing particular forms of accountability. Most discussions of accountability tend to mute discussions of the role of materiality in shaping accountability. In the online world of social media, such materiality is particularly salient, as the design of Web 2.0 technology creates the possibilities for millions of distributed actors to contribute anonymous reviews and ratings within a single aggregated website.

A number of scholars have begun to examine the role and implications of online review mechanisms within social media websites (Jeacle & Carter, 2009, 2011; Pinch & Kesler, 2011; Shay & Pinch, 2006). A novel aspect of the Web 2.0 materiality evident on these websites is that actors' distributed contributions are continuously integrated into the websites' databases, and immediately reflected through the performance of algorithms within the dynamic knowledge being produced about the product or service under review. Thus, the visibility afforded by the disciplinary processes of ranking are strongly magnified in the context of social media websites, in that they both expand the reach of rankings information (these websites are global) and the speed with which ranking information is produced and updated (these websites are available 24/7 and users are making contributions continually). Such effects were much in evidence in our consideration of the TripAdvisor social media website and the online reviews and rankings that it performs.

The travel sector and TripAdvisor

Tourism is one of the largest industries in the world (Urry, 2003) accounting for 9.3% of world GDP, 9.2% of total investment and 8.1% of employment. In 2010, there were 930 million tourists globally.[3] Online rating/ranking sites join a plurality of verification methods that have evolved over time in the travel sector. Whether manifest as formal feedback in hotel guestbooks and comment cards, a travelogue or informal word-of-mouth recommendation, reflexivity has always been integral to travel. The rise of the independent traveller, arguably fuelled by budget airlines, has flooded a marketplace previously dominated by travel conglomerates using official brochures and high street intermediaries with choices (Jeacle & Carter, 2009). This has

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[3] http://www.unwto.org/media/news/en/press_det.php?id=6961&idioma=E.

intensified the need for information from both traditional channels (e.g., newspapers, magazines, guidebooks, alternative travel guides, word-of-mouth) and the web.

The web has started playing an increasingly central role in the travel planning process of travellers (O'Connor, 2008). According to the Pew Internet and American Life project (2005),[4] searching for travel-related information is now one of the most popular online activities, and travel reviews by users, rather than experts, are particularly popular. Sites such as Travelocity, 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 accommodation quality and satisfaction. While the emergence of online bulletin boards, hotel/resort websites and e-mail has facilitated widespread communication, it is the development of user-generated content that has purportedly changed 'the rules of the game'. This is because the growth of user-generated content on travel sites is significantly influencing traveller decision-making and behavior.

Analysts estimate that online reviews influence over $10 billion a year in online travel purchases (Vermeulen & Seegers, 2009). 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 & Price, 2007). Furthermore, the majority of 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. In a study of electronic word-of-mouth reviews, participants perceived traveller reviews to be less biased and easier to relate to than professional reviews (Bickart & Schindler, 2001). The impact of such user-generated reviews on hoteliers is thus significant. Research by Vermeulen and Seegers (2009, p. 126) of users of online travel websites recently found that "exposure to an online hotel review improves the average probability for consumers to consider booking a room in the reviewed hotel," and that these effects are stronger for hotels that are less well known.

TripAdvisor claims to be the largest online travel community in the world, acting as repository for more than 45 million user reviews and opinions about approximately 1+ million hotels, restaurants, and venues, contributed by over 40 million unique visitors per month. To put this traffic in context, the travel publisher Frommer's sells about 2.5 million travel guidebooks each year. TripAdvisor was founded in 2000 with a mission to "Help travellers around the world plan and have the perfect trip." Its growth has been rapid, and by 2011 TripAdvisor is operating sites for 27 countries and making its content available in over 18 languages.

TripAdvisor has won a series of accolades recognizing its growing significance in the travel sector. For example, in 2007 it was named one of the "Top 25 Travel Milestones" by USA Today, and was cited for being instrumental in changing the way in which consumers research travel (O'Connor, 2008). In 2009, it won the US Travel Association "Innovator of the Year" award, designed to honor companies whose innovations have had a dramatic impact on the larger travel landscape.

Using TripAdvisor simply involves typing an Internet address[5] 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 which describe the experiences recounted by 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 and staff responsiveness to intricate accounts of the accommodation and entertainment (restaurants, sporting facilities, etc.) experience (particularly if the hotel was the venue for a wedding or family vacation). The postings can be multi-media and include traveller images that often prove highly revealing when they illustrate critical points that have been discussed in the review, such as ugly views, broken toilets, or insect infestation.

For the majority of users using a website such as TripAdvisor, it is a means to an end. Many people use TripAdvisor without ever posting a review. Gretzel, Fesenmaier, and Lee (2010, p. 176) find that only 13% of people who have used online travel websites have posted their own reviews. For those travellers who do contribute content to TripAdvisor, writing a review of a hotel is part of a holistic travel practice. 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. TripAdvisor notes the number of contributions provided by members through status indicators attached to their profiles; for example, white stars, green stars, and gold stars are placed next to members' pseudonyms. Other users may click and award votes to indicate particularly "helpful" reviews which then appear as a running total next to a rosette symbol as well as being collated and displayed on the members' personal "Contribution" profile.

TripAdvisor and online accountability

As part of a larger study of the implications of social media within organizations, we are exploring the role and influence of TripAdvisor reviews on the practices of hoteliers. Our data collection is based upon 3 years of systematic fieldwork including interviews, observations, documents (both print and online), and TripAdvisor reviews, one phase of which has focused on the hotels within a specific rural region of the UK.[6] We draw on these data to

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[4] http://www.pewinternet.org/reports/2005/How-the-internet–has-woven-itself-into-American-life.aspx.

[5] For example, tripadvisor.com, tripadvisor.co.uk, tripadvisor.fr, tripadvisor.jp, tripadvisor.in, daodao.com.

[6] All identifying information about the region and the specific hotels discussed here has been altered to preserve confidentiality.

examine how the TripAdvisor website and the travellers and hoteliers who interact with it enact forms of online accountability that have significant implications for hoteliers' practices and outcomes.

Locating practices: rural region and Villageinn

The government tourist agency responsible for the area in our study rolls out a lyrical description of it as a "magical place filled with ancient castles, golden sand beaches, rolling hills, rugged moorland and friendly little market towns."[7] However, a review of the regional economy strategy recalls the challenges that this part of the UK faces: the decline of heavy industry and struggle to respond to opportunities associated with globalization mean that there is a significant productivity gap with the rest of the country. Economic growth and business survival rates tend to be well below the UK average.[8] In this context, the "visitor economy" associated with tourism and hospitality assumes considerable importance accounting for approximately £4 billion of annual expenditure in the regional economy (equating to nearly 5% of the region's GVA) and directly supporting around 5% of regional employment.

> The visitor economy generates additional consumer spend in the region and is a powerful catalyst for economic regeneration and investment in place, wealth and employment creation and provides access to a wide range of employment opportunities. It contributes to vibrancy and a sense of place, pride and regional distinctiveness.

Regional government development agencies attempt to support the travel and hospitality sector by offering advice to small local business. In their outreach documents,[9] they encourage those offering accommodation and services to recognize the "Greater importance of online consumer reviews and social networking as sources of information" (p. 5). More specifically, they note (p. 23):

> In the rapidly changing environment of information and communication technologies, new media will have an increasingly important role to play, facilitating electronic distribution of dynamic information and booking opportunities, with GPS-based mapping and searching as a critical new element.

Global Positioning Systems assume particular relevance for this area because many small hotels are in remote, rural locations. In the past, guests have discovered them by accident as they travelled, by word-of-mouth, or from official published guidebooks. However, many of these small hotels were not listed in formal guidebooks, and only a few would appear in specialized or niche guidebooks such as those produced by Arthur Eperon and Alistair Sawday. Thus for some small hotels, the advent of social media such

as TripAdvisor has quite literally put them "on the map." We discuss this phenomenon in practice through an account of one of these small hotels – VillageInn – that has been ranked number one on TripAdvisor in the Rural Region for the past 3 years.

VillageInn is a small, family-run hotel located in a National Park that covers most of the region. It attracts tourists (predominantly aged 50+) interested in the area's natural beauty and heritage sites. Reviewer profiles suggest that over 70% of this hotel's reviews are contributed by travellers in the 50+ age range. As you walk over the threshold of VillageInn, you see the date 1747 carved into one of the horizontal beams locating the original farmhouse that forms the keystone of VillageInn. The main building of the former working farm was converted; first, into a 'coaching inn' and finally in the mid-1960s into a hotel. Guests have told the proprietor that driving along the narrow roads to the hotel is like "stepping back 60 years...it is possible to drive for half-a-day down twisting country roads without seeing another vehicle, apart from the odd tractor or forestry lorry."

The current owners, a British couple, had previously run an award-winning suburban pub. They bought VillageInn in 2005, seeking a quieter life and the opportunity to expand their skills as innkeepers into guest accommodation. They found a modest business and accommodation that was described by one former guest as "locked in the seventies" (TripAdvisor review). Over the course of the next year, VillageInn was completely refurbished and won four-star accreditation from the regional tourist agency. It now has 17 guest rooms for which it charges between £90 and £125 per night.

At the end of the summer in 2006, while customizing direct booking software on the business computer system, the owners discovered TripAdvisor:

> We had never heard of TripAdvisor, we had been here a year and a half. It was purely by accident that we came across it...Obviously, when you are new to the accommodation and hospitality industry you don't think about it. You think you have got to get into all the books and everything else...As a result of going online, and checking sites that we should be on, I came across TripAdvisor and suddenly found that we had people making comments about us...

An analysis of VillageInn's TripAdvisor reviews reveals that prior to the current proprietors taking ownership, there had only been one review in 2003. After this, there is a gap of 3 years before further reviews begin appearing, many of which make explicit reference to the changes that have been made by "new management." Reviewer profiles suggest that about one third of these early reviews were written by travellers from the United States. One of the owners recalls lively discussions about reviews and the process of reviewing hotels: "There were quite a few Americans that first year and I think that's what made us aware of TripAdvisor." The owners said that at this time, mid-2006, VillageInn was ranked "about third or fourth" in the region. As the owner acknowledges, in many regards, the refurbishment of VillageInn and the rise of TripAdvisor coincided:

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[7] http://www.visitRuralRegion.com/ [website name altered].

[8] In 2000, this region attained only 81% of the European Union GDP average – one of the lowest in the UK. http://www.Ruralregion.co.uk/res_action_plan.cfm [website name altered].

[9] Rural Region Visitor Economy Strategy 2010–2020: Consultation Draft. December, 2009.

The TripAdvisor Popularity Index incorporates Traveler Ratings to determine traveler satisfaction. Emphasis is placed on the most recent information. We calculate the Popularity Index using an algorithm.

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 questions like these 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.

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.

Fig. 1. TripAdvisor Popularity Index. *Source*: http://www.tripadvisor.com/help/how_does_the_popularity_index_work.

The point is, that I think TripAdvisor itself has only really achieved the prominence that it has now in the last eighteen months. It is spreading among guests.

By 2007, the major works on the property were completed and VillageInn management began to actively market it. An email was sent to clients from their previous establishment, a pub. Local newspapers and magazines were courted to achieve a higher profile. A guide book specializing in "small, independent guest accommodation with character" listed them and their efforts to "go green" were recognized by accreditation schemes. As part of this push, a brochure explaining what TripAdvisor was and how to post a review was placed next to the "Guestbook" in the reception area of the hotel lobby.

We managed to achieve the top position in [Rural Region] and I think then we were happy to encourage anybody to make whatever comments they wanted to, which is what they did. Luckily the majority are favourable.

TripAdvisor does not reveal the details of its ranking logic that produces the so-called Popularity Index for each hotel. Pages on the TripAdvisor website note that this index "incorporates Traveler Ratings to determine traveler satisfaction".[10] Indeed, TripAdvisor further touts the unbiased and objective nature of this ranking scheme (see Fig. 1 for a description of the Popularity Index). Having achieved a ranking of the number one local accommodation on TripAdvisor's Popularity Index, VillageInn owners incorporated this position explicitly in their advertising. In their newly designed VillageInn website, they placed a TripAdvisor "badge" ("Bravo"—VillageInn hotel ranked excellent by 70 travellers—TripAdvisor") on their

home page and a "button" ("Click to rate") known as a widget which redirects the webpage to TripAdvisor. Both were provided by TripAdvisor support services. The reservations manager said that during summer 2008, 70% of guests who stayed at VillageInn said they had found it on TripAdvisor. The owners estimate that their TripAdvisor status has encouraged:

...probably 20–30% more people than would have come. So it is quite a massive amount for something as new as TripAdvisor...we have seen a massive increase in TripAdvisor 'watchers' in the last year [2009].

The number of TripAdvisor reviews for VillageInn increased rapidly in the period 2007–2009. By early 2010, VillageInn had accumulated 88 reviews, 17% more than the hotel ranked as number two on TripAdvisor and 84% more than number 10. An independent business analysis reveals that VillageInn revenues increased by ninefold in the 3 years since the new owners assumed control.

Responding to reviews: sifting, interpreting, materializing

Historically, accounts of travel took the form of letters, journal and guides shared among wealthy travellers from the mid-16th century to the early 19th century (Towner, 1984). These began to be systematized in precursors to the modern travel guide, such as the *Murray Handbooks for Travellers* (estab. 1836), which included detailed descriptions of locations, accommodations, prices, suggested itineraries as well as tips for travellers. At the turn of the 20th century, accreditation schemes for rating hotels developed hand-in-hand with the rise of automobile touring clubs including The Automobile Association (AA) and the Royal Automobile Club (RAC) in the UK. Publications that the AA produced were part of a larger market that included formal as well as more specialized, niche and

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[10] http://www.tripadvisor.com/help/how_does_the_popularity_index_work.

semi-formal travel guides (e.g. *Baedeker*, *Michelin*, *Fodor*, *Eperon*, *Lonely Planet*, and *Rough Guide*).

The process of ranking and rating in the tourism and hospitality sector has been the preserve of organizations such as national tourist boards, accreditation bodies and travel guides. Formal rating systems focus on operational issues and standardized assessments of certain types of facilities, services, and levels of cleanliness. A team of trained staff from these organizations visit each hotel, conduct inspections, and align their verdict with a regularly benchmarked, internationally coordinated formal standards system. The sum of these investigations is updated and published once every 12–18 months as a guidebook linked to one of these formal bodies whose editorial reputation rests on an obligation to maintain accuracy. Hotels are accustomed to occasionally receiving the personal, if not idiosyncratic, opinions of guests but this has usually been delivered on an individual basis: face-to-face, on comment cards, in a guestbook that sits in the hotel's lobby, or via a private letter to the manager. In these circumstances, the hotel manager can largely contain a situation or negotiate a directly managed outcome.

In contrast, the reviews on TripAdvisor can appear within 24 h of the visit providing a rapidly updating, permanent register of opinions based upon guest experience. These reflect individual users' personalized and situated experience of the hotel. While TripAdvisor requests reviewers to give 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. When this requires adding a different kind of yoghurt to the breakfast buffet or fixing something in a room, providing a material response to a guest review is relatively straightforward. However, guest experiences go beyond discrete concrete recommendations to offer critiques of a range of hospitality practices, for example staffing of the front desk, housekeeping courtesies, and decor.

Faced by a flood of publically available feedback, many hoteliers have been unsure how to interpret or respond to reviews on TripAdvisor. As the VillageInn owner noted:

> Some people are very wary…because they don't like honesty [chuckles] they like to live in their own little dream world where they are doing it perfectly when they are not, they are doing it rubbish.

Transparency can have both positive and negative consequences for all concerned. The owner of VillageInn describes how he incorporates user-generated-content within his hotel's internal staff training and development:

> We use TripAdvisor more than anything else. We review it every week. At our management meeting, we go through everything. It keeps them *on the spot*. It really does. When people say the room was spotless or this, that and the other, you can only congratulate the housekeeping staff for maintaining that quality… It keeps them on their toes, all the time because they

are all terrified of a bad review and it really hits hard if there is a review that isn't five stars…This is *immediate*, 24 h after somebody has gone they are on the website, they are putting in a review. So, the response is immediate and it is *good* because it actually draws your attention to something you might have missed. That is the beauty of it. When I say it is immediate, the review although it may not be to exacting standards with every reviewer because it is subjective, it brings your attention to anything you are falling down on which is more important…people always perform better if they are being observed, don't they? If they *know* the customers have a *way* of expressing their dissatisfaction, they *are* less likely to be impatient. They are less likely, if they are having a bad day, to let it come through onto the front desk or into the bar. So we do maintain a very good all around relaxed atmosphere because they know if they don't…because I show them the sites that do get bad reviews for things like that. You know, 'Hotel was beautiful but the receptionist was *really rude.*' You know, I say, 'You don't want that to be *you*, do you?' So other reviews of other places are used as well: 'Just take a look at *that*, I don't want to see that on our review board. Just read it!' And you can see them going 'Hmm, yeah, uh huh, hmm. I've been close to doing that.'

In addition, we have found hoteliers pinning printed versions of their reviews on notice boards at the hotel to praise or shame staff members and other hoteliers report using TripAdvisor reviews in their formal staff appraisals.

Hoteliers can attempt to manage the external interpretation of reviews by using a facility on TripAdvisor that allows them to post a response to reviews. However, some participants in our study declined to do so on the basis that TripAdvisor is "By travellers, for travellers – we have our website, this is their site." Others don't reply because they "don't want to be seen to backbite or get into a potentially damaging He-said-this, She-said-that fight." Hoteliers described a sense of losing control and most expressed anxiety about how travellers would interpret reviews: does one bad review mean that travellers wouldn't chance a visit? To what degree are travellers willing to accept that even in the hospitality sector, staff can 'have a bad day'? If the majority of reviews are posted by a particular demographic market, does that help or hinder business development? If a guest's point of reference for evaluating a hotel is different from their target market will the hotel be judged fairly? As the owner of a small hotel in the region noted:

> I don't know exactly how the rating system works on TripAdvisor, but the issue is context. So, for example, if you are a budget traveller, you've got, you know, £65 to spend and you've been to £65 hotels in the past, and this is the best £65 hotel you've stayed at. It may have nothing like what a £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 was 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 both travellers and hoteliers alike are still learning how they want to integrate user-generated content into their practices, one point is clear: receiving wholly negative reviews can be damning. In our study, a hotel in the same local area as VillageInn, but ranked at the opposite end of the scale, had only negative reviews. The TripAdvisor summary shows a thumbs-down symbol and text that reads: "100% of travellers do not recommend." Among the headlines of the reviews are the following:

> I just wanted to cry
> Fawlty Towers
> Worst value for money in England?
> Give it a miss!
> Worst hotel in UK
> Avoid!!!!!!!!!!!!!!!!!!!

And one extract from a particularly anguished review notes:

> After a long and tiring journey I ended up at the hotel from hell. Shabby, dirty, smelly. I sat in the room and could have cried. Collected my bags and walked out. *Note to self – remember to check TripAdvisor in future.* [emphasis added]

This traveller's *cri de coeur* demonstrates how and why TripAdvisor reviews are winning traveller confidence. Occupying a Grade II-listed property in a prominent location in the town, the local tourist office regularly directed visitors to this two-star hotel. In contrast, the photographs on TripAdvisor accompanying reviews for this hotel show a broken toilet pan, poor food service, and mounds of dust on the carpet illustrating the way in which those who provide guest accommodation are now being held to account. The consequences of this user-generated content are dynamically recalibrating the "visitor economy".

Processing reviews: problem reviews and fake reviews

TripAdvisor's logo – "*Get the Truth, then Go*" – is enticing for travellers who want to get beyond glossy hotel brochures, official websites or the fixed smiles encountered at some travel agencies. But the growing influence of TripAdvisor means that biased and fake reviews have created a whole new challenge for the managers/owners of guest accommodation (see McGrath & Keenan, 2007; Walsh & Swinford, 2006). At VillageInn, the owner has transitioned from surprise and curiosity when he first discovered TripAdvisor to the pragmatic position that:

> You have got to accept subjective judgement, as long as it is genuinely meant and so long as it is genuinely based on experience...If it is criticism, you take it. You usually know, at the back of your mind that there is an element of truth that you have got to look to and as long as you look at it that way, you'll get through it...I think you have to be prepared for negative comments because it is subjective. You can't argue it. What

I am concerned about...my biggest concern is bad reviews that are pure badness or malice and aren't necessarily based in fact.

Another small hotel owner in the same region 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 are a couple of flaws in that logic. You know, except for obviously the main hotels...it's not like you've got hundreds of reviews and 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 much lauded democratization of travel writing has certainly raised issues; a number of *cause celebre* cases have shaken confidence in TripAdvisor ranging from bogus reviews posted by journalists from *The Times* in London (Walsh & Swinford, 2006), and TripAdvisor's purge of fraudulent reviews from the Yasawa Island Resort and Spa in Fiji (Kelly, 2009). TripAdvisor has been criticized for failing to censor use of defamatory terms (e.g., racist, pervert, homophobe, and pedophile) used to describe hotel staff in some reviews (Starmer-Smith, 2010). There has even been a fictional listing for Schrute Farm, an agri-B&B ostensibly listed on TripAdvisor by Dwight Schrute from the NBC TV series *The Office*[11] which has over 800 reviews.

While TripAdvisor refuses to provide details of its fraud detection operations on the grounds that it "might offer potential offenders a roadmap to subvert our system,"[12] it assures its community that it has developed specialist quality assurance practices to identify suspicious reviews, screens all reviews posted, and uses software programmes designed to identify efforts to corrupt the system. These are apparently based upon the "language and usage patterns of reviewers" (McGrath & Keenan, 2007).

TripAdvisor maintains that content management takes place on a case-by-case basis, however if a listing has been found to contain fake reviews it is no longer eligible for inclusion in TripAdvisor's Travellers Choice awards, Top 10 lists, or press releases. In addition to this, as TripAdvisor warns, "a large red penalty notice, explaining that the property's reviews are suspicious may appear on the listing page" (see Fig. 2)[13]:

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[11] http://www.tripadvisor.com/Hotel_Review-g52842-d730099-Reviews-Schrute_Farms-Honesdale_Pocono_Mountains_Region_Pennsylvania.html.
[12] http://www.tripadvisor.com/help/how_does_TA_detect_fraud.
[13] http://www.tripadvisor.com/help/what_happens_if_a_property_has_fraudulent_reviews.

⚠ Message from TripAdvisor: TripAdvisor has reasonable cause to believe that either this property or individuals associated with the property may have attempted to manipulate our popularity index by interfering with the unbiased nature of our reviews. Please take this into consideration when researching your travel plans.
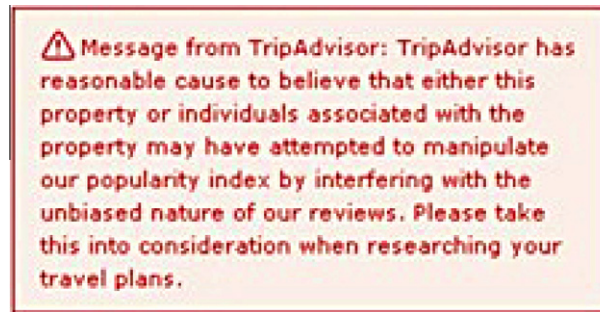
Fig. 2. Trip advisor disclaimer.

Subsequent reviews can contradict prior postings citing more recent, fairer, or more informed experiences, and interjections by TripAdvisor Destination Experts on Forums are relied upon to provide important 'course corrections' in the flow of reviews to mitigate idiosyncratic or harsh postings. TripAdvisor members can also report any reviews that they feel have inappropriate content, for example, if they contain personally insulting language or promote another hotel.[14] Staff members in TripAdvisor's Trade Relations group argue"[15]:

> [T]he community itself helps us detect and report fraud – reporting the ones that just don't sound right... The sheer volume of reviews on our site provides an additional safeguard. According to our research, the average traveller reads three pages of reviews when researching a hotel. The overall context provided by our extensive content gives travellers the ability to make an educated evaluation before they book/travel.

The hotel in our study, VillageInn had a two-star review in 2009 that they felt had 'inappropriate content' under the headline: 'This is also a restaurant but not a very good one'

> I have eaten [here] several times, it is local to my house. I keep going back to support it but I have given up now. The food is horrible, tasteless, in my opinion much of it is deep fried/frozen rubbish. If you must eat here, I would recommend mash potatoes/lamb/vegetables that sort of thing rather than chips and goujons. Better still go to the [other hotel] in [nearby village] or [another restaurant] in [nearby town].

While this review is not personally insulting, the owners felt that it was factually incorrect and found the recommendations to other hotels/restaurants suspicious. It also raises an issue relating to categorization; the review is posted on VillageInn's TripAdvisor guest accommodation entry but only refers to the restaurant and gives VillageInn the low rating of "one" for "Rooms" despite not being based upon an overnight visit. VillageInn's owner posted the following objection to the Owners' Center on the TripAdvisor website:

> We are huge supporters of TripAdvisor and use it as an essential element of staff training and as a marketing

tool. We accept that reviews are subjective and have always dealt with criticism by analysis and action where required. Hence, we are totally dismayed by this review which is not founded in fact: (a) we consider review of a room without evidence of a stay grossly unfair – the reviewer states they are local; (b) criticism of food while subjective is untrue – we only use local/seasonal and never 'frozen deep-fried rubbish'. Analysis of the reviewer reveals that they joined in January and have only reviewed two local restaurants, scathing to both. We consider this review malicious and being subjective we suspect there is another agenda. If the reviewer is genuine and would care to be in touch we would be happy to demonstrate the inaccuracies of their review.

The owner is unclear what TripAdvisor did next, but he next heard back from the actual reviewer of the problematic posting, who noted in a private message:

> To the owner from the contributor: How can something subjective be inaccurate? There is no hidden agenda. I am just a local who is incredibly unhappy about the general service and quality of food in [VillageInn] as well as most other local eating establishments. I shall not argue about whether or not you have recently served frozen food. I have removed the review for your peace of mind.

While, on this occasion, the traveller voluntarily removed the negative review, its appearance upset a previously excellent series of reviews, which brings the fragility of status on TripAdvisor into stark view. The nature and status of 'popularity ratings' rests in part with the online community, yet as the owner of VillageInn notes, "Most of the hoteliers around here...a lot of them aren't up to date enough to know that this is really where the future of marketing tourism is." Even if small businesses become aware of user-generated-content websites, there is a skills barrier. A relatively small number of those working in this sector have formal qualifications and IT literacy is low. As a regional economy policy document acknowledges[16]:

> [T]he growth of user review technology on sites such as TripAdvisor means that consumers do not just rely on

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[14] http://www.tripadvisor.com/help/why_might_a_review_be_flagged.
[15] http://beatofhawaii.com/tripadvisor-and-the-big-business-of-fake-reviews-part-2/#comments.

[16] Rural Region Visitor Economy Strategy 2010–2020: Consultation Draft. December, 2009, p. 34.

recognized accreditation schemes any longer...This provides an opportunity for the region's businesses to embrace, actively manage and respond to consumer opinion directly. But it also provides a challenge, as consumers will increasingly use a range of information to inform their holiday choices. There is a need to increase business awareness, skills and expertise to adapt to these changes... 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.

The staff in our VillageInn case study were fluent in the vocabulary of ranking and ratings with above average confidence in their IT skills, but their experience shows that this alone does not necessarily solve all the challenges associated with user-generated content sites. TripAdvisor may be relatively straightforward for travellers to use, but it has not proved so easy for small hotels to manage their content on the site. For a long time, the VillageInn'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, ...it's as though there is no one at the end of the email...I just find it strange for such a big company that they don't have kind of a help line or anything...There's no one to talk to even though they are such a big company.

Enacting dependence and fragility: "When monkeys climb poles"

Regardless of their frustrating experience with an erroneous link on TripAdvisor showing the forecourt of a generic airport hotel and the upset caused by what they regarded as an unfair review, the owners of VillageInn acknowledge that "Part of our success is down to TripAdvisor." The overwhelming majority of VillageInn's bookings – 90% – are now made through the Internet and they firmly believe that:

[TripAdvisor] is the only way forward, I'm afraid. I've virtually stopped advertising in tour books now and we are only going onto websites now.

This level of dependence raises some concerns. As we can see in an earlier quote, VillageInn's hotel manager shares with many of her peers the impression that TripAdvisor is "such a big company." In practice, TripAdvisor is a

relatively small organization with only 650 staff. The conviction that they are as large as IBM or Microsoft and therefore surely have a 24/7 helpline capable of personal service arises because of the disproportionate influence that TripAdvisor has on the sector. In a recent interview, Stephen Kaufer, Co-founder and current CEO of TripAdvisor spoke about the growing influence of his business (Livingstone, 2007, p. 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 travellers 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.

Staff at the VillageInn believe that their rapid business success is a reflection on their hospitality philosophy: 'Give people what they want!' However, the negative review that VillageInn received highlights the precariousness of ranking systems based on user-generated-content. The owner of VillageInn summed this up:

The higher the monkey goes, the more it shows its bottom. So if you are up there, you are there to be shot down as well. Do you know what I mean? You have got to take the beatings with the plaudits, haven't you? [laughs].

VillageInn have proudly displayed TripAdvisor logos and direct links to rating pages on their website but recognize that this could backfire:

We always have the current reviews from TripAdvisor on our webpage...we have actually used the tools from TripAdvisor on the front page...I haven't seen anybody else doing that and I think that is quite strange really. I would have thought they would have used them, but I suppose they don't really want to do it if they are not number one! Do you know what I mean? I've actually answered the question myself, haven't I? We'll use it because we are number one [laughs]!

It takes a relatively small number of negative reviews, particularly in highly competitive tourist destinations, to reconfigure the ranking order. Fake reviews are not the only kind of negative reviews that can be posted. Both hosting and being a guest are highly personal, situated performances dependent upon context. One of the key features of TripAdvisor reviews is their immediacy; some negative review raise issues over which hoteliers have little direct control (the time that the construction site near to the hotel begins work; drunks from neighborhood pubs making noise in the road outside). 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. TripAdvisor's status is also bound up with perceptions of its utility, which bloggers have noted could come crashing down making it vulnerable to the vagaries

of use "whose stability relies upon the continuous repro-duction of their meaning and usefulness in practice" (Suchman, 2002, p. 101).

Discussion

In this paper we have focused on how online account-ability is produced on social media websites. Stark (2009a) argues that the contemporaneous emergence of collaborative forms of organizing and interactive technolo-gies that characterize social media websites is highly sig-nificant. In the travel sector, user-generated content circumvents the previous traditional forms of offline accountability in which complaints would be predomi-nantly internal and dealt with through vertical lines of authority. However, the presumed shift to online forms of "distributed authority, lateral accountability, rivalry of evaluative principles, [and] competition of performance criteria" (Stark, 2009b) brings its own issues.

We highlight these issues by considering Miller's (1996) three dilemmas of accountability: the dilemma of principle ("can we place our trust in experts?"), the dilemma of meaning ("who is the customer and what constitutes infor-mation for them"), and the dilemma of mechanism ("can we place our trust in numbers?"). We begin by addressing the first and third of these. Social media, such as TripAdvisor, actively revises the boundaries of expertise (Jeacle & Carter, 2011). Accountability is not the mandate of TripAdvisor, instead its purpose is to pool multiple ac-counts of travel to help other travellers plan their trips. Trust is placed in the "wisdom of the crowd" – the shared experiences posted in reviews by lay people – rather than professionals with expertise in the travel sector. Users of TripAdvisor's website then implicitly place their trust in the Popularity Index algorithm to configure content in a way that informs their travel plans and in the process im-poses accountability on hoteliers.

Identifying "the customer" and understanding what constitutes information for them, Miller's second dilemma, are the more interesting challenges for scholars of social media. As one of the hoteliers in our study notes TripAdvisor is "by travelers, for travelers" – the guests' point of view is favoured and featured. However, whether they are passing users of TripAdvisor or active members of the website, the 'information' (subjective ratings and re-views) that they post serves as input to the Popularity In-dex algorithm. Furthermore, TripAdvisor is monetarized by a click-through business model, with user-generated content drawing commercially valuable 'traffic' to the website and opening up opportunities to then click on web-links that lead to travel intermediaries (such as Expedia, Hotels.com, Booking.com, and Hotels4U) where there is further information that may support the purchase of travel products and services. In this sense, everyday peo-ple engaging with TripAdvisor have been turned into 'con-ducers' – both producers and consumers, actively helping to bring social media into being. So, as we see, a Web 2.0 world is highly material and discursive; indeed the very technologies developed to ease this new generation of accountability dilemmas compounds their complexity.

Production of knowledge in the TripAdvisor context de-mands reading between and across different "accounts of worth" (Stark, 2009a). The subjectivity embedded in the traveller reviews on TripAdvisor suggests that multiple evaluation principles are in play. Even though travellers are presented with a single set of rating criteria when they write their review (value, service, location, cleanliness, and rooms) what constitutes "value" to one traveller may be quite different to another. This is a personal and relational matter of perspective, expectation, experience, history, and context. The multiplicity of these concerns promotes a diversity of performance criteria that introduce contin-gency, uncertainty, and dissonance about what is made to count, who counts, and methods of accounting (Stark, 2009a, p. 25). These multiple, diverse and shifting evaluative criteria produce a novel sense-making challenge for travellers as well as ambiguity and anxiety for hoteliers who are called to account for their day-to-day performance.

When absorbed by the utility and entertainment value that TripAdvisor offers travellers, it is easy to become se-duced by Internet phenomena such as TripAdvisor. How-ever, if we embrace the call to explore the "possibilities of accountability" laid out by Roberts (1991) then our anal-ysis cannot stop here. His reading of accountability as an inclusive concept through which we are "held account-able" proffers analytical potency because it focuses our attention on the "flow of experiencing" (1991, p. 356); in his words, "to be held accountable for one's actions serves to sharpen one's sense of self and one's actions" (Roberts, 1991). Our contribution to this elucidation of accountabil-ity is to maintain that the "flow" to which he refers con-sists not only of social interaction as other scholars of accountability have claimed but is always and unavoidably an inseparable sociomaterial entanglement (Orlikowski and Scott, 2008). How does this add further value to the analytical purchase gained from our efforts to understand processes of accountability? Of the many points of leverage that this brings, we will concentrate on three for the pur-poses of this discussion: emphasizing the sociomateriality of accountability, examining the reconfiguration of rela-tions that constitute it, and highlighting its performativity.

First, by framing accountability as a predominantly so-cial issue, we risk overlooking important questions that are pivotal to the development of Internet phenomena such as TripAdvisor. Indeed in the very term "*social* media" we already observe bias to regard "infotainment" as a product generated primarily by human interaction. As our field study illustrates, websites such as TripAdvisor make a difference to those involved and these differences depend substantially on distinct material configurations. When the weighting of the Popularity Index algorithm is changed it moves some hotels up the ranking and others down which can, and does, affect hotel practices and per-formance. Yet this is done without consultation or transparency.

Although TripAdvisor is far from being the only social media company that adheres to such practices, it does stand to highlight the issues being raised. For example, as the following quote from the CEO of TripAdvisor suggests Internet businesses consistently side-step being put in a

position where they are accountable to others who can require explanation:

> At the end of the day, when you have 500 reviews, it's almost hard for an algorithm to go wrong...You know, if I told you exactly the weighting it wouldn't be meaningful to you, it's not particularly meaningful to me.

We argue that so-called "social media" cannot be treated as if they are a "design from nowhere" (Suchman, 2002, p. 95). Instead, drawing on Robert's notion of accountability, we develop a further understanding of the sociomateriality of accountability, and ask "who is doing what to whom here?" (Suchman, 2002, p. 95). This allows consideration of key ethical, design and regulatory challenges that are enacted through material configurations.

Second, in Robert's original paper, he describes the intimate interdependencies involving hierarchical and socializing forms of accountability and the role of these interdependencies in creating organizational realities. In the realm of social media – with its mash of the algorithm and the crowd – we find that hierarchical and socializing forms of accountability are further differentiated and variegated, thus reconfiguring relations of accountability.

With regard to hierarchical accountability, we observe that the algorithms and practices at TripAdvisor instate a citational logic that is imposed without negotiation. The most acute reconfiguration entailed by the Popularity Index is the listing of hotels in a numerical ranking which places them in a strongly hierarchical dynamic to one another, re-drawing and intensifying competitive relations in local areas. While the aim of the system is to represent "the truth" through member reviews, in effect this veridical knowledge is strongly internally structured and weighted giving momentum and influence beyond any given social interaction. Through the Popularity Index algorithm, the click-button input is weighted more prominently and realizes more significance relative to the "explication" (Muniesa, 2011) given in detailed free-text reviews. The vertical relations that emerge through this formulation are imbued with forms of hierarchical organizational logic in that there is an absence of mutual accountability, and accountability is not evenly distributed.

TripAdvisor claims to be open, fair and unbiased but the algorithms are not held to account. Hoteliers expect to be assessed on operational efficiency (e.g., AA criteria) and quality of service, but not to be blamed for every guest's detailed personal and personalized experiences. While hoteliers are held to account by TripAdvisor reviews, a reciprocal, mitigating sense of accountability is unavailable to them – by design. This asymmetry creates and maintains the kind of isolating, "anxious self-absorption" (p. 360) among hoteliers that Roberts notes in his paper. On the other hand, a more positive reading of this form of accountability may be made by focusing on the experiences of travellers, who are drawn to the rankings because they relieve them of the effort involved in trawling through the reviews and the responsibility of making sense of so many personal accounts. The algorithms and practices associated with the rankings provide structure to the collective process that would otherwise be unintelligible and chaotic.

Turning now to Roberts' other – socializing – forms of accountability, a term he uses to convey the practices that "humanize" work, we focus on the "active and open-ended process of making sense of what is going on" (pp. 361–362). These practices provide a way of seeing "through the presented reality to its underlying conditions [and] serves the purpose of retaining some sense of being in control" (Roberts, 1991, p. 362). For decades, the balance of power over information has rested with hoteliers; TripAdvisor has become a site through which travellers can counter-balance the glossy brochures and claims of "paradise" found in hotel publicity materials. Indeed, for those who feel that accreditation schemes and formal guidebooks have held travellers in an almost paternalistic relation it could be argued that this is long overdue. This kind of child-like dependence is evocatively illustrated by the novelist E.M. Forster whose heroine in *A Room with a View* (1908) becomes tearful in a Florentine church on realizing that she had lost her Baedeker travel guidebook on Italy and would now "have no way of knowing what was beautiful, and what should be ignored" (Sattin, 2008).

Engaging in social media means we see travel in and through others; it would not function without the active participation of millions and therefore the algorithm is intimately dependent upon the crowd. User-generated content is not only filtered by algorithms and content management practices, it is subject to the dynamics of crowd-sourcing. Participation often goes beyond simply reading and posting reviews: users may show approval by clicking "Like" buttons, flagging reviews for inappropriate content, or contradicting reviews as part of a "course correction" to counter the content of prior postings. Travellers note that as they sift through reviews they ask themselves, "Is the person who posted like me?", and "Do we share the same travel priorities and needs?" Travellers see themselves confirmed or troubled in the reviews of others.

For Roberts (1991, p. 363), the potency of shifting from accounting-as-technique to an encompassing notion of accountability is that the latter:

> ...acts as a mirror through which producers and their activity are made visible. Its apparent objectivity, and the positive and negative sanctions that surround its use make it the image of events that counts. It becomes the mirror through which others must view, judge and compare individual and group performance.

Social media, however, are not reflections of social interaction but are rather constituted through "intra-action" (Barad, 2007). *Inter*action "suggests two entities, given in advance, that come together and engage in some kind of exchange...[whereas] *intra-action* underscores the sense in which subjects and objects emerge through their encounters with one another" (Suchman, 2007, p. 267). Intra-action focuses us on materialization and meaning-making – the "specific material reconfigurings" that constitute the world (Barad, 2007, p. 142).

Third, this re-working of Roberts sets the scene for an interesting reconsideration of the performativity of

accountability – a notion that is present but nascent in Roberts (1991). We therefore start from the position that the different tensions and interdependencies – or to make a play on Barad's term 'intra-dependencies' – emerging on-line play a role in creating "organizational reality" (Roberts, 1991, p. 355). Such multiple constitutive dynamics are apparent in Espeland and Sauder's (2007) insightful analy-sis of law school ranking mechanisms which provides a useful set of concepts for understanding modes of mea-surement, the institutions that they purport to evaluate and the complex relationships that these have to changing practices. Their notion of reactivity proposes that institu-tions shape each other through mechanisms of self-fulfill-ing prophecies and commensuration. As they note, "Measures elicit responses from people who intervene in the objects they measure" (Espeland & Sauder, 2007, p. 2). Thus, the standing of those measures is reconfirmed. In the case of law schools, Espeland and Sauder have charted how annual *US News & World Report* rankings spill over into practice similarly "transforming... how actors make decisions, do their jobs and think about their schools" (2009, p. 64). For Espeland and Sauder (2007, p. 35), reactivity "is one form of interaction that reveals how difficult it is to maintain sharp distinctions between measures and objects of measurement, description and inscription, science and society, the social and the natural." While recognizing the mutual shaping of ranking mecha-nisms and context, their empirical focus on yearly pub-lished reviews does not afford a sense of the multiple, contemporaneous dynamics that are in play in social media.

In response to Espeland and Sauder's call to compare explanations across fields (2007, p. 34), we extend the boundaries of their discussion to encompass a performa-tive view of ranking mechanisms. TripAdvisor's ranking mechanism, the Popularity Index, structures and organizes user-generated content thus aiding travellers as they sift and filter through the myriad accounts of travel. By ac-tively guiding the sense-making process, the Popularity In-dex influences which hotels attract business thus reproducing the rankings. In producing what it names (Butler, 1993) – or in this case, ranks – the Index can be re-garded as having a performative effect. In so doing, to para-phrase Licoppe (2010, p. 182), the Popularity Index produces a world in which its rankings are relevant and meaningful.

Performativity thus shifts the focus away from indepen-dent objects and properties to discursive materiality; that is, "knowledge-making practices that are material enact-ments contributing to and part of the phenomena" (Barad, 2007, p. 247). Taking a performative view on TripAdvisor draws attention to the multiple entanglements in everyday, on-going practice that collectively perform the TripAdvisor online rankings as experienced by particular hotels. We see this through the specific case of VillageInn that begins as an obscure small rural hotel that a few guests choose to review using the online features of a then-nascent TripAdvisor database and ratings mechanisms. Recognizing the value of such online publicity, the owners of VillageInn encourage other guests to review their hotel on TripAdvisor, which in turn brings more exposure and more business. Moving

beyond the marketing appeal of TripAdvisor reviews, the owners begin to pay attention to the content of the reviews and to use specific subjective experiences to evaluate and revise their own organizational practices. Moving beyond the marketing appeal of TripAdvisor reviews, the owners begin to pay attention to the content of the reviews and to use specific subjective experiences not only to evaluate and revise their own organizational practices but also as part of staff appraisals.

Over time, such shifts in practice produce a hospitality business that is acutely attuned to the specific concerns and compliments of both reviews and potential reviewers (current guests). These guests respond to the hotel staff's increased attention on TripAdvisor (as evident on the ho-tel website, as displayed in the hotel lobby, and as men-tioned in conversation) by posting more reviews that in turn continue to shape the hotel's practices and sensibil-ities. This once again contributes to the hotel's position as the number one ranked hotel in the region, as well as confirming TripAdvisor's utility and standing in the travel sector. Travellers continue to refer to TripAdvisor and continue to book accommodation at the number one hotel. In this way, travellers and hotels perform the reviews that constitute TripAdvisor and in turn the hotel sector.

The performance of online accountability through TripAdvisor redistributes and reconfigures relations of accountability in the travel sector. Prior to the presence of TripAdvisor, hoteliers were accountable to themselves, their specific guests, and the travel writers and inspectors from specific rating agencies (such as VisitBritain, the Automobile Association, and Frommers) who would peri-odically evaluate the hotel for their travel books and tour guides. With TripAdvisor, hoteliers are accountable to the crowd – the distributed and anonymous reviews posted continually on a social media website – and to the TripAd-visor Popularity Index that marries both the detailed sub-jectivity of specific experiences with an objectified calculation that locates the hotel on a ranked scale of other businesses within the same region. Relations of production are reconfigured making the hotelier the (mostly) passive recipient of distributed judgement.

It is easy to become swept up in the claims of democrat-isation of travel writing, utility and entertainment value that TripAdvisor offers travellers; however we cannot turn away from the material consequences of TripAdvisor. As we have seen in the case of one small rural hotel, the shift to-wards more visibility is both a blessing and a curse. The transparency about operations that it provides is both instructive and useful in practice, but it can also become problematic and even a liability. Organizational practices can become constitutively bound up with the constantly changing commentaries posted online by others (including those who have no knowledge of a hotel's operations), enacting a kind of persistent audit in practice, or as Strathern notes (following Latour, 1991), "audit is transparency made durable; it is also transparency made visible" (2000, p. 313).

In order to take seriously the technological entailments of the TripAdvisor phenomenon (and that of social media websites more generally), we need to extend existing work on accountability that has primarily focused on cultural and

social processes to make sense of the discursive materiality of these websites. Our exploration of online accountability has highlighted how these processes overflow into the off-line world, as illustrated by evidence showing that hoteliers' practices have been revised in relation to TripAdvisor reviews. This entanglement of online and offline accountability focuses on how meanings and materialities are enacted together in everyday practices (Barad, 2003; Suchman, 2007). It is, as Butler (1993, p. 9) notes, "a return to the notion of matter, not as site or surface, but as a process of materialization that stabilizes over time to produce the effect of boundary, fixity, and surface we call matter."

Conclusion

In this paper we have explored the notion of accountability and grounded our discussion in data from ongoing research on social media in the travel sector, or so-called "Travel 2.0." The particular focus has been ratings and rankings associated with user-generated content about privately-owned guest accommodation on TripAdvisor. We have been particularly interested in understanding how accountability is performed online on social media websites. Our findings highlight that online accountability redistributes relations of accountability that overflow static impact factors used by more traditional research to measure the impacts of technological innovations. On a more generative note, we have developed our analysis of social media – specifically the emergence of TripAdvisor in the travel sector – not so much to impose moral order on a situation but to create a "telling moment" (Suchman, 2011) in which we pause to consider the "practical reconciliation" (Roberts, 1991, p. 367) of the moral and strategic cuts that have been produced by online reviewing and ranking. In so doing, we call out sociomaterial entanglements and raise for discussion the intricate boundaries that are made between accounts of travel, forms of accountability, and "response-ability" (Haraway, 2008).

Online accountability is based on special claims of the "wisdom of crowds" and "collective intelligence" produced by social media (Benkler, 2006; Surowiecki, 2004). The very term "social media" seems to soften or hide the fragmented and fragile nature of online rankings, even in the face of emerging debate. TripAdvisor rankings achieve a kind of legitimacy through claims to be organic, fresh, and open. TripAdvisor's specific material configuration re-draws vertical and lateral accountabilities in a way that produces a form of transparency for reviews while obscuring the crucial ranking mechanism at work. On TripAdvisor the algorithm "is pervasive but its origins and locus ambiguous", thus illustrating that the power of ranking is its capacity to present itself as objective fact, to reflect the truth, imposing "its way of seeing, without being seen" (Roberts, 1991, p. 359). By refusing to allow insight into the algorithms, TripAdvisor effectively reinstates the patriarchal dependency from which they claim to have rescued the worlds of travel.

TripAdvisor is credited with making travel writing accessible to all and breaking through bland, misleading public relations in the tourism and hospitality sector. It is argued to create a sense of shared experiences, but this is not a solely social phenomenon nor is its role in the sector adequately captured by the suggestion that it provides entertainment media for travellers. Each element referred to in the millions of online reviews is in relation to a particular world of grounded consequences beyond it. TripAdvisor has material effects on business and management. Indeed for some tourism and hospitality enterprises, such accountability can mean the difference between profit and loss, surviving a season or deciding to close down. It is thus necessary to take seriously the particular configuration of relational accountability that is performed through TripAdvisor.

A further feature characterizing relational accountability is objectification, and the apparently "veridical knowledge" that is achieved in the process (Miller & Rose, 2008, p. 23). Practices of detachment and objectification are an integral part of knowledge production within online review sites such as TripAdvisor. The travel knowledge produced here is held up as technical in nature, unbiased, and constituted by claims to legitimate collective process. The quasi-formalized knowledge that emerges provides a common currency or vocabulary for communicating and regulating choices and actions, such as the risks and rewards of performance assessment. The outcome is a "new species of authority" that is addressed to the practice of living (Miller & Rose, 2008, p. 23). This serves as a stable basis for conduct even though it is thoroughly dependent upon databases and algorithms that are continually updated and management practices in contexts that are highly dynamic. The question is how does this performance of veridical knowledge come to constitute organizational practices (and recursively act upon them)?

Much future research is needed here. Particularly valuable would be research that further explores reconfiguring relations of accountability with particular emphasis on the novel online domains that are increasingly saturating practices within contemporary society, and helping to propagate transparency and amplify the logic of auditability. While new and different forms of accountability inspire new ways to conduct practices, these innovations are not without material consequences. We may not be able to control this process, indeed we cannot, but we can think about how to proceed in a responsible way. As Stark (2009a, p. 202) notes, one who is accountable to many in different registers can be one who is accountable to none. How and where accountability is performed online is thus a critical ongoing empirical question. In this paper, we have only laid out possible contours and signposts for approaching such a question by highlight the sociomateriality of accountability and its performative consequences. This is a case of *accounting* for how matter "matters"—to invoke a recent call by Barad (2003). Such a consideration becomes particularly important when the phenomenon in question permeates contemporary culture in a way that may divert our gaze; it is hard to think about ontological politics when you are having fun!

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