What's There Not To 'Like'?

The Technical Affordances of Sustainability Deliberations on Facebook

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Abstract: Social media are considered ideal means to promote inclusive political participation by "reaching citizens where they are" in scalable and cost-effective ways. However, with all the excitement about the new virtual public sphere, little attention is given to the technical mediation itself – the affordances of e-deliberation platforms and the kind of interactions they support. In response, this paper aims to thicken the account of the interrelated political and technological contexts of e-deliberation. Using recent Facebook deliberations on sustainable transportation in Vancouver as our example, we argue that different rationales for public participation in policymaking animate different approaches to discourse, which, in turn, inform and are affected by different design and use strategies for e-deliberation platforms. Our argument suggests that the design affordances of e-deliberation represent opportunities to promote or curtail certain visions of a political culture of sustainability.

This paper aims to thicken the account of the interrelated political and technological contexts of web-based public deliberation (e-deliberation) by demonstrating how certain design affordances support or curtail different discursive modalities, and thus promote particular visions of political culture.[1] Based on our involvement with a recent e-deliberation event on Facebook, content analysis of the conversations and participant

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[1] We understand political culture as a set of interstices between the values, attitudes, knowledges and skills that orient political behaviour and the structural allowances that regulate political activities – between political *consciousness* and political *procedures.* (Hirschkop, 1999; Howard, 2006).

surveys, we will argue that the dynamics of e-deliberation events hosted on Facebook are strongly shaped by the latter's technical affordances: the way conversation threads are handled and can be moderated, the ability to include external references, and the use of a variety of everyday modes of expression and reasoning. This leads us to suggest that the democratic potentials of e-deliberation should be understood as an outcome of the kinds of experiences e-deliberation provides, which are a function of the technical materialization of the e-deliberation event's framing and discursive modalities. Following a brief discussion of the main rationales for engaging the public on sustainability we identify two central deliberative modalities, each representing a distinct vision of political culture. We then use these modalities as a lens through which to analyse recent Facebook deliberations on the future and sustainability of Vancouver's incipient transportation policy in order to demonstrate how the design affordances of e-deliberation represent opportunities to promote or curtail certain visions of a political culture of sustainability.

1. Ecologization, Democratization, E-Deliberation

In an essay titled Politics in the Risk Society, German sociologist Ulrich Beck suggests that our global environmental predicament will materialize what he calls a "secret elective affinity between the ecologization and the democratization of society" (1995, p. 17). In Beck's view, although environmental problems are largely perceived as biotic or economic issues – the material outcomes of modern production and consumption practices – their resolution is political. Thus, the environmental crisis calls for a new, "reflexive modernity" characterized by a rapprochement between "the science of data and the science of experience" (p. 15) and the concomitant bridging of political institutions with everyday life. As the current rush to utilize social media[2] to engage the public on sustainability politics and lifestyle makes evident, the affinity between ecologization and democratization that Beck detects is increasingly facilitated by new media technologies, understood in this context as those technologies that feature a duality of digital (numeric) infrastructure and semiotic or meaning-bearing surfaces (what Lev Manovich (2001) calls "transcoding").[3] The advent of participatory geographic information systems (GIS), digital sustainability decision-support tools, online deliberation platforms, social networks for activists, and the popularity of environmentally themed "serious" games demonstrate the extent to which new media technologies are leveraged to make sustainability politics more inclusive.

At the hands of environmental activists, new media technologies enable wide public access to diverse and personally relevant information while bypassing traditional media gatekeepers; create learning opportunities and virtual spaces to discuss sustainability and form new activist alliances; and provide flexible and distributed means to support

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[2] Social media is participatory and collaborative technology that allows users to create and exchange content (Kaplan & Haenlein, 2010), particularly among peers and groups of shared interest.

[3] For other definitions see Flew & Smith, 2011; Lister et al., 2008.

collective action on sustainability on- and offline (Cox, 2010; DeLuca, Sun & Peeples, 2011; Hansen, 2010; Minion et al., 2009; O'Neill & Boykoff, 2011). For local and national governments facing the social, economic and environmental implications of global climate change and the challenges of sustainability, new media technologies offer scalable and cost-effective ways to engage the public in more inclusive, collaborative and transparent ways (Leighninger, 2011a, 2011b; Milakovich, 2012; Price, 2009; Rowe & Gammack, 2004; Witschge, 2004; Zavetoski, Shulman & Schlosberg, 2006). In the context of the latter, e-deliberation platforms allow government to scale up its public engagement efforts to large numbers of participants with relatively low cost and provide citizens with opportunities to voice their opinions and preferences with more inclusive demographic and geographic representation. With the growing penetration of broadband internet into OECD households,[4] new networked online platforms and services, sometimes gathered under the Web 2.0 moniker, provide increased accessibility to the digital public sphere, allowing government to draw from a more diverse array of opinions and inputs, as evident in the proliferation of crowdsourcing techniques for input on public policy and urban planning (Brabham, 2009, 2012; Leighninger, 2011a). Furthermore, with the exponential rise in popularity of social networks such as Facebook, Twitter and Google+, more casual spaces open up to political discussions and potentially draw into the political process citizens that may have previously shied away from such activity. In this sense, new media platforms help government meet citizens "where they are" and thus potentially increase inclusivity (Holden, 2007; Leighninger, 2011a). The drive to meet citizens where they are also corresponds with the emergence of what the Pew Institute calls the "online government participatory class" (Smith, 2010): up to 23% of US internet users and over 20% of Canadian internet users communicate with municipal, provincial and federal government online, establishing the internet as a legitimate site for sustained civic participation and suggesting the public expects opportunities to engage with politics and government online.[5] As Arianna Huffington said in a recent interview with CBC's The Hour: *This is really a golden age for people to have their voices heard*.[6]

Yet, with all the excitement about the new digital "hyperdemocracy" (Pesce, 2010) and the urging of government to "tap into the potential of online technologies to facilitate shared governance" (Leighninger, 2011b, p. 28-29), very little attention is given to the technical mediation itself – the affordances of e-deliberation platforms and the kind of interactions

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[4] See www.oecd.org/sti/ICTindicators (last accessed Sept. 4, 2012).

[5] Canadian data based on 2009 survey: http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/comm29b-eng.htm (last accessed Sept. 4, 2012). Respondents to a survey conducted for the City of Vancouver in 2008 expressed strong preference to be contacted online, and significant resistance to participating in offline activities (Vancouver 2011, p. 154). Further, a new Fleishman Hillard study shows 54% of Canadians want to engage with their governments online. http://www.newswire.ca/en/releases/archive/September2011/27/c7043.html (last accessed Sept. 4, 2012).

[6] Ep.131, aired March 27, 2012. See here:
http://www.cbc.ca/strombo/videos.html?id=2216382762 (last accessed Sept. 4, 2012).

they support.[7] The result is that while numerous accounts of e-democracy provide detailed descriptions and analyses of how and why new media technologies are used, these accounts tend to treat the technologies themselves rather instrumentally, as 'black boxes'. However, whether they are acting to modulate the human sensorium with epochal consequences as McLuhan suggested, or used to materially instantiate social domination as Marx and critical theorists argued, technologies are utterly political in the sense that their very form affects, inflects and refracts social relations (Winner 1980). As philosopher of technology Andrew Feenberg writes,

> "technologies are not merely efficient devices or efficiency oriented practices, but include their contexts as these are embodied in design and social insertion". (Feenberg (1999, p. xiii)

To put it somewhat differently, the social relations and political implications that are encoded in new media technologies may be disclosed by unpacking intended and actual user experience – by exploring the interrelations of design affordances and actual use. Since the affordances of e-deliberation platforms significantly affect the dynamics and outcomes of the deliberative process they facilitate (Sæbø, Rose & Molka-Danielsen, 2010; Stromer-Galley & Wichowski, 2011, p. 178; Wright & Street, 2007), we need to pay more attention to those affordances. At stake are the democratic potentials of e-deliberation.

2. Public Participation in Sustainability Politics

Much of the recent appeal of new media technologies as means to engage the public on sustainability politics follows what Dryzek (2000) calls a "deliberative turn" in democratic practice, but it can also be understood as an outcome of the relative decline of the "information deficit" science communication model and the supplanting of the latter's infocentric, unidirectional and context-free communication practices with more holistic, emotionally attuned and multidirectional strategies (Blake, 1999; Bucchi, 2008; Burgess, Harrison & Filius, 1998; Kollmuss & Agyeman, 2002). The deployment of new media technologies for public engagement on sustainability also signals the expansion of the information deficit model's focus on decontextualized individual behaviour to include collective decisions that have major sustainability consequences and often significantly constrain individual behaviour (Brulle, 2010; Crompton, 2010; Hulme, 2009; Leiserowitz, 2007; Shove, 2010). This is especially important since the scale of the cultural, political and economic changes warranted by sustainability requires significant social mobilisation, and politicians are quite unlikely to create non-incremental change without the existence of a tangible political constituency for that change. Lastly, appeals to new media as means to bolster the democratic constituents of sustainability politics are also consistent with an approach to sustainability that interprets it in processual or procedural, rather than substantive terms. On this view, sustainability is a normative, ethical principle, that can be

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[7]   Norman (1988, p. 9) defines affordances as "the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used".

seen as the emergent property of a discussion about desired futures – a discussion informed by some understanding of the ecological, social and economic consequences of different course of action (Miller, 2012; Robinson, 2004; Robinson & Tansey, 2006; Robinson et al., 2006). Such an approach underlines the importance of participatory processes that allow more voices to be heard, and broader, more inclusive, political judgments to be made.

While, as Abelson et al. (2003, p. 240) note, "An active, engaged citizen (rather than the passive recipient of information) is the prescription of the day", active public participation in sustainability politics includes many gradations based on the rationales and mechanisms for participation and their target participants. Stirling (2006; based on Fiorino, 1989) identifies three main motivations for involving citizens in sustainability policymaking. Since each is premised in a different assumption about the capacities and roles of political actors they also carry different implications to the participatory process and the political system as a whole. Normative motivations are underlined by the belief that citizens should have the right to influence the political processes that affect their lives. Public participation is thus posited as an end in and of itself, a way to promote citizen self-improvement, social learning and civic competence, to build democratic skills and overcome "feelings of powerlessness and alienation" (Fiorino, 1989, p. 536). Substantive motivations for public participation suggest that public involvement may improve the quality of the decisions made. In this mode, public participation expands the knowledge bases and skills involved in decision-making and represents diverse values and interests. This is especially important in the case of sustainability, where issues typically touch upon a diverse array of social, economic, environmental and cultural domains and therefore call for involving citizens in both research and in formulating solutions (Innes & Booher, 2010; Robinson, 2004; Robinson & Tansey, 2006; Talwar, Wiek & Robinson, 2011; van Kerkhoff & Lebel, 2006). Lastly, instrumental motivations value public participation for its bolstering the legitimacy of policies by raising awareness to the decision process, making it more accessible and transparent, and potentially engaging politically significant numbers of participants. The goal is to build trust between citizens and elected officials and thus promote the ability of policy-makers to make significant change and increase the likelihood of public acceptance of the decisions made. As indicated above, this is especially important in the context of sustainability politics since advancing toward a viable, truly sustainable society requires collective action and not only incremental lifestyle changes (Gore, 2009; Speth, 2008).

The three motivations for public participation tend to overlap, and at times may even conflict with one another. They are often operationalized through discursive modalities and rhetorical strategies that give the deliberative event its framing or flavour: participants will be approached differently, be allowed to express themselves in different ways, and be encouraged to see themselves as political actors in significantly different manners. In the next section we draw on recent work on democratic deliberation to posit discursive modalities as ways to relate motivations for public participation with visions of

political culture. In this sense, we understand discourse as both the constituent and the expression of political culture in two distinct, prototypical modes, one oriented towards reaching 'rational' consensus, while the other more tolerant of difference and dissensus. Each mode embodies certain assumptions about the aim and nature of participatory-deliberative processes and therefore concretizes a different view of the relations between everyday experience and political dispositions. Taken together the two modes illustrate a space of possibilities for public participation in sustainability policymaking which, as we will show below, is encoded and expressed as technical affordances.

3. Rational Consensus or Emergent Dialogue?

The first approach, which we find is rather dominant, puts forth a mode of discourse which we will call here purposive. It borrows heavily – even if not always explicitly – from Jurgen Habermas's work on communicative rationality and the public sphere.[8] Typically, purposive discourse features in processes of reasoned opinion exchange, where equally positioned stakeholders take turns in soberly articulating their position on an issue of public concern, coolly considering and responding to others, and consensually arriving at the best possible solution. Deliberation, in this view, foregrounds rational opinion exchange evaluated against a set of formal criteria, which serve as both the grounding principle for discussion and its horizon – providing the entire process with its purpose and characteristics. Deliberation based on purposive discourse, it follows, can be articulated as an instrument for achieving reasoned consensual solutions.

Purposive discourse relies on two structural elements: fairness and competence. While fairness concerns giving participants equal opportunity to affect the resulting agreement, competence concerns the conditions for mutual understanding to emerge, including participant cognitive and linguistic skills and relevant knowledge-bases. Purposive discourse, it follows, is determined by its structure, that is, by a pre-discursive epistemological clarification of the terms of communication itself (part of what Habermas calls communicative rationality) and the organization of procedures that guarantee equal and equitable expression (what Habermas calls discourse ethics). In this sense, as Habermas notes,

"*the success of deliberative politics depend not on collectively acting citizenry but on the institutionalization of the corresponding procedures and conditions of communication*" (Habermas, 1996, p. 27).

The democratic effects of purposive discourse, it follows, are derived from the degree of control participants have over deliberative procedures and resultant conclusions, and the extent to which participants believe those conclusions will be heeded by government.

The purposive paradigm has encountered several poignant criticisms. On ideological grounds, some have argued that its consensual thrust manifests a form of violence,

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[8]   See Habermas, 2001 for a useful overview.

effacing difference, devaluing personal experience and re-introducing power differentials through the back door, so to speak. Participants may wield disproportional power when setting the deliberative agenda and the criteria by which discourse is evaluated, by influencing the dynamics of the actual process, by glossing over conflict instead of allowing it to emerge, or by pushing the process toward premature consensus (Mansbridge, 2006; Mouffe, 1999; Young, 1996). Taking a more practical tack, recent work in cognitive science and social psychology has posited human cognition in much less rational terms, exposing the fundamental influence of embodied, emotional and affective registers on all thought and behaviour. In this view complex processes of decision-making tend to rely on hardwired, habituated "information heuristics" that bias decision-making in ways unaccounted for by economic rationality models (Kahneman, 2011; Kahneman, Slovic & Tversky, 1982; Lupia, McCubbins & Popkin, 2000; Slovic, 1987). Such findings suggest that by ignoring the "real world" of human decision-making, deliberative processes that are premised exclusively in purposive discourse may actually diminish the legitimacy and quality of the decisions made.

Regardless of whether we perceive it as "unachievable perfection" in Webler's (1995, p. 41; emphasis in origin) words, or as a symptom of the hegemonic policing of political boundaries as Ranciére (1999) suggests, there seems to be sufficient ground to question the adequacy of purposive discourse to advance, on its own, meaningful democratic participation. As noted above, this is mostly because of the way it is premised in the detachment of political decision making from everyday experience, treating participants as rational, objective adjudicators instead of embodied, feeling and narrativizing subjects. On this background, and in line with what Phillips (2011) identifies as a wider, "dialogical turn" in communication thought and practice, an alternative, complementary approach to discourse has recently emerged, according to which discourse is understood in more open-ended terms as a means to encourage collective meaning-making – "to invite meaning rather than impose it" (Hamilton & Wills-Toker, 2006, p. 761; see also Black, 2008; Walker, 2007). Much in line with Mikhail Bakhtin's (1981; cf. Holquist, 2002) dialogism, this alternative approach foregrounds the importance of encountering otherness to the process of forming political dispositions and exercising political agency, and accordingly emphasizes diversity, difference and the possibility of dissensus.

Being more attuned to the entanglement of values, identity and emotion in everyday life, dialogical discourse reaffirms the relevance of everyday experience to political decision-making. The use of narrative and storytelling, the retrieval of collective memories, and the triggering of emotional responses by the use of evocative examples, resonant metaphors and compelling imagery are not only permissible but desirable, seen as an integral part of a meaningful deliberative process. The goal is not so much to inform the public in order to poll them, but to provide an opportunity for self-reflection and the forming of politically salient subjectivity and collectivity. Ultimately, as physicist David Bohm (2004, p. 2) writes, dialogical discourse provides an opportunity "to see something new"; to self-transform through the discursive exploration of difference. The democratic effects of

dialogical discourse, we can conclude, result from fostering a sense of relevance of one's experience to the overall policy issue, promoting a collectivity that embraces otherness and difference, and safeguards the potential for dissensus to emerge.

Of course dialogical discourse has its own difficulties since, like all other modes of discourse, it is a situated practice that always involves pre-understandings that reflect the interpreter's position within a particular cultural milieu or "horizon" (Gadamer, 2004; see also Condit, 1989). In this sense, whether it grounds speech explicitly or implicitly, "all of culture is implicated in every instance of discourse" (McGee, 1990, p. 281), meaning that neither purposive nor dialogical platforms can neutralize the deeper effects of history and ideology on the particular e-deliberation event's settings and on individual strategies of meaning-making. However, dialogical discourse includes a higher risk of fragmentation, frustration and indecision, a phenomenon painfully familiar to many e-deliberation conveners: unstructured spaces for expression tend to yield "talkfests" (Lenihan, 2012) – longwinded, aimless speeches and publicly performed soliloquy.

As our analysis illustrates, each discursive mode approaches democratic participation in a different yet potentially complementary way. Purposive discourse enrolls participants as "rational" contributors to the forming of particular policies and therefore seeks to build competence and then navigate discussion in hope of reaching reasoned conclusions fairly. Dialogical discourse, on the other hand, aims to create experiential resonance between everyday life and the political process and therefore focuses on facilitating collective meaning-making based on sharing personal narratives and encountering difference. Legitimation and empowerment in the case of the former are produced when participants sense that they can influence the deliberative procedures and that conveners sincerely give weight to their input. In the case of the latter, legitimation and empowerment depend on the evoking of a sense of relevance, when participants feel that their experience, values and identity are relevant to policy-making and that they are being heeded as experiencing subjects and not only as objective adjudicators. The two approaches illustrate a field of possibilities for democratic deliberation where one of the modes may be more dominant, or the two modes may combine to form intermittent "moments" in the deliberative process (Black 2008, p.95). In the following section we use the two discursive approaches as a lens through which to describe and analyse a sustainability e-deliberation event on Facebook.

4. Exploring Vancouver's Transportation Future (EVTF)

In June 2011, Vancouver-area residents were invited to discuss the City of Vancouver's incipient transportation plan in an e-deliberation event on Facebook. The event was titled Exploring Vancouver's Transportation Future (EVTF). It was co-hosted by the City of Vancouver and the University of British Columbia, and was part of the Greenest City Conversations project, a two-year research initiative aimed at developing and studying

innovative methods for public participation in sustainability policymaking.[9] Participants were recruited through targeted voluntary selection, resulting in 537 participating Facebook users who joined the discussion group by adding the EVTF application (or "app") to their Facebook profile (see Figure 1).
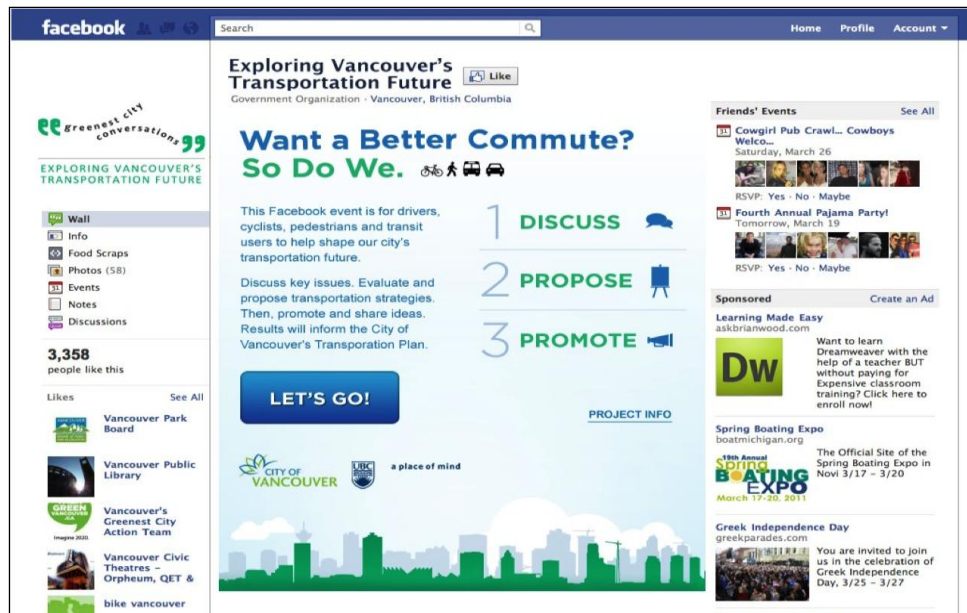

Figure 1: Exploring Vancouver's Transportation Future (EVTF) landing page.

Over two and half weeks EVTF participants met in small, moderated discussion groups, shared personal stories and explored issues related to transportation. These included questions of affordability and comfort, the health benefits of particular modes of transportation, and impacts on Vancouver's economy and natural environment. Following these initial discussions each group chose two transportation topics (out of nine available topics) to focus their discussion. Participants then worked in their groups to evaluate related transportation strategies and propose directions for the City's Transportation Plan. The top transportation strategies developed by each e-discussion group were shared publicly and made available for commenting and "liking"[10] in a public Facebook page for an additional ten days, after which the City's Transportation team issued a response to each of the participants' 19 recommendations. Results of the Facebook event and other public transportation conversations that took place during spring 2011 have informed a draft Transportation Plan by the City of Vancouver, which went back to the public for feedback in summer 2012, before being submitted to City Council for approval in fall 2012.

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[9] More about the project here: http://gcc.ubc.ca

[10] To 'like' something on Facebook is the most common way to display preference, in this case equivalent to accepting membership in a shared-interest group.

The choice to use Facebook as a platform for public engagement on sustainability policy was motivated by Facebook's popularity, accessibility and flexibility. According to web analytics provider Alexa, and current to September 2012, Facebook is the world's most popular website (ahead of Google and before Youtube),[11] reaching just under 30% of Europeans and almost 50% of North Americans.[12] As such, it promises deliberation conveners a very large, geographically and demographically varied, even if not necessarily representative, pool of potential participants.[13] Facebook is not only highly popular, but supports multi-modal accessibility, providing conveners with a flexible alternative to scheduled, physical face-to-face meetings. Since Facebook is accessible from personal computers, mobile phones and tablets, users can conveniently participate in a Facebook e-deliberation event from practically anywhere, as long as they have access to an internet connection. Facebook's accessibility is complemented by its support of asynchronous communication, that is, conversations unfold intermittently. Since the conversation thread maintains its "history," participants may join and leave the discussion whenever it is most convenient for them.[14] Lastly, Facebook supports a variety of modes of expression and unlike other, more economical platforms such as Twitter, there is no real limit on the volume of contributions. In deliberation, participants may express themselves employing the same everyday vernacular they would normally use on Facebook, use emoticons, integrate images, video and links to external resources, and take advantage of "liking" as an instant polling mechanism. Using Facebook as an e-deliberative platform may therefore potentially lower the barrier for participation, attract a politically significant number of participants and, by extension, increase the legitimacy and effectiveness of the public engagement exercise as a whole.

What follows is based on our involvement in the design and moderation of the e-deliberation event. It is informed by our content analysis of the conversations within the EVTF app, participant responses to pre-, in- and post-deliberation surveys, and a close reading of Facebook's and the EVTF app's affordances.

5. Facebook's Discursive Affordances

While EVTF's design was motivated by all three – normative, substantive and instrumental – rationales for public participation in sustainability policymaking,

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[11] See http://www.alexa.com/topsites (last accessed Sept. 4, 2012).

[12] See http://www.socialbakers.com/facebook-statistics (last accessed Sept. 4, 2012).

[13] Since, to a large extent, the flow of information in Facebook follows existing social connections, participants can be recruited most effectively by using the "snowball sampling" method. However, several researchers have expressed reservations about the tendency of snowball sampling to produce homogenous participants (Fung & Wright, 2001; Lukensmeyer & Brigham, 2002; Rowe & Frewer, 2000), which may reduce the engagement's legitimacy.

[14] Responding to an open-ended question, 11.2% of EVTF participants indicated Facebook's asynchronous dynamic as one of its major strengths.

discussion was initially aimed at a desirable goal – arriving at concrete policy suggestions – thus giving the event a distinct purposive orientation. This was further reinforced by the unique app that was developed for the project. Using an app on top of Facebook's native affordances allowed the integration of third-party tools including surveys to capture participant demographics and a voting mechanism to measure participants' preferred ideas. It also supported moderation that helped translate discussion into policy priorities, which were then reflected back to participants for commenting, ranking and ratification. The app was also useful in keeping discussions focused: it featured a sequence of four tabs that corresponded to the group's four discussion tasks – sharing travel stories ("our travel"), exploring key issues ("issues"), brainstorming transportation strategies ("strategies"), and fleshing out top ideas ("proposals") – thus ensuring that the process remained focused by "tunneling" (Fogg, 2003) participants sequentially through the tabs/tasks. While purposive goals were well served by this forward movement, ensuring both topical and temporal foci, "tunneling" restricted discussion on previous tabs and topics, thereby curbing opportunities for deeper reflection.[15]

The event's moderation was similarly designed to encourage agreement amongst participants and thus move the discussion forward. This was particularly true in the brainstorming and proposal stages where moderators summarized participant contributions into more and less frequently mentioned ideas by counting instances of each proposed idea and reporting the idea using participants' own words as much as possible. While providing summaries created by moderators rather than by actual group members inevitably introduced biases into the process, moderators deemed it necessary in order to mitigate the inconstant and, at times, infrequent presence of participants, which can be partially attributed to Facebook's support of asynchronous communication. In other words, moderator-led summaries were used to avoid disadvantaging those participants who happened to be away from the discussion group at key moments.

Based on the summaries, and helped by timely email notifications, participants voted for their preferred policy recommendations. The consensus orientation was chosen for pragmatic reasons (as part of the explicit goal orientation of the event), but it also functioned to downplay ambiguities, difference and dissent. As a result, only 3.4% of EVTF participant posts expressed disagreement about transportation strategies, with participants reporting low levels of conflict and disagreement throughout. When disagreement did occur, participants felt that ideas were treated with respect and that they themselves were able to respect the point of view of those with whom they disagreed. This, of course, can be partially attributed to both the design and the moderation of the deliberative process: handled differently, the groups' decision process could have resulted in very different outcomes.

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[15]   This was evident in both participants' explicit comments about the fact that tabs further in the process "weren't working" and in the rich discussions that were left unresolved when the group moved from one tab to the next.

Despite the event's purposive framing and procedures, there were many instances of dialogical discourse when it came to actual discussion. This was partly due to deliberate choices made while designing and moderating the event, and partly an outcome of Facebook's affordances. In terms of moderation, the process was initiated by an opening (guiding) question that was deliberately designed to prompt participants to share what they liked most and least about the regular way they travel around Vancouver, encouraging self-reflexivity and fostering the creation of group identity among e-deliberators. During discussion, formal expression or staying on point were not enforced socially or technically, although there have been some minor "nudging" by moderators when discussion became entirely unruly. Yet even during the most purposive parts of the event, when preparing to vote on a proposed topic, for instance, participants were still able to steer the conversation beyond the stated objective and discuss issues according to their own interests or experiences. For example, the utility of bicycle helmets, even though it was not a formal discussion topic, became a heated subject in two discussion groups. Similarly, innovative examples of personal transportation inventions and power production were frequently mentioned in discussion groups despite not being part of the "official" agenda.

Dialogicality was also injected by Facebook's affordances. The way Facebook technically supports conversation threading is a case in point. In general, Facebook supports conversations using a single ("flat") hierarchy of replies to a post (see Figure 2). This means that every response to a post is displayed according to the time it was added and not its topical relevance: users responses are appended to the conversation in the order they were added, not topically or hierarchically. While this may create a largely single-thrust conversation that effectively pushes users to respond to the latest post (typical of the goal orientation that underlies purposive discourse), when combined with asynchronous communication this led to a relatively unruly conversation: since new replies tended to conceal older ones, the main thread occasionally disappeared beneath tangential posts or comments, giving the conversation a sprawling, rhizomatic character. While this allowed the conversation to become more convivial and free-forming, participants found that this limited the depth of discussion, including one survey respondent who said,

> "Replies sometimes were buried and it was not obvious when a reply was connected to previous entry or whether it was a pure response to the original question. Conversations were a bit mixed up as a result".

In other words, Facebook's conversation threading structure may have added opportunities for participant expression, but it had the opposite effect on participant exposure to others' contributions, and thus decreased opportunities for deep conversations.

Facebook's support of asynchronous communication exacerbated the problem. While it allowed users pause to formulate critique and engage in reflection, it made the threads even more jumbled. So while having more time to comprehend, digest and reflect on the

conversation, along with the capacity to review older, archived conversation threads, gave participants the means to produce more 'reasoned' contributions, a signifier of purposive discourse (Stromer-Galley, 2007), it resulted in less orderly and less focused discussion. EVTF moderators mitigated this tendency for 'standalone' posts and replies by facilitating discussions in multiple, smaller, simultaneous discussion threads.

Figure 2: An EVTF discussion group.

A similar phenomenon occurred in the context of discursive reasoning, where Facebook's support for linking and asynchronous communication provided participants with opportunities to ground their contributions in a variety of rhetorical strategies. Researchers and City staff developed educational material that included documents, slideshows and videos, integrated this material into discussion as posts or comments, and encouraged participants to review and discuss it. Supporting the engagement's substantive and instrumental motivations, this information was provided to help participants become more acquainted with the underlying issues, have a better appreciation of the topic's complexity, and help them make more informed decisions. As the discussion made evident, participants indeed found the material useful to the extent that over 18% of the event's posts referenced the documents, videos and slideshows provided by the conveners, while only 4.5% of posts explicitly referenced other material.[16] In both cases, however, the ability to hyperlink allowed users to locate the conversation within larger contexts of meaning-making – expanding the conversation's horizon, so to

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[16]   Participants integrated information and materials from a variety of online and offline sources by directly reporting the information in discussion (19.3% of posts) or by posting a hyperlink (4.5% of participant posts). 11 of the 25 hyperlinks targeted blogs, videos, websites or books describing transportation solutions, 7 linked to documents or websites with research and statistics, and 2 links pointed to news media coverage of transportation related issues.

speak, and making it more dialogical. And indeed, the conversation expanded into participants' private Facebook "walls" and Facebook messaging, as well as into email and other social media.[17] While this gave deliberations a more organic, comprehensive and sprawling character, it also illustrated the inherent limitations of Facebook's potential as a space for controlled social science experimentation.

While references to the material provided by the conveners gave the discussion a distinct "rational" tint – 19.3% of posts supported their arguments by providing empirically verifiable evidence such as examples of transportation strategies implemented in other cities or descriptions of transportation strategy benefits and costs – over 15% of participant contributions were grounded in personal narratives and experience (excluding responses to the first discussion question that was explicitly about personal experiences of travelling in the city). Moderators helped navigate between the two modes of reasoning by rephrasing participant contributions, making connections between different topics, and prompting other participants to express themselves:

> **Participant 1 (post):** *Affordability, especially for vulnerable populations, like the elderly and working poor, is very important. Reducing congestion and the attendant pollution that come with it is key as well. Convenience would be another issue. Lots of transit is good, and safe spaces for pedestrians and non-motorized transportation to move are values that I support.*

> **Moderator (comment):** *[Name], I am wondering if there is a link between working poor needing transportation and their employers such as hotels needing their employees to get to work on time?*

> …

> **Participant 2 (post):** *I agree with the focus on reducing congestion helping the economy. In addition to making it easier for vehicle-dependent businesses to save time, it saves commuters money and often time to take the bus or other sustainable modes of transportation. When I lived in Vancouver and worked in Surrey it could take up to 3 hours to drive home depending on bridge traffic, whereas the Skytrain never took more than an hour. That time is especially important to people who are going to another job or are paying for childcare.*

> **Moderator (comment):** *I like the point you brought up, people and businesses saving time because of improved transportation. Can others give examples on how time is saved and how that may help the economy?*

> …

> **Participant 3 (post):** *What I like most about taking transit and walking is the sense of community I feel. I really get to know the streets and neighbourhoods where I live and frequent.*

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[17] However, because of privacy issues and the technical difficulties involved in tracing conversations across different new media platforms we have only anecdotal evidence of the presence and extent of the conversations that took place outside the EVTF app.

I feel connected to fellow citizens in a way that never happened when I used to own a car. I would like to use my bike more, but I'm afraid to ride in traffic. I'd love to see the expansion of bike lanes.

Moderator (comment): *hmm you have me thinking. If a community has affordable transportation people can visit to family and friends, get to jobs easily, shop locally, etc. in other words be a community. Isn't that good for the economy also?*

While the use of personal experience to support rational argumentation may not be attributable to a single affordance – other researchers have found that personal experience is a common form of reasoning in all forms of deliberation[18] – it seems that Facebook's informal format encourages this type of exchange and reasoning, supporting transportation policy recommendations that gave common expression to participants' lived experience and personal understanding of the issues. As one EVTF participant explained,

"I enjoyed reading other folks responses and commenting on them. We all gravitate to different issues and reading everyone else's responses helped me gain some valuable perspective."

Beyond expanding their perspectives on transportation issues in general and Vancouver's transit policy in particular, participants reported a distinct sense of agency as result of the event's discursive interactivity and dialogical sensibility. In their concluding remarks, participants noted as beneficial the way the event provided them with an "Open space to have a discussion and responsive participation rather than emailing a faceless city hall representative to provide suggestions that may never be seen or heard". This was a common response, indicating participant satisfaction from receiving immediate feedback to their contributions. With that said, the EVTF was by no means a mere sounding board: it offered participants a tangible promise of formal inclusion in policy, resulting in both motivation for participation and a sense of importance. Following the event, 70% of participants felt strongly that their recommendations should be taken seriously and influence the City's transportation decisions. Importantly, while only 39% of Vancouverites involved in previous face-to-face engagement events felt that their views were taken seriously by City conveners (Mustel 2010), that number rose to 54% with EVTF participants.

Overall, EVTF participants were satisfied with the event's approach, with 80% recommending the use of Facebook for e-deliberation for other public discussions. Participants particularly liked being able to hear the views of others and appreciated the convenience of being able to participate where and when they wanted. Some of the limitations cited by participants include the short amount of time to grapple with the issues (the main event took place over a two-week period) and limited app functionality to support complex discussions. Exposure to others' perspectives of the issues as well as

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[18] See Dutwin, 2002; Ryfe, 2006; Stromer-Galley, 2007.

to specific policy proposals were cited as key benefits of participation, demonstrating participants' perception of EVTF's dual-nature discourse – the way it supported both purposive and dialogical discourse.

Conclusion

This paper argued that the democratic potentials of e-deliberation should be understood as an outcome of the kinds of experiences e-deliberation provides, which are a function of the technical materialization of the e-deliberation event's framing and discursive modalities. In this sense, the dynamics, outcomes and democratic potentials of e-deliberation events hosted on Facebook are strongly shaped by the latter's technical affordances: the way conversation threads are handled and can be moderated, the ability to include external references, and the use of a variety of everyday modes of expression and reasoning. As our analysis shows, Facebook's affordances seem biased towards a more dialogical, open-ended mode of discourse, allowing participants to integrate various styles of expression, personal experiences and forms of reasoning without being forced to reach consensus. Importantly, Facebook's support of conversation threads seems to especially promote less purposive and more rhizomatic forms of conversation which, we note above, signal the presence of dialogical discourse. However, since the EVTF event was underscored by a substantive motivation (reaching particular policy recommendations collaboratively), conveners relied on both a specially developed app and a more active style of moderation to keep discussions moving forward toward an actual decision, giving discussions a more purposive or instrumental character. Even in this case, it was Facebook's affordances – its support of customized apps and intensive moderation – that allowed conveners to navigate discussions in this way.

Insofar as different discursive modalities have important political implications, the technical affordances that support them are politically significant too, with two important qualifications: first, the outcomes of e-deliberation events are also influenced by their socio-cultural contexts. The identities of participants, their individual and collective resources for meaning-making, the way the deliberative event is framed and scheduled, and the identity of the convening party all contribute to the short- and long-term effects of deliberation. The way these contextual elements operate in relation to the technical affordances of the e-deliberation platform is in need of further research and clarification. Second, technical design does not produce a hermetically sealed artifact; black-boxes, as Callon & Latour (1981) argue, are often "leaky", subject to ongoing negotiations based on the changing interests of designers and users and the way technical artifacts are actually used. Not only does design change, but even the same design may produce unintended behaviours and consequences (see for instance Eglash et al., 2004). Stated differently, users may, to some extent, remake the discursive space according to their own interests, always in relation to technical affordance but never exclusively determined by them. The question of which conditions allow or curb such adaptations is also in need of further research.

Lastly, and in terms of the larger social and political contexts of e-deliberation, this paper suggests that the political implications of e-deliberation events should be evaluated in light of the kind of discourses they enable, insofar as discourse creates a set of experiential resonances with potential political subjectivizations (Ranciére, 1999). In other words, discourse recasts political culture. We argued that purposive discourse orients the deliberative event by addressing participants as "rational," objective adjudicators and offering them the promise of concrete influence over the policymaking process. However, the image of political culture that emerges from purposive discourse risks effacing difference and producing artificial consensus. Dialogical discourse, on the other hand, addresses participants more pluralistically as subjects whose identity and life experience influence their political positions normatively. It represents a political culture that allows for difference and dissent to emerge as legitimate political strategies but that is threatened by an inability to transcend difference and thus risks chronic indecision. When the two discursive modalities combine it becomes possible to realize something like Beck's (1995) call for a rapprochement between *"the science of data and the science of everyday* life". With it, we may also imagine the materialization of the affinity between democratization and ecologization in a new, green political culture bolstered by procedural sustainability. Since the promotion of a sustainable society rests not only on individual behaviour change but on the possibility for collective action, how we envision a political culture that promotes sustainability and how we give that vision sociotechnical support, remains a formidable and pressing task.

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