
Happy Accidents: Deliberation and Online Exposure to Opposing Views

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1 Introduction

In this chapter, we consider the deliberative potential of Internet communication. We first draw a distinction between diverse and opposing views, arguing that the deliberative potential of Internet communication turns on exposing users to opposing, not just diverse views. We then ask if online experiences facilitate exposure to opposing views. Using recent empirical findings, we argue that Internet communication is a ‘mixed blessing’ for deliberation, as it generates both unintentional exposure to opposing views, as well as ‘drivers’ that channel users away from opposing views.

2 Distinguishing Opposing from Diverse Views

Proper deliberation extends beyond the mere consideration of reasons for actions. It also requires considering reasons against the contemplated actions. Considering, and weighing, pros and cons distinguishes deliberation from other forms of reasoning.¹ We say that we deliberate, individually or

¹ This understanding of deliberation is in keeping with a long philosophical tradition. For example, Aristotle (*Rhetoric*, I, 2): ‘Deliberation [*sumbouleuein*] consists in arguing for or against something’; and Hobbes (*De Cive*, XIII, 16): ‘Deliberation is nothing else but a weighing, as it were in scales, the conveniencies, and inconveniencies of the fact we are attempting’.

collectively, when we use reason in a distinctive way.² We deliberate about a given course of action when we suspect that there might be reasons against it as well as reasons for it. If we did not think that there might be, at least potentially, reasons for not doing X alongside reasons for doing it, we would use reason in a different way. We would seek to establish that X is the right course of action by supplying compelling arguments for it. We would not be concerned about potential counterarguments, nor would we actively seek them.

In this section, we wish to emphasize the distinction between diverse and opposing views.³ A long tradition in liberal theory has been praising the benefits of diverse and opposing views for adequate deliberation. It has often been argued that a necessary and sufficient condition for the benefits of deliberation to materialize is that participants in discussion hold diverse views and articulate a variety of perspectives. That tradition ranges from Mill, to Popper, to Sunstein, to many others.

The problem with this line of thinking is that ‘diversity of views’ and ‘opposing views’ get treated as roughly interchangeable notions. It is our contention that these notions are not interchangeable. While both opposing and diverse opinions may be needed for adequate deliberation, diversity of opinions alone is insufficient for adequate deliberation.

Elsewhere, Manin (2004) has elaborated on the reasons why even agents coming from a variety of perspectives would likely fail to search for and articulate arguments against a given measure, once a reasonably good argument for it has been advanced. For example, the costs of information search may lead people to use ‘satisficing’ heuristics and stop the search for reasons once a good argument has been found. Others may not wish to be seen as opponents of a measure that arguably promotes a common goal. Yet others may surrender to conformity pressures. As a result few, if any, arguments pointing to the potential downsides of a proposed measure may be

² The duality between internal and external modes of deliberation is evident in a recent *Oxford English Dictionary* definition which includes two sub-definitions: 1. ‘The action of deliberating, or weighing a thing in the mind; careful consideration with a view to decision’. 2. ‘The consideration and discussion of the reasons for and against a measure by a number of councilors (e.g. in a legislative assembly)’. Goodin (2005: 171) argues that the ‘micro-work’ of deliberation occurs primarily due to ‘internal’ cognitive processes, and re-frames deliberation as ‘less a matter of making people “conversationally present” and more [as] a matter of making them “imaginatively present” in the minds of deliberators. Note that in spite of the epistemic priority of “internal” over “external” deliberation, the collective aspect of deliberation is a useful means to set the introspective process in motion, as it generates present and insistent “others” pressing their claims upon deliberants’ (Goodin 2005: 183). But whether collective or not, deliberation would imply consideration of reasons for as well as against courses of action.

³ This section is based on earlier work by Manin (2004).

heard in deliberative settings even if members of the deliberating body hold diverse views, and the set of arguments will be lopsided.

Two further points lend additional weight to our claim that diversity of views *per se* is insufficient for adequate deliberation. These two points, regarding cognitive processes and selection effects, are especially relevant to our discussion below about exposure to opposing views online.

Social and cognitive psychological research shows that people do not process information in a neutral and unbiased manner but instead tend to misperceive and misinterpret evidence that is counter to their prior beliefs. Not only do people strive to reconcile the new information with their prior beliefs, they are also prone to interpreting the new evidence, especially if it is ambiguous, as lending additional support to such prior beliefs. This phenomenon is known as *biased assimilation*. Even if decision makers are exposed to a variety of arguments about a given view, they can still fail to consider properly, on their merits, those arguments that run counter to their prior beliefs. There is, however, some experimental evidence that the most effective way of countering the effects of such biases is to give greater salience to information that runs counter to prior beliefs (Lord, Lepper, and Preston 1984).

Most importantly, and most relevant to the Internet, is the possibility that mere diversity of views may result in the generation of enclaves of like-minded people. A robust finding from a large body of research on social and political behavior is that when choice is available, agents prefer to interact and organize with, and receive information from like-minded others, a phenomena known as *homophily* (Huckfeldt and Sprague 1995; McPherson, Smith-Lovin, and Cook 2001; Mutz 2006). Below we show that this tendency is manifest in a variety of spheres online.

When diversity of views is combined with freedom of speech and association, and especially with enhanced abilities to locate like-minded others and filter out opposing views, the result may be enclaves of like-minded people talking to one another, even in a context of a wide multiplicity of views. In the light of trends such as residential segregation, fragmentation of the media, and narrowcasting, the consequences of segmentation seem to be of prime concern from a deliberative standpoint.

The deliberative potential of a given environment or medium should be assessed by looking at the probability that agents will be confronted with opposing views and will give them due consideration. Thus in seeking to estimate the deliberative potential of Internet communication, we should focus on the probability that users will be exposed to opposing views online and on the probability that such exposure will trigger the distinct deliberative mode of reasoning 'within' individuals.

3 Generating Exposure to Opposing Views

Heterogeneous backgrounds and opinions do not necessarily entail the articulation of arguments both for and against particular courses of action. It is the *opposition* of views and reasons that is necessary for deliberation, not just their diversity. Diversity of views may fail to bring opposing views into contact.

But exposing agents to opposing views during deliberation entails a number of challenges. First, typically there are substantial opportunity costs for the deliberating agents, as deliberation takes time and cognitive resources that may be devoted to other issues, more aligned with the deliberants' interests and concerns. Hence, debates on issues of public concern may have to be actively promoted.

Second, debates with an *adversarial* character need 'enhanced' promotion and organization, since they require participants to face conflict and generate talk across cleavages. Research shows, however, that people tend to *avoid* the psychic discomfort of involvement in contentious discussions. Whereas learned scripts largely regulate recurring interactions with others, a cognitive shift occurs when others challenge one's views or when one feels the need to challenge others' views (Ryfe 2005). Such a cognitive shift disrupts individual reasoning routines and generates anxiety. People are therefore reluctant to experience it and try to avoid it in their daily lives (Ryfe 2005; Marcus, Neuman, and Mackuen 2000; see also Eliasoph 1998).

As a result, people tend to carefully select their conversation partners. Research indeed shows that offline political talk occurs mostly among friends, family, and like-minded others (see Huckfeldt and Sprague 1995; Kim, Wyatt, and Katz 1999; Conover, Searing, and Crewe 2002). Even the voluntary associations that people choose to join become rather homogeneous ideologically (Theiss-Morse and Hibbing 2005).

One therefore cannot expect adversarial debates to arise spontaneously in a diverse society with freedom of speech. Public deliberation is a complex public good whose facilitation has to overcome a number of obstacles (opportunity costs, generating cross-cleavage communication, overcoming conflict avoidance) and requires extensive organizational work. When organizational costs are borne by interested parties, the hazard is that they may skew the deliberation to favor their interests (Przeworski 1998), for example by manipulating agendas, argument pools, and procedures. Presenting 'devil's advocate' arguments may be especially challenging if the organizers of deliberation feel that allowing them may have adverse consequences.

In discussing the possibilities of exposing agents to opposing views online, one should steer away from simplistic arguments that directly link, for example, abundance of information to familiarity with opposing views

(Bimber 1998; Delli Carpini and Keeter 2002). When information is abundant but attention is scarce, agents use selection strategies and short-cuts or even choose to remain uninformed. The logic of ‘rational ignorance’ still prevails even if, as Lippmann (1993) nicely put it, ‘by some development of the radio every man could see and hear all that was happening everywhere, if publicity, in other words, became absolute’ (33-34). Scale and accessibility are insufficient to account for the deliberative possibilities of Internet communication. The *effective* possibility of exposure to opposing views is also determined by such factors as the organization of content and links, and the ideological makeup of deliberative spheres online.

The literature on online deliberation focuses on facilitated settings. Organizing such forms of deliberation online is substantially less expensive than offline. Participants can deliberate from the comfort of their homes, without necessarily limiting themselves to very specific times and places. It is also significantly less expensive to create a representative sample of a decision making body online (due to reduction of coordination costs, transportation costs, and so on). Offline, when organizers aim at achieving a representative sample of a geographically dispersed population, they must bring participants to a common physical location at a specific time, which can be extremely expensive (Iyengar, Luskin, and Fishkin 2003). Even more expensive to organize are offline longitudinal deliberations, which require multiple sessions separated by long intervals of time.

Experiments in online deliberation have produced encouraging results such as lack of polarization and radicalization, knowledge gains, more considered opinions, satisfaction from the deliberative process, and enhanced feelings of efficacy (Price and Cappella 2002; Iyengar, Fishkin, and Luskin 2003; Muhlberger 2005). Such experiments point to the continuing promise of utilizing the Internet to support facilitated deliberative arenas to discuss the problems of heterogeneous publics (see also Price 2003).

Such deliberative moments of interactive exchange among members of heterogeneous groups are rare, because they are still relatively expensive to organize, require cross-cleavage communication, and interrupt regular reasoning habits. We concentrate instead on the large number of interactions that users engage in each day. We argue that these online experiences both limit exposure to opposing views *and* generate unintended contact with such views. We therefore refer to two sets of factors: ‘drivers of homogeneity’ and ‘drivers of opposition’, respectively.⁴ In the following two sections we analyze them using a broad brush.

⁴ Stromer-Galley (2002) argues that research on the deliberative potential of the Internet oscillates between perspectives emphasizing ‘diversity’ and ‘homophily’ (Stromer-Galley

4 Drivers of Homogeneity

Internet communication enhances abilities to locate a variety of communication partners, to acquire information from a multiplicity of sources, and to ‘surf’ between websites that present diverse and opposing views. These abilities can be utilized in different ways; some users can choose to communicate with and receive information from agents with opposing views, some can choose to communicate with and receive information from those who are like-minded, and others can choose to randomize. However, a robust finding is that the enhanced possibilities for *intentional* exposure online primarily lead to exposure to like-minded others.

To study the consequences of selective exposure, it would be useful to look at some empirical research. Especially telling is research that deduces ‘macro-regularities’ and patterns from the accumulated ‘micro-behaviors’ of large numbers of users. The consequences of homophily are manifest in a variety of settings online: the Internet is used for forming clubs of like-minded people, receiving information primarily from like-minded others, and creating homogenous hyperlinked spaces. Let us review these three ‘drivers of homogeneity’ in some detail.

Associations and Normative Pressures

The Web allows agents to create homogenous clubs of the like-minded. Of prime concern are the segregating effects of virtual groups. In a 2001 Pew survey, 84% of Internet users indicated that they contacted a virtual group, and 79% of them identified at least one group with which they maintained regular online contact. It should be noted, however, that politics is not a main reason for association: only 22% reported that they contacted a ‘political’ virtual group (Horrihan and Rainie 2001: 4). We will come back to this point later.

Survey work shows that agents join virtual communities for a variety of reasons, but primarily to obtain relevant information at low costs (Horrihan and Rainie 2001; Ridings and Gefen 2004). When a large number of agents join for such reasons, the group is essentially composed of members who choose to communicate with others with whom they share hobbies, lifestyles, professional interest, or health or other concerns.

Unlike in more ‘traditional’ offline communities, exiting Internet-based communities is usually very easy. When members feel their voices are not heard, they may prefer low-cost exit over voice or loyalty, leaving the community and establishing a new subcommunity that is better oriented to

2002). In light of the earlier discussion, we think that the labels ‘opposition’ and ‘homogeneity’ better capture the distinctions that really matter for deliberation.

their interests and concerns. When such a dynamic occurs, it tends to eliminate not just diversity of views, but opposing views in particular.

Research on the social and cognitive effects of computer mediated communication (CMC) shows that, perhaps counter-intuitively, under some conditions CMC can lead to enhanced normative pressures and generate a sort of ‘panoptic power’ (Spears and Lea 1994). CMC environments (particularly text- and audio-based) disable a range of contextual cues (e.g. social, visual), but often some group-level social cues remain intact and are the only cues available for virtual group members. In such conditions, group membership becomes *situationally salient*. When a CMC environment is characterized by a salient sense of group membership, the lack of other cues leads to stronger influence of social norms on behavior and to compliance with the situational norms (Postmes, Spears, and Lea 1998). Spears and Lea (1994) argue that in such CMC environments, the over-reliance on minimal cues to ‘cognitively compensate’ for the absence of other cues can lead to in-group favoritism, stereotyping, and disapproval of out-groups.

This line of research is very relevant to virtual communities, where members are aware of their common group membership but may be otherwise anonymous to one another. Under such conditions, discussion can become highly normative, leading to suppression of opposing views and radicalization (Sunstein 2001).

Collaborative Filtering and Popular Feedback Loops

By choosing a group, agents select whom to communicate with, about a topic they commonly find worth pursuing, thus sorting themselves into clubs. Such clubs can function as efficient information aggregators and can facilitate organizing for collective action, including for otherwise latent causes.⁵ But they can also function as information filters at the price of suppressing opposing views.

Many virtual associations enable ‘collaborative filtering’ or allowing group members to collaboratively prioritize the information they are exposed to. For example, members can rate contributions and contributors; their votes can be tallied and weighted to decide the rating of contributions. Automated mechanisms can then edit community Web pages and present items according to their ratings. Popular content thus becomes more visible than unpopular content. This practice of a popular feedback loop has its

⁵ This is true, for example, for widely dispersed interests, or for groups whose members may not be interested in exposing themselves to anyone other than to similarly-situated others, or for groups of individuals who can find it difficult to locate similarly situated others offline (Lev-On and Hardin 2007).

advantages, as it minimizes information search costs and enables a short-cut to relevant information.

At its best, when collaborative filtering is based on the force of the better argument/article, the ability to prioritize content based on discussion and evaluations publicly provided by many self-selected ‘experts’ seems very promising. However, at its worst, collaborative filtering can generate a high-tech version of majority tyranny, amplifying popular opinions and muting opposing views. Even if an occasional thought-provoking but non-conforming view is expressed, it can be effectively shunned because of its non-conforming character and in spite of its argumentative value. As a result, for example, members of progressive-leaning groups not only talk primarily amongst themselves but also efficiently screen out opposing views expressed by thoughtful conservatives, and vice versa (see Lampe 2005). When applied in such ways, collaborative filtering can render opposing views literally invisible.

Ideologically Homogeneous Hyperlinked Spaces

A third ‘driver of homogeneity’ is apparent in the multiplicity of homophilic hyperlinked ideological spaces online, in which surfers are effectively channeled to similar views and away from opposing views.

Let us start with the World Wide Web. Research suggests that Web links follow homophilic patterns. Hindman, Tsioutsoulouklis, and Johnson (2003) analyzed the link structure of political issues on the Web, particularly focusing on themes such as abortion, gun control, and capital punishment. They found clusters of opposing views in each of these categories. The authors also found that each cluster was regulated by power laws, such that a small number of sites inside each cluster emerge as focal sites, while the majority of sites receive a negligible number of inbound links. These focal sites help to organize the conversation inside ideological clusters. The consequence is that linking patterns spontaneously generate, for instance, not just a small number of focal sites addressing abortion but also a small number of focal pro-life and pro-choice sites, with little inter-linking between them.

Research shows that the same homophilic link structure is evident on the blogosphere as well. Adamic and Glance (2005) studied the linking patterns of political bloggers. They found that the blogosphere is composed of tightly connected clusters of liberal and conservative blogs, with very few links between clusters; the great majority of links are internal to either the liberal or the conservative blog clusters (Adamic and Glance 2005; Ackland 2005). The authors also found that political blog clusters focus on news articles that support their political views.

The macro-outcome of segmentation (with its adverse consequences for exposure to opposing views) results from the linking micro-practices of authors. We can think of links between websites as constituting a form of conversation, where links manifest recognition of the importance of the linked sites and their ‘legitimacy’ as interlocutors. The linking choices of authors direct surfers to potential conversation partners (see Herring et al. 2005). The implication of the homophilic structure of these linked spaces is that surfers are likely to come across sites (or blogs) with similar ideological affinities, effectively filtering out sites with opposite views from public deliberation.⁶

5 Drivers of Opposition

The phenomena described above demonstrate that a diversity of views is entirely consistent with the formation and persistence of enclaves of like-minded agents. More importantly, they also demonstrate that *intentional choices drive out opposing views*. Some agents may appreciate and enjoy conversing with others with diverse and opposing views (Stromer-Galley 2002). But we should not assume that users, as a general rule, actively look for opposing views. Empirical studies seem to show that users prefer to organize with and get their information from like-minded others, when given the opportunity to do so.

This fact, however, suggests another possibility. If users’ choices hinder exposure to opposing views, such exposure might still happen *unintentionally* or even *against users’ intention*. We should therefore ask whether Internet communication holds the potential for unintended encounters with opposing views. If this were the case, the Internet would qualify as a deliberative medium for a quality that it is not usually praised for.

In the following sections we argue that such is indeed the case: alongside the enhanced abilities to filter out opposing views, Internet communi-

⁶ Research on exposure to opposing views in newsgroups is more encouraging from a deliberative standpoint (note that this genre is much less popular than the Web, particularly for political involvement (Kohut 2004; Madden and Rainie 2003). Kelly, Smith, and Fisher (2005) use social network analysis to reveal the structure of relationships among key participants in eight political USENET newsgroups. The authors find high rates of interactive dialog among opposing views, even in groups that are prima facie suspected to be highly partisan, such as alt.politics.republican. However, earlier work on newsgroups, which used simpler methods, identified high doses of homophily. Wilhelm (2000) who studied patterns of interaction in ten political newsgroups, argued that conversation is extremely partisan; 70% of the messages were classified as homophilic, expressing support for a dominant position or a popular political figure. Davis (1999), who found similar patterns in a study of three political newsgroups, argues that newsgroups function as forums of reinforcement.

cation also facilitates ‘happy accidents’, i.e. *unintended* exposure to opposing views. We investigate the factors driving such exposures.

We focus on three factors: the creation of a variety of settings for cross-cleavage communication; reduced cognitive pressures to express opposing views in such settings; and imperfect abilities to tailor one’s communicative environment online.⁷

Cross-Cleavage Communication

We claimed above that generating cross-cleavage political communication is a complex public good. Offline, sites of exposure to opposing views and especially interactive discussion with people with opposite opinions are rare. Others have argued that the leading candidates to generate such cross-cleavage exposure are the mass media (Mutz and Martin 2001) and the workplace (Mutz and Mondak 2006; Mutz 2006). Our proposition is that Internet communication generates a variety of sites that are a welcome addition to such spheres. We focus on online magazines and nonpolitical virtual communities to demonstrate this point.

Currently, the most popular news sources online are the websites of ‘traditional’ general interest media outlets (such as the BBC, CNN, and the New York Times), supplemented by additional news portals (like Yahoo News or Google News) and focal political blogs (Rainie, Cornfield, and Horrigan 2005). Such websites include not only news stories but also enhanced ‘talk-back’ features which enable readers to interactively respond to articles and comments made by others and to post links to stories published elsewhere. Such sites not only attract general readership but also enable critical discussions among readers. Such sites seem to support and enhance the role of the mass media as an agent of cross-cleavage exposure (Mutz and Martin 2001) and seem conducive to encounters with opposing views.

Nonpolitical virtual communities are additional candidates for generating cross-cleavage political communication. As stated before, survey work (Horrigan and Rainie 2001: 4) shows that only 22% of the people who contacted virtual groups, contacted ‘political’ virtual communities. Thus, self-described ‘nonpolitical’ communities seem to be much more prevalent than ‘political’ ones.

⁷ Another source of ‘deliberative optimism’ comes from survey work. For example, Stromer-Galley (2002) conducted sixty-nine in-depth interviews in three deliberation spaces (USENET newsgroups, Yahoo message boards, and Yahoo chat spaces) and found that users ‘appreciate and enjoy the diversity of people and opinions’. In another survey, Horrigan, Garrett, and Resnick (2004) found that Internet use is correlated with familiarity with more arguments for and against the position of a candidate for president on key campaign issues; participants reported that they do not limit information seeking to sites which support their political views (see also Rainie, Cornfield, and Horrigan 2005).

Lampe (2005) examined the characteristics of political conversation in one of the most popular communities, Slashdot. Although functioning as a community for computer hobbyists and professionals (famously providing 'news for nerds'), Slashdot became a vivid deliberative forum prior to the 2004 presidential elections in the United States.

Lampe shows that before the elections, more and more political stories were posted to the community portal. Political stories not only received significantly more comments than stories on other topics, but the comments were much more contentious. Commentators on political stories also received significantly more ratings than commentators on other stories, and there were significantly higher inter-moderator disagreements about the value of comments, suggesting that 'moderators are using selection bias to judge comment values' (Lampe 2005: 21).

Such nonpolitical virtual communities, just as online news magazines, attract large crowds across political cleavages. Some of them evolve to become focal sites for large-scale cross-cleavage communication among people who did not join for ideological reasons. The combination of political heterogeneity, scale, and interactivity contributes to the rise of such new intermediaries for exposure to opposing views.

Reduced Cognitive Pressures

Earlier we claimed that two key problems in the organization of deliberation are overcoming self-selection and conflict avoidance. In the previous section we suggested that a variety of novel and supplementary intermediaries for cross-cleavage exposure are created online, relaxing the selection problem. Now we wish to show that in such settings (and a variety of other online settings), it is also easier to overcome the psychic discomfort that is typically generated by exposure to opposing views.

Why is self-expression easier online, particularly when the communication channel is poor (text- or even audio-based)? Research on the social effects of computer mediated communication suggests that it should be understood as an 'amplifier or magnifier of social psychological and communication phenomena' (Walther 1997: 360). Earlier we noted that when CMC environments disable contextual cues but group membership is situationally salient, the result can be stronger influence of situational norms on behaviors. However, when no cues are available and group membership is not salient, the opposite effect occurs: the total absence of cues generates a reduced sense of social presence, reduced awareness of the social environment, and consequently reduced concerns for social approbation, decreased awareness of, and adherence to social norms, and reduced opportunities for social control and regulation.

When the communication medium is poor, the cognitive discomforts associated with disagreement is reduced. It then becomes easier to express nonconforming or opposing views, and to engage in debates. Obviously the expression of dissonant views by some translates into exposure to such views by others. The consequences can vary; in some contexts CMC can encourage antinormative and disinhibited behaviors such as ‘flaming’. At other times, it can also support the expression of nonconformist views and brainstorming (see Walther 1996; McKenna and Seidman 2005; Postmes, Spears, and Lea 1998).

Imperfect Tailoring and Chance Encounters

We saw earlier that the homophilic structure of Web links can channel users away from opposing views. If hyperlinked spaces were not only homophilic but also ‘hermetically sealed’ surfers would be perfectly locked in them and there would be few possibilities for chance exposures to opposing views. However, a third factor leading to exposure to opposing views is the *inability* to perfectly tailor exposure to political information online.

Since the link structure of the Web is not created by a ‘social planner’, but linking decisions are made instead by individual authors, there is always the possibility that sites will include links to opposing views. The ease of following these links makes opposing views more immediate and accessible. Even when people surf the Web looking for information to reinforce their prior beliefs, they can at times be routed to or stumble upon opposing views. Even if such cases are not common, when they do occur opposing views are just a click away, unlike access to opposing views offline.

Search engines demonstrate the imperfect opportunities to tailor one’s communicative environment.⁸ Search engines are popular starting points for information searches; on any given day, fifty-six of those online use them (Fallows 2005). Like the websites of traditional media outlets, they attract substantial amounts of traffic and consistently top the lists of popular websites.

An interesting feature of search engines, not often noted by commentators, is that users cannot perfectly tailor the ideological affiliation of the sites towards which they are channeled. For example, users who champion capitalism or globalization and want to learn more about these topics can be channeled to anti-capitalist or anti-globalization sites, respectively.

Elsewhere, Lev-On (2008) points out that such ‘tailoring failures’ are caused by certain aspects of the process of retrieving information through search engines. First, currently there is no comprehensive and reliable network of keywords that properly describe the content of Web documents (a

⁸ This section is based on Lev-On (2008).

semantic Web.) Such an absence makes it difficult not just to retrieve information relevant to a query but also to discriminate between content based on ideological leanings.

Second, the interface of search engines is essentially textual, which mutes the richness of natural language and provides limited interactivity between the searcher and the engine that searches for him (compared to the much richer interaction between a searcher and a human who is asked to do a similar search). This disables a fine-grained understanding of the intentions behind a formal query and limits the relevance of responses to users' queries.

A third and last obstacle to 'perfect search' involves the way in which users formulate and articulate their queries. A number of studies on information seeking online reveal that users compose very short queries, rarely use advanced searching options, view a very small number of documents per query, and almost never view more than one page of results (see Spink and Jansen 2004; Machill et al. 2004). Spelling mistakes and nongrammatical formulations are frequent. Such information seeking patterns limit searchers' ability to retrieve information tailored to their views. When agents use search engines to locate information that reinforces their views, they can be directed to sites that present information and arguments opposing their views.

6 (Provisional) Conclusions

We began by arguing that deliberation consists in the seeking and weighing of pros and cons concerning a given proposition or course of action. We emphasized the importance of exposure to opposing views. The deliberative potential of online environments thus seems to be based on their effective capabilities to confront agents with opposing views, even against their will, and to generate due consideration of such views.

Our analysis suggests that the Internet is a mixed blessing for deliberation. On one hand, people find it much easier to organize with and receive information from like-minded others. The homophilic link structure of the most traveled Web spaces can further channel agents away from opposing views.

But 'drivers of opposition' mitigate the effects of these 'drivers of homogeneity'. Perfectly tailoring one's communicative environment is not all that easy. Furthermore, there are extended opportunities online for communication across political cleavages, as well as reduced cognitive pressures to express opposing views.

What are we to make of all this? The arguments presented here suggest that the deliberative potential of an online space depends on the drivers,

whether of homogeneity or of opposition, that dominate in a particular context.

It seems too early to formulate a comprehensive theory of deliberation online. Some of the technologies involved in online communication are still changing at a fairly rapid pace. Access to the medium is spreading, with many people still learning how to use it. Usage patterns are probably not stabilized yet. Finally, research on some of relevant dimensions of exposure to opposing views online is still in its infancy. Nonetheless, we wish to advance a couple of limited and provisional claims.

When users efficiently choose their communicative environment, they tend to build echo chambers. Tailoring one's online communicative environment is certainly feasible, but it is also costly. It requires time, energy, and skills, which many users do not possess and which are costly to acquire. It seems reasonable to surmise that not all users are equally prepared to incur such costs. In all likelihood many will content themselves with imperfect tailoring, thereby increasing their chances of encountering opposing views. Thus the costs of tailoring one's communicative environment limit intentionality in communication.

Another factor limiting the intentional search for like-minded communication partners is that like-mindedness is typically not an all-encompassing feature. Users may be of like mind on one issue or in a given domain while holding opposing views on other issues or in other areas. People are bundles of characteristics. Similarity along one dimension does not necessarily carry similarity on another. This is especially relevant for online communication. Dissimilarities on other dimensions are potential sources of opposing views, and thereby of deliberation, on topics other than that which brought users in contact.

The critical role of intentionality in driving out opposing views suggests one last point concerning political opinions. It seems reasonable to infer that when agents are interested in political issues and are sufficiently motivated to incur the costs of tailoring their communicative environment—or of learning how to do so—the drivers of homogeneity become dominant. For such agents, and more broadly for users highly committed to a given cause, the Internet offers the opportunity to build their own effective echo chamber, therefore not enhancing, and even possibly impairing, their deliberative capabilities.

However, for the many agents who do not care much about politics, are incapable of manipulating their communicative environment, or are unwilling to put up with the cost of doing so, the mechanisms of segregation may not be efficient enough, and the drivers for opposition can become more dominant. Most likely, online communication enhances the deliberative opportunities for such agents.

These conclusions are highly provisional. To better understand the possibilities of exposure to opposing views online, we need more empirical research. For example, we need to know more about the implications of preferential attachment as expressed by the ideological composition of Web-based discursive genres (such as virtual communities and news-groups.) We need to know more about the occurrences and characteristics of cross-cleavage communication in various Internet-based spheres, like Web-based magazines and virtual communities. We also need to know more about, for example, the effects of collaborative filtering and the patterns of political information seeking online. Such research is necessary to understand if, where and how the promises of improved public deliberation online will become realities.

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