9
The Democratizing Effects of Search Engine Use: On Chance Exposures and Organizational Hubs

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Summary In this paper I highlight two implications of the widespread use of search engines, which are often overlooked by commentators. In the first part of the paper I argue that search engines are conducive to unplanned exposures to diverse and even opposing views. In the second part I argue that search engines indirectly contribute to emergent political organization, since they allow large numbers of people to locate and access organizational hubs of collective action. I conclude by pointing to the democratic significance of these properties.

9.1

In late 2002 Jiang Mianheng, the son of the former Chinese president and a powerful political figure, visited the 502 research institute of the Ministry of Information Industry to see a demonstration of high-speed Internet. One of the engineers typed the name of his father, "Jiang Zemin," in the Google search engine box. Three of the top ten results were highly critical of the senior Jiang. "Evil Jiang Zemin" was the title of the first result. Shortly afterwards, according to well-informed sources, Jiang Mianheng instructed to block the search engine site (Tianliang 2005).

In a *New York Times* article from April 23, 2006 entitled *Google's China Problem (and China's Google Problem),* Clive Thompson comments that authoritarian governments and companies that provide Internet search services are strange bedfellows. As evident from the title of his article, Thompson focuses on Google and the Chinese authorities. 'China's Google problem' refers to the authorities' discontent with the new capabilities of Chinese citizens to locate and gain access, through search engines, to websites critical of certain governmental policies. 'China's Google problem' is nicely manifest by the Jiang story above. 'Google's China problem' is Google's discontent with the authorities' demand to censor and monitor its citizens' use of the search engine. Such demands are at odds with the company's policies and, for some, cannot be reconciled with its motto of 'don't be evil.'

Google's recent policy shift and decision to comply with the authorities' demands and censor certain search results on its Chinese Website led to a public

uproar, and to intense and largely critical press coverage. However, in this paper I do not focus on 'Google's China problem,' but on 'China's Google problem' instead. In light of the harsh reaction of authoritarian governments against indexing and searching sites with arguably no independent political agenda, I would reflect on the dilemmas that search engines pose for authoritarian governments, and point to the democratic significance of search engine use.

This short essay is not an elaborate case study of either 'Google's China problem' or 'China's Google problem.' I utilize 'China's Google problem' to illustrate the tensions between authoritarianism and enhanced popular information-seeking capabilities. The tensions between Google and the Chinese authorities are especially interesting given Google's current dominance in the search market, and the aggressive efforts of the Chinese authorities to lock local surfers behind a 'great firewall.' But the points made in this paper equally hold for other authoritarian governments and searching and indexing services.

9.2

Undoubtedly, search engines have become a vital tool for information-seeking. Search-engine Websites consistently top the lists of popular Websites; a recent survey shows that on a given day 56% of surfers use Web search engines (Fallows 2005). In addition to search-engine sites, search boxes are embedded in countless Websites, and gradually in personal computers as well.

A common metaphor for the Internet is of a huge library, containing vast amounts of materials from great many sources. But a huge library with no efficient indexing and searching tools is essentially useless and probably counter-productive as well. Search engines effectively create an index and assist in 'making order out of chaos' and in evading information overload online. Battelle (2005) convincingly argues that we should conceptualize search engines as information intermediaries or brokers, that assist in matching information supply and demand by creating a 'marketplace' where information-providers can 'publicize' their merchandise and be located by information-seekers, and information-seekers can obtain lists of results that are potentially relevant to their queries.[117]

Famously, the algorithm behind Google, PageRank, emphasizes in-bound links when it determines the relevance of possible responses to users' queries. More precisely, the algorithm holds links from popular sites 'in greater esteem' than links from unpopular sites when determining relevance. The idea is that the linking patterns of popular sites provide a good proxy for users' needs. In other words, if according to many sites (and particularly popular sites) a particular site contains information that is relevant to your query, you are likely to find this site relevant as well.

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[117] Battelle (2005, 47) suggests that Google "would like to provide a platform that mediates supply and demand for pretty much the entire world economy."

Search engines which utilize the linking patterns of many other users to determine relevance have, evidently, a number of advantages over human-generated indexes (where users categorize and comment on individual sites), and expert-run answering services (where users provide direct responses to other users' queries), in terms of such parameters as the efforts required from the information-broker, response times, and the number of sources upon which the answer is based. When PageRank and its cousins produce 'organic' results, which are driven by the linking decisions of individuals and not tinkered with or compromised by spammers, firms or governments, they create a rather genuine 'public choice.' PageRank and similar algorithms popularize the search function, basing it on a slightly 'filtered' public opinion.

Google and other search engines have been recently criticized for a variety of reasons. Some argue that at times there is no sufficient separation between the presentation of organic results and paid results, and consequently users may fail to clearly distinguish between the two. Other criticisms refer to biases that result from governmental intervention, as in the Chinese case. Censoring some organic search results and replacing popular items with government-approved less popular items obviously bias the search outcomes. Moreover, when search engines completely remove 'forbidden' items from the result list, without even leaving a non-functional link to the blocked result, users are unaware that such 'forbidden' results even exist.

The above critiques refer to manipulations of the *presentation* of search results. Other critiques regard the by-products of the *inherent* features of search-engine algorithms. In this regard, it has been argued that search engines assist in transforming the equality of opportunity the Internet is so much praised for, into inequality of outcome, and substantiating the dominance of a small elite of highly-linked sites over users' attention.[118] Research shows that the Web link structure is highly skewed, where a small number of sites are heavily linked to, and the overwhelming majority of sites are quite inaccessible. These skewed linking patterns hold not just for the Web as a whole, but also for thematic sites that deal with political issues as gun control, abortion, capital punishment, and general politics directories (Hindman et al. 2003). These phenomena have been explained as consequences of a 'rich get richer' dynamics, which mainly occurs due to preferential attachment of new outbound links to already salient Websites (Barabási 2002; Huberman 2001).[119] It has been argued that search engines, and especially Google-style popularity-based search engines, channel surfers primarily to already popular sites, and help substantiate

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[118] But see Fortunato et al. (2006), who argue that search engines are "directing more traffic toward less popular sites, even in comparison to what would be expected from users randomly surfing the Web."

[119] Research shows that skewed distributions, such as power-law distributions, are ubiquitous online. In addition to the Web link structure and traffic that is correlated with it (Barabási 2002), Drezner and Farrell (2004) found that the distribution of inbound links to blogs follows a power-law distribution as well. The highly inegalitarian distributions of links and traffic have profound implications for web-based organization. The fact that a small number of sites emerge as focal sites means that users with similar tastes, economic interests or hobbies can easily converge onto a narrow set of focal sites. Such focal points serve, in essence, as organizational hubs that can be easily discerned by search engines (see later).

their centrality. But search engines not only direct people to already popular sites; assuming that the probability that users link to a particular site increases if they are routed to this site, search engines indirectly perpetuate and reinforce the highly inegalitarian distribution of links and traffic online.

Note that such critiques are reminiscent of long-standing critiques of direct democracy (that some search engines emulate) regarding its vulnerability to administrative and commercial pressures, and its tendency to lead to majority tyranny. All, or some, of these concerns may be justified to some degree or another. But they are not our main concern here. Instead, let us focus on certain advances that search engines generate in democracies, and the flip-side: the concerns they raise in authoritarian regimes. My aim here is not to deny that the uses of search-engines generate some by-products that may be at odds with our democratic sensibilities. Such potential problems coexist with the new promises that are surveyed below.

9.3

An interesting feature of search engines, which is nicely demonstrated by the Jiang incident, is that they occasionally generate unplanned and unpredictable exposures to diverse views, even to information that runs counter to searchers' prior beliefs. For example, users who want to learn about cellular phones can be directed to Websites which focus on their disadvantages and even hazards (Brin and Page 1998), but at other times can be routed to Websites which praise them. 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.

Keep in mind that offline, the chances of running into opposing views, especially in political matters, are not promising. Research shows that people tend to carefully select their conversation partners, and political talk occurs mostly among friends, family and like-minded others (see Huckfeldt and Sprague 1995; Kim et al. 1999; Conover et al. 2002). Even the voluntary associations that people choose to join, evolve to become rather homogenous ideologically (Theiss-Morse and Hibbing 2005, see also Mutz 2006).

Search engines, on the other hand, enable easy access, with a click of a mouse, to vast amounts of information generated by many sources. But easy access cannot by itself counter the filtering mechanisms of everyday discourse. Let us imagine an information environment in which extensive amounts of information exist alongside refined tailoring abilities of content, i.e. people can use search engines to carefully select those items that correspond to their worldview from the massive amounts of information, and screen out all the rest. In such environments, refined search and tailoring abilities may generate exposures only to information confirming and reassuring users' prior views, consistent with users' *homophile* information-seeking patterns offline (Mutz 2006).

But I argue that, at present, search engines do not allow for such refined filtering capabilities, and at times even unintentionally expose users to opposing views.
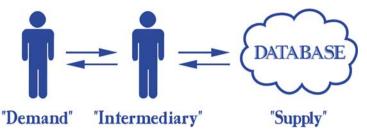
"Demand" "Intermediary" "Supply"

Fig. 9.1 An illustration of Mediated Database Information Retrieval Processes

While unfolding the reasoning, let us keep in mind that three 'components' are involved in the process of retrieving information through search engines: the user, the search engine, and the information available online. Figure 9.1 below shows a highly simplified version of mediated processes of searching and retrieving information from a database, where users ('demand') retrieve information from databases, using an 'intermediary.'

The 'intermediary' phase of this process is depicted in the drawing as a human and can be, for example, a family-member, a friend or an expert. But it can also be non-human; for example, the intermediary can be PageRank or another algorithm that fetches information from the database at the request of the 'demanding' person.

In an 'ideal retrieval process,' queries are perfectly framed and articulated by the users ('demand'). The intermediary does not only have access to the wording of the query, but has a 'deeper' understanding of users' intentions which enables it to ask for clarifications or suggest modifications to the query before accessing the database. The database itself is perfectly indexed, such that the intermediary can have a direct access to all the relevant information (for another account of a 'perfect search' see Battelle 2005, chap. 7). Think of an intelligent agent that can, upon command in natural language, "fetch all arguments for limiting immigration", or "provide a summary of the recent successes of pro-life efforts", or "suggest an argument why gay marriages are morally right" or wrong. Such an 'ideal search' allows users, if so they wish, to craft their own ideological universe out of the vast amounts of information available online, and effectively filter out all traces of diverse and opposing views.

But there are a number of obstacles for such an 'ideal search,' when it is carried out through search engines. Below I focus on three such obstacles involving imperfect database indexing, limited intermediary qualifications to recognize the intentions of searchers and fine-tune the query, and ill-formulations of queries. I claim that such obstacles prevent users from perfectly tailoring their 'ideological universe,' and given the massive amounts and diversity of information online, they can even facilitate exposure to diverse and opposing views. Let us review these obstacles in some detail.

Let us start with the 'supply side' of the retrieval process, and comment on the current absence of a comprehensive and reliable universal tagging system (i.e. a semantic Web) – the lack of a network of keywords that properly describe the content

of online documents. The current absence results from the lack of a central authority or a 'central librarian' to classify online documents, a feature which is inherent to the Internet. Note that recently there have been some suggestions for collaborative classification of documents, where users generate keywords that are associated with individual sites. Tagging content collaboratively is an instance of what I elsewhere call second-order collaborations (Lev-On and Hardin 2007), and is increasingly used in a variety of Websites.[120]

The ill-classification of the online 'database' makes it difficult for the 'intermediary' (whether a search engine or otherwise) to locate relevant content. Moreover, it makes it difficult to discriminate content based on ideological affiliations in order to design and maintain, for example, a 'progressive universe' or a 'conservative Web' that can be queried through search engines. In other words, it makes it difficult to perfectly tailor the ideological affiliation of sites towards which users are channeled.

Where the first obstacle for an 'ideal search' is associated with the 'supply' side of the process, the second obstacle involves the interaction between the intermediary and the 'demand' side – the searcher – and regards the comparatively limited abilities of the intermediary to have a 'deep understanding' of the intentions of searchers.

Let us think of queries along the lines of 'fetch all the arguments and court rulings against stem-cell research.' one can direct such queries to an 'online answering service' composed of experts; alternatively, one can post a query to newsgroups or virtual communities with known ideological affiliations. Compared to such alternatives, the results obtained from search engines can be pale. The alternatives have clear advantages over search engines in terms of the usage of natural language, the ability to induce intentions from the context and wording of the query, and the uses of interactivity. These features allow such 'intermediaries' a fine-grained understanding of the intentions behind a formal query.

In the case of search engines, however, the interface is essentially textual and there are minimal interaction and feedback between the 'demand' side and the 'intermediary.' As a result, there are fewer opportunities for a fine-grained understanding of the intention behind a formal query when using search engines. At the current state of search engine technology, then, mapping users' intentions to relevant answers, especially for more complicated queries, can be highly imperfect (see Battelle 2005).

The third and last obstacle for an 'ideal search' process regards the searchers - the 'supply side' – and how they formulate and articulate their intentions. A number of

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[120] By 'secondary collaborations' we refer to a 'family' of institutions that aggregate large amounts of individual selections and generate social choices. 'Secondary collaborations' can be used to produce reputations, edit and rate content, moderate discussions and provide reviews and recommendations of products and services. Note that collaborative tagging may face such problems as improper (and even malicious) tagging, and inter-personal disagreement on tagging.

studies on information-seeking behaviors online reveal that users compose very short queries, hardly 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 non-grammatical formulations are frequent (Hargittai 2006).[121]

Such information-seeking patterns limit searchers' abilities to retrieve only information tailored to their views and filter out information that opposes them, and reduce the effectiveness of searching strategies. Note that the first two obstacles for an 'ideal search' – regarding content tagging and intention guessing – can be better addressed when search technologies improve and are better able, for example, to approximate natural language or to capitalize on a comprehensive semantic Web. But improper use of searching tools and inadequate framing of search queries will continue to limit users' abilities to retrieve information, even after technological capabilities improve.

In summary, I argue that due to such factors as the absence of a comprehensive and reliable system of keywords, the difficulties of deciphering searchers' intention by intermediaries, and far-from-optimal popular search patterns, it is difficult to craft an ideal search, and searchers cannot easily limit themselves to sealed ideological spaces online. If users had the abilities to limit their horizons in such ways, they would indeed be able to efficiently craft their own ideological echo chambers and totally prevent exposure to opposing or diverse views, substantiating Sunstein's (2001) fears. But since agents can find it very difficult to limit their horizons in such ways, and given the large amount of information and the variety of sources online, when agents use search engines they can be directed to unexpected places, even to (popular) sites presenting arguments that counter their views.[122]

Earlier we commented on the role of search engines in bridging the supply and demand of information online (Battelle 2005). While search engine do make information markets more efficient, they still imperfectly bridge demand and supply. The combination of imperfect matching and tailoring abilities, with abundance and diversity of information, seems conducive to drive people to diverse and even opposing views (see Lev-On and Manin 2007).

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[121] The somewhat paradoxical argument here is, in effect, that illiteracy has its virtues… at least in the narrow domain of generating chance exposures to diverse and opposing views while using search engines.

[122] Elsewhere we argue that occasional unplanned exposures should be seen as 'happy accidents' – that some randomness are instrumental for adequate deliberation (Lev-On and Manin 2007, Sunstein 2001). Nevertheless, we do not wish to argue that search engine should produce only random outcomes. Such search engines would attract very little traffic, and will be conducive to chance exposures of very few surfers. A necessary condition for mass exposure to opposing views through search engines is, of course, that many people actually use the search engines. And they use them, obviously, because they think that they are likely to obtain valuable information through the search engines. This is, obviously, not the case with 'random' search engines.

9.4

In the previous section I argued that search engines are conducive to chance expo-sures to diverse and even opposing views. In the following section I argue that search engines also assist in generating and maintaining organizational hubs that are instrumental for collective action.

Let us think of collective actions such as citizen-based campaigns to re-evaluate and reconsider public policies (i.e. Leach 2005 on such a Web-supported campaign which aimed at revising immunization policies), or orchestrated demonstrations and rallies, or community efforts to revise local development plans. Typically such collective efforts are of interest to large numbers of people, but at the absence of organizational infrastructure such causes may not attract and mobilize enough support, and may become latent (i.e. Olson 1965).

Orchestrating such collective efforts entails costs to both organizers and activists. Organizers need to make decisions about mobilization of resources, alliance formations, protest scheduling, location and coordination, and so on. Activists and sympathizers need to locate particular events, receive relevant information and forward it to relevant others, and decide where they can contribute effectively. Particularly, successful collective efforts require the existence of easily accessed focal points to which organizers, activists and sympathizers can converge to post and retrieve information in order to coordinate their efforts.

I argue that search engines contribute to such collective efforts by exposing popular organizational hubs, and directing traffic to them. The new abilities of many people to locate organizational hubs of collective action are, arguably, especially important for 'unprivileged' or 'disorganized' interests. It may be difficult – if not impossible- to find information about and join such collective efforts, that oftentimes lack a clear and easily-accessible organizational 'address', offline.

Let me note that search engines are, of course, not always successful in exposing organizational hubs. When agents rely on search engines to obtain information about collective actions, the search engines determine what the Web consists of for those seeking to contribute. If a search does not return a link for a certain site, say a grassroots effort to change public policy, then the seeker might never know that such an effort exists. On the other hand, after a site gains momentum and becomes popular, search engines make the popular effort even more noticeable for large numbers of surfers, and provide potential contributors with a powerful gateway to collective action.

Organizational hubs can have two main functions. First, they can enable intra-site communication, either in the form of documents and organizational information (about timing of protests, for example), or in the form of interactive conversations. Second, they also include links that, when followed, can easily route people to other relevant sites.[123] Search engines function *primarily in the second capacity*, i.e. they direct agents to other focal sites.

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[123] To clarify the distinction, think of a parallel distinction between topical blogs that post informa-tion about a particular theme, and filter blogs that primarily post links to sites that post information about such a theme.

What does it mean that a site serves as an 'organizational hub' and directs traffic to other sites? To illustrate this, think of the *'Slashdot effect'*. Slashdot is one of largest virtual communities. The community is so successful that it is famous for generating a 'Slashdot effect:' right after a link to an interesting story published elsewhere becomes available, massive numbers of users flood the original site. This sudden and heavy traffic sometimes crashes the linked sites' servers (the crash is the 'Slashdot effect'). Search engines serve a similar function of revealing sites relevant for collective action to large numbers of searchers who are interested in such efforts.[124]

On the Internet it is much easier to establish such organizational hubs than offline, due to factors such as the reduction of gate keeping and setup costs.[125] Such organizational hubs can be set up by a variety of agents, such as civil society organizations, interest groups, parties, social movements, or just single individuals who take it upon themselves to initiate such collective actions. But although almost anyone can establish a Website which aims at organizing collective action, such sites get varying amounts of attention and are far from being similarly successful. Locating the sites that genuinely serve as focal points for collective action remains an intricate task.

Why do search engines efficiently expose organizational hubs? As noted above, Google and other search engines rely heavily on popularity to determine the relevance of search results. Thus, Google and its cousins serve as sensitive barometers that reveal, in our case, the sites that many people think are important access points for a certain collective effort. Typically, they channel users to popular sites that many people found relevant and important enough to link their sites to. For example, if one looks for information on a community protest against a development plan, the results obtained from the search engine are sites that, according to many people, include important information about the local protest. Search engines also enable an easy path to these access points, and direct traffic primarily (but not exclusively) to such focal sites.[126]

Think of a movement like the Falun Gong, which is now banned in China and operates from outside its borders (and, also, is blocked by the 'great firewall'.)

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[124] Admittedly, communities are generally better able to route potential contributors to relevant collaborative projects, since they (unlike search engines) can include large pools of agents who select to join the community and have some interest or expertise relevant to the focal theme of the community. The combination of scale, self-selection and some 'local expertise' means that community members are more likely to be, as a general rule, motivated and to take an active interest in a relevant collective effort, than just an aggregation of search-engine users.

[125] Elsewhere, in a manuscript co-written with Russell Hardin, we argue that Internet communication is conducive for such large-scale collaborations. We argue that much of the success of such collaborations should be attributed to the availability of the Internet as a shared communicative and organizational platform, the large and excessive number of potential contributors attracted to focal collaborations, and the reduction of costs of both individual contributions and the social organization of production (Lev-On and Hardin 2007).

[126] A suggested above, search engines even perpetuate the popularity of such focal sites (assuming that more popular and accessible sites are linked-to more often than less popular and accessible sites).

Searching for activities organized by Falun Gong in the uncensored version of Google does not direct users to obscure sites that incidentally mention 'Falun Gong;' instead, it directs them to sites including relevant information about the movement and its activities. Many (probably most) people that use Google to look for 'Falun Gong' (or related keywords) are *routed to the same* small set of relevant destinations. Search engines, then, allow many surfers to easily distinguish popular sites from unpopular sites, and converge into a small set of focal sites.

Organizers of collective action increasingly capitalize on the centrality-enhancing property of search engines. Often they ask supporters to install links from their personal sites to the site that organizes collective action. For example, when a visitor opposed to a local development project embeds in her Website an icon that is linked to the Website of a group that arranged the opposition for the development plans, this act increases the popularity of the group's Website. Even if organizers do not think strategically when asking contributors to install such links, this practice assists in making the site more popular and, as a consequence, more easily located.[127]

Search engines, then, indirectly assist in organizational efforts by exposing focal organizational hubs and routing people there, providing a channel for people with similar interests to seamlessly coordinate their efforts.

9.5

So far I argued that search engines contribute to unintended exposure to diverse and opposing views, and indirectly contribute to the organization of collective action. Why are such contributions significant to democracy? To answer this question in a nutshell I will draw on insights from democratic theory. Space limitations will obviously make the remaining discussion somewhat sketchy.

Elsewhere I argued (with Bernard Manin, 2007) that exposure to diverse and especially opposing views contributes to the deliberative qualities of democratic discussion.[128] There is a long tradition of liberal theory praising the benefits of diverse and conflicting views for adequate deliberation (for a recent exploration see Mutz 2006, especially chap. 3). Mill (1991, 26, emphasis mine) who discusses this topic extensively in his 'On Liberty', praises the benefits that can occur when opposing views confront each other, and argues that even "[T]he most intolerant of churches, the Roman Catholic Church, even at a canonization of a saint, *admits, and patiently listens* to a 'devil's advocate'." Empirical evidence support some of the theoretic assertions, and show that exposure to opposing views is instrumental for deliberation as it generates such qualities as lack of polarization and radicalization,

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[127] There is a notable family resemblance between such practices and practices of search-engine optimization, i.e. strategic inflation of inbound links and similar techniques which aim at pushing a site up the search-engine result list, and gaining the attention of search-engine users.

[128] The following few sections borrow from Lev-On and Manin (2007).

knowledge gains, more considered opinions, satisfaction from the deliberative process, and enhanced feelings of efficacy (Price and Cappella 2002; Iyengar et al. 2003; Muhlberger 2005).

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.

Second, debates with an *adversarial* character need 'enhanced' promotion and organization, since they require participants to face conflict and generate talk across cleavages. But research shows that people tend to *avoid* the psychic discomfort of expressing opposing views and becoming involved in contentious discussions. Furthermore, as mentioned earlier, research shows that when people do talk about politics, they do so primarily with like-minded others.

Democratic deliberation, then, is a complex public good whose facilitation has to overcome a number of obstacles: opportunity costs, generating cross-cleavage communication, overcoming conflict avoidance. But organizing exposure to diversity of views, and especially to opposing views, is difficult to generate in the course of our daily lives. Mill's interpretation of the role of the *advocatus diaboli* is a mistake: the presence of a devil's advocate is *required* precisely because no one may spontaneously take the other side. This is where search engines get in. I argued that search engines can facilitate exposure to diverse and even opposing views, even against people's intentions. Widely used to seek and obtain political information, search engines can thus enrich democratic deliberation, and are a welcome addition to the few spheres in which unplanned exposures to diverse and opposing views are viable.

While exposure to diverse and opposing views may be essential for certain models of democracy, other models emphasize political organization over deliberation. Realist models of democracy propose, with Schattschneider (1960, 139), that as a general rule "conflict, competition, leadership, and organization are the essence of democratic politics," and that "the possibility of contestation by conflicting interests is sufficient to explain the dynamic of democracy" (Przeworski 1991, 10). Notably, pluralist models of democracy depict it as a process of mutual adjustments between a variety of organized partisan interests. Democratic pluralism emphasizes the importance of a variety of competitive channels to influence policy, and the need to enable multiple groups to organize and influence the policy-making process (see notably Lindblom 1965, Dahl 1967).

However, scholars realize that the competition in actually-existing democracies is highly imperfect, due to such factors as high organization and entry costs. As a result of the disparity of organizational abilities between different groups, policy areas are dominated by those groups that are better financed and organized, where unorganized interests can sink into oblivion and latency.

By now it has become common wisdom that Internet communication drastically reduces the costs of establishing organizations to promote a variety of causes that were previously squeezed out of the political marketplace. Consequently, it is much easier to generate effective voice for causes that would not otherwise be actively promoted. Internet communication supports novel intermediaries that *supplement*

existing intermediaries to generate an 'advocacy explosion' (Shapiro 1999; Bimber 2003), by expanding the organizational abilities of a variety of actors to frame and articulate issues, mobilize support and effectively make political demands. Arguably, the Internet contributes to making the market for intermediaries more competitive, and hence to improving competition in democracies.

Search engines take an indirect role and make a modest contribution to the enhancement of political organization and competition, as they support the creation of focal organizational hubs that are necessary for collective action. Search engines expose those *central* sites that many agents value as organizational hubs, and allow many others an easy route to the same set of focal sites. Thus, they contribute to the reduction of organizational costs of a variety of interests.

To emphasize the importance of centrality, let us return shortly to Mill (1991, 424), who in his *Considerations on Representative Government* (in a discussion of the tensions between central and local authorities) argues that:

> Power may be localised, but knowledge, to be most useful, must be centralised; there must be somewhere a focus at which all its scattered rays are collected, that the broken and coloured lights which exist elsewhere may find there what is necessary to complete and purify them.

In the Internet, a highly decentralized environment of political information, search engines constitute such focal points for the 'scattered rays' of knowledge. They also serve as focal points to locate collaborative projects. Still, the 'purification' that search engines allow is imperfect, and hence they can generate unplanned encounters to diverse and opposing views, much more effectively than offline.

While arguably advantageous for democracies, the two properties that I surveyed (unintentional exposure to diverse and opposing views, and indirect support for political organization) may easily be perceived as threats by authoritarian regimes. Let us go back to the Chinese case I opened with. If Chinese citizens were able to seek information about Jiang Zemin in the uncensored version of Google, they could at times come upon information praising him, but at other times get exposed to information smearing the leader (as the earlier story shows), largely depending on the popularity of the sites containing the information. Note that information critical of the leader can become available not only to Jiang's opponents who seek such information to support their prior opinions but also to loyal supporters, and even to innocent elementary school students seeking information for a short presentation about the leader's legacy.

More importantly, anecdotal evidence suggest that the harsh Chinese monitoring of the Internet is also motivated, in large part, by fears from unleashing popular or factional organizations through such novel technologies. For example, the ruthless crackdown of Falun Gong was triggered by a large unauthorized gathering of between 10,000 to 15,000 supporters outside the central leadership compound in Beijing in April 25, 1999. The gathering was orchestrated primarily online. Lin (2001) argues that this has been the largest reasonable-size unauthorized gathering in the history of modern China on which the authorities failed to receive prior information. This case alerted authorities to the ability of Internet-supported movements to organize mass meetings and demonstrations while escaping the attention of the

security services.[129] Clive Thompson, in his analysis of 'China's Google problem,' also points to the acuteness of fears from Web-based political organization by the Chinese authorities. Thompson (2006, 71) quotes Zhao Jing, "China's most famous political blogger" whose blog has been shut down in the time of writing, who claims that "If you talk every day online and criticize the government, they don't care... [b]ecause it's just talk. But if you organize- even if it's just three or four people- that's what they crack down on. it's not speech; it's organizing."

9.6   Conclusions

I argued that search engines indirectly advance political organization, and generate unintentional exposures to diverse and opposing views. They thus cater to the concerns of both deliberative democrats aiming at enriching the deliberative qualities of democratic discussion, and pluralist democrats who are concerned about making the political marketplace more open, inclusive and competitive.

On the other hand, Authoritarian governments aim at avoiding unpredictability and chance exposures to critical information, and at depressing emergent organization. In this, The Chinese government closely follows not Mill, but Hobbes' key advice to governments to keep a keen eye on dangers originating from dissemination of 'seditious doctrines' and coordination of anti-establishment powers (see Hardin 1991). The Internet and search engines are perceived as particularly disruptive. As argued above, at times search engines expose people to 'unwarranted' information, even against their intentions. Search engines can also be used by many people to locate and converge on organizational hubs. Sometimes search engines do both these things – they expose many people, even against their intentions, to hubs containing information that authorities disapprove of.

Authoritarian governments, then, need to monitor and regulate search engines in order to suppress exposure to 'unwarranted information' and prevent unauthorized emergent organization. The political importance of search engines is clearly demonstrated by the actions of the Chinese government. It is equally important for advocates of open and democratic societies to constantly monitor the functioning of search engines, and to verify that they continue to support and enrich the informational and organizational infrastructure of democracy.

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[129] For extensive reviews of the movement and its uses of the Internet, see Bell and Boas 2003 and Chase and Mulvenon 2002.

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