

# HUMANITIES and TECHNOLOGY

## REVIEW



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# HUMANITIES AND TECHNOLOGY REVIEW

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## Contents

### Articles

- Arendt, Habermas and Facebook: Participation and Discourse in Cyber Public Spheres** 1  
Asaf Bar-Tura
- Literature as Thought Experiment: Collaborative Knowledge Systems, Communication, and Democratic Citizenship** 27  
Michele DeSilva
- The Politics of Displacements. Towards a Framework for Democratic Evaluation** 45  
Roel Nahuis

### Book Reviews

- A. W. Mortford's *The Hockey Stick Illusion: Climategate and the Corruption of Science.* 79  
Reviewed by George Sochan
- Sunil K. Khanna's *Fetal Fatal Knowledge: New Reproductive Technologies and Family Building Strategies in India.* 87  
Reviewed by Jennifer DeGrafft



## **Arendt, Habermas and Facebook: Participation and Discourse in Cyber Public Spheres<sup>1</sup>**

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The rapid development of new media and online social networks has given rise to hopes that these media will serve as a democratizing vehicle. Through an Arendtian analysis of the significance of the public sphere, and a Habermasian normative framework for public discourse, this essay examines the contribution of cyber media to participation in public discourse and a more accessible public sphere. It argues that although online social networks can play an important role in the political realm, they ultimately fall short of fulfilling the democratic need for a true public sphere and for the kind of public discourse a true public sphere requires.

Keywords: Arendt, Habermas, Facebook, cyber public sphere, online social networks, democracy.

### **Introduction**

The development of communications has historically been a powerful force in shaping the public sphere. Today many theorists consider contemporary technology, and especially the rapid development of the World Wide Web, as a democratizing medium that

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<sup>1</sup> An early version of this essay was presented at the annual conference of the Humanities and Technology Association at the University of Virginia, Charlottesville (September, 2009).

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enhances wider access and participation in the public sphere and enriches our social discourse. Moreover, this emerging medium is often applauded for expanding the public sphere by introducing innovative and hitherto unimagined cyber public spheres. In this essay I examine the contribution of these new cyber public spheres to a participatory democracy. I draw upon Hannah Arendt's analysis of publicness as well as Jürgen Habermas's conception of ideal speech situations, situations that enable constructive, meaningful and fair public discourse. As Habermas (1991) emphasizes, questions regarding the ways in which we structure and restructure our public spheres are closely linked to questions of (the possibility of) democracy.<sup>2</sup>

### **Appearing in the Public Sphere**

Before we examine the emerging public spheres created by new media and the nascent form of public discourse that is thus created, it would be helpful to first explicate the significance of the public sphere. Hannah Arendt's conception of publicness will prove instrumental for our discussion.<sup>3</sup> For her, the public sphere is the space of appearance where human beings share a common world. It is in this sphere that humans

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<sup>2</sup> Habermas writes: "If we are successful in gaining a historical understanding of the structures of this complex that today, confusedly enough, we subsume under the heading 'public sphere,' we can hope to attain thereby not only a sociological clarification of the concept but a systematic comprehension of our own society from the perspective of one of its central categories" (1991, pp. 4-5).

<sup>3</sup> For a thoughtful analysis of the significance of the public sphere for Arendt, I am indebted to Peg Birmingham (Birmingham, forthcoming).



## ARENDT, HABERMAS AND FACEBOOK

share meaningful speech and action, and it is the sphere which allows thinking.<sup>4</sup>

For Arendt “thinking” is twofold. Its first aspect consists in a process in which one wonders, questions, and deliberates with oneself. In an essay written shortly after the publication of *Eichmann in Jerusalem* Arendt writes:

The presupposition for this kind of judging is not highly developed intelligence or sophistication in moral matters, but merely the habit of living together explicitly with oneself, that is, of being engaged in that silent dialogue between me and myself which since Socrates and Plato we usually call thinking. (Cited in Bernstein, 2002, p. 285)

This aspect of thinking requires an ability to disengage from the public sphere.<sup>5</sup>

The second aspect of “thinking” implies the ability to think from the standpoint of someone else.<sup>6</sup> That is, to

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<sup>4</sup> We find a similar idea in Kant’s thought. He writes: “Of course it is said that the freedom to *speak* or to *write* could be taken from us by a superior power, but the freedom to *think* cannot be. Yet how much and how correctly would we *think* if we did not think as it were in community with others, to whom we *communicate* our thoughts, and who communicate theirs with us!” (1996, p. 16).

<sup>5</sup> On this Bernstein remarks: “The frequently observed fact that conscience itself no longer functioned under totalitarian conditions of political organization is explicable when we realize that totalitarian regimes seek to eliminate the very possibility of the solitude required for independent thinking” (2002, p. 281. The text in inner quotation marks signals Bernstein’s quote of Arendt’s essay “Philosophy and Politics”).

<sup>6</sup> Arendt was deeply impressed by Kant’s three “maxims of common human understanding,” which are: (1) Think for yourself; (2) Think

deliberate implies that alternative viewpoints can and should be considered in a certain matter. As Bernstein emphasizes, for Arendt “thinking is essential for the formation of conscience,” since “unless one stops and thinks, unless one develops the capacity to *think from the standpoint of somebody else*, then it becomes all too easy to succumb to evil” (2002, pp. 281, 285). It is the public sphere which enables this aspect of thinking. This is in part why what Arendt has coined “the banality of evil” can be prevented only through a public discourse that provokes thinking. In what could be taken as a warning against a superficial public discourse, Arendt writes that “thoughtlessness—the headless recklessness or hopeless confusion or complacent repetition of *truisms*, which have become trivial and empty – seems to me among the outstanding characteristics of our time” (1958, p. 5).

After considering the negative implications of the loss of a public sphere, we must consider, positively, what is tied to it. For Arendt, the public sphere, and the ability to act in it, is closely tied to freedom. In fact, she argues that “to be free and to act are the same” (1961, p. 153). It is in the public sphere that speech and action manifest their full qualities for facilitating our appearance in the human world, and for disclosing our unique personal identities. In public we can be distinct, without being other (in an alienating sense). These qualities, Arendt emphasizes, only come to the fore when

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from the standpoint of others; (3) Think consistently. The three maxims are discussed in the famous section “Of Taste as a Kind of *Sensus Communis*” in the *Critique of Judgment* (1931, pp. 171-172). Arendt emphasizes the second maxim in her *Lectures on Kant’s Political Philosophy* (1992, p. 122).

## ARENDT, HABERMAS AND FACEBOOK

we are *with others* (1958, pp. 179-180). This gathering in public is of no small consequence for Arendt: “Power comes into being only if and when men join themselves together for the purpose of action, and it will disappear when, for whatever reason, they disperse and desert one another” (1963, p. 175).

The public sphere must enable actors to appear as who they are, among other actors who appear in the same way, and facilitate collaborative action. Arendt eloquently describes this action in the public sphere: “Because of its inherent tendency to disclose the agent together with the act, action needs for its full appearance the shining brightness we once called glory, and which is possible only in the public realm” (1958, p. 180).

In addition, what is of great significance for our discussion here is not only to examine the possibility of action in the public sphere, but more specifically the conditions for a meaningful public discourse. For Arendt, to “appear” in public implies the possibility of *significant* speech and action. The public appearing of a plurality of actors demands that there be a public place where one is *truly* seen and heard. In the words of Nancy Fraser, “participation [in the public sphere] means being able to speak in one’s own voice” (1992, p. 126). To this end, formal inclusion and access do not suffice, since informal barriers to participatory parity may still persist. Moreover, the semblance of inclusion may be a barrier in itself, since it provides the illusion that there is no domination to be uncovered and addressed (see pp. 118-121).

### Ideal Speech Situations

Thus far we have examined the nature and significance of the publicness of the public sphere. We must now explore which speech situations are conducive to such a public sphere. In other words, what kind of public discourse is instrumental to the manifestation of the freedom in the Arendtian sense, i.e., legitimate and potentially consequential collaborative political action?

Habermas has no doubt comprehended the significance of language to the political domain. This communicative interaction, Habermas argues, must be understood as one capable of being *distorted* (McCarthy, 1975, p. xiii). If one's communicative action is distorted, then, from an Arendtian point of view, one's opportunities for political action may be rendered *insignificant*.

So, the speech situation which we seek in the public sphere must be significant (i.e., actors must be enabled to appear, collaborate and be truly seen and heard) and must remain undistorted. Habermas conceptualizes this communicative interaction as the *ideal speech situation*. One of the main features of the ideal speech situation is that actors engage each other with an aim of reaching consensus, which will serve as a foundation for some form of collaborative action. This speech situation represents a break with the normal context of interaction in that, ideally, it requires a "suspension of the constraints of action, a putting out of play of all motives except that of a willingness to come to an understanding" (McCarthy, 1975, p. xiv). There is a fundamental presupposition that actors hold when engaging in an ideal speech situation, namely, the supposition that a

## ARENDT, HABERMAS AND FACEBOOK

genuine agreement is at least possible (though not promised). In attempting to come to a “rational” decision (if not complete consensus), actors must suppose that the outcome of their discussion will be the result of *the force of the better argument* (Habermas, 1975, p. 108).

Habermas explicitly draws upon Kant’s notion of the public use of reason. He interprets the *Critique of Pure Reason* as ascribing a “pragmatic test of truth to the public consensus arrived at by those who engage in rational-critical debate with one another” (Habermas, 1991, pp. 107-8). He reads Kant as making the *public* nature of critical debate the “touchstone of truth” that puts everything said to be true to the test of whether its validity could be upheld before any rational human being (p. 118).

Though we may be inclined to favor communicative interactions in the form that Habermas suggests, we may still be suspicious, since after all, it is an *ideal* situation, right? Is this understanding of what communicative action should entail in the public sphere merely a fiction? Or does it have actual significance for our praxis? Indeed, it is apparent that the conditions of actual speech are rarely, if ever, those of the ideal speech situation. Yet this does not of itself make the ideal insignificant or useless. This ideal, which may possibly be more or less approximated in actual speech situations, can serve as a guide for the *institutionalization* of discourse or the *critique* of distorted communication (see for example Fraser, 1992, pp. 116-117). This last point is significant for our forthcoming discussion. I will use Habermas’s concept of the ideal speech situation to: [1] critique what may be a form of distorted communication in the new

media, and [2] explore how a better form of discourse can be promoted through proper institutions.

Habermas's thesis can thus be viewed as a critical tool, but we must not lose sight of its practical intention. Though he follows the tradition of critical theory, Habermas is nonetheless an heir of the enlightenment project. In his belief in the promise of progress, he sees the notion of the ideal speech situation as anticipating the self emancipation of actors from the constraints of unnecessary domination in all its forms (McCarthy, 1975, p. xvii). Thus, it is evident that the question of discourse and communicative action is closely linked to the question of a just society (see p. 146). In other words, as McCarthy (pp. xvi-xvii) explains, the conditions for an ideal discourse are connected with conditions for an ideal form of life, and bear consequences regarding the conceptualizations of the traditional ideas of freedom and justice. Hence, for the purposes of this inquiry this ideal discourse is taken as a normative model. That is to say, we *ought to* strive towards ideal speech situations in our public discourse.

The following section will apply the basic features of this normative model to the cyber public sphere. Habermas has rarely directly addressed Internet-based communication as it relates to the public sphere, though he has touched upon it (see his essay "Practical Communication in Media Society," in Habermas, 2009). He has recently given an interview which gives some further insight into his approach to this topic. For instance, he admits having ~~no~~ experience of social networks like Facebook and cannot speak to the solidarising effect of electronic communication, if there

## ARENDT, HABERMAS AND FACEBOOK

is any” (Jeffries, 2010). And so, Habermas’s thought must be utilized, as it were, beyond Habermas.

### **A Critique of Cyber Public Spheres**

The quickly developing new media have created innovative channels of communication, faster and more far-reaching than ever before. For example, in January 2009 Facebook reported 150 million users. Rapidly increasing its membership, in July 2010 Facebook reported over 500 million active users (!), fifty percent of which log in to their account at any given day (Facebook, 2010).

Through the Internet actors from the most diverse backgrounds can discuss issues, express opinions and develop relationships. Moreover, through these new spheres of communication, spheres we might refer to as cyber public spheres, actors can communicate more directly than ever before, in most cases not limited by the constraints of government censorship and regulation. It seems that this is a radically undistorted form of communication.

Habermas argues that the absence of constraint, the exclusion of systematically distorted communication, can be characterized formally, in terms of the pragmatic structure of communication. McCarthy (1975, pp. xvi-xvii) explains that for Habermas,

a structure is free from constraint only when for all participants there is a symmetrical distribution of chances to select and employ speech acts... In particular, all participants must have the same chance to initiate and perpetuate discourse, to put

forward, call into question, and give reasons for or against statements, explanations, interpretations, and justifications. Furthermore, they must have the same chance to express attitudes, feelings, intentions and the like, and to command, to oppose, to permit, and to forbid, etc. These last requirements refer directly to the *organization of interaction*, since the freeing of discourse from the constraints of action is only possible in the context of pure interaction. In other words, the conditions of the ideal speech situation must insure not only unlimited discussion but also discussion which is free from all constraints of domination [my italics].

A *prima facie* evaluation of the cyber public spheres may result in affirmation of their often perceived tendency to promote ideal speech situations: access to the Web is ever-increasing (although there is still a digital divide); the variety of ways to perform cyber speech acts is ever-developing; more actors than ever before are utilizing Web-logs (~~h~~blogs”) to express ideas and provoke discussion; online social networks (such as Facebook, MySpace, and others) are connecting actors in new ways; and actors can represent themselves online in diverse forms, including photo images, videos (consider the popularity of YouTube, for example), audio broadcasts and ~~p~~podcasts.” It seems that the Internet has radically reconstituted the ability for expression and access to information. The Internet and the cyber public spheres that it generates appear to promote the democratization of our society, and a truly free public discourse (see Habermas, 2009, p. 143).



## ARENDT, HABERMAS AND FACEBOOK

Do cyber public spheres really deliver the ideal speech situations that Habermas envisions, or do they create *distorted* communication? Do they allow actors to appear and express themselves as they are in themselves? Do they indeed encourage collaborative action among actors? To address these questions, my analysis will point to five interconnected aspects of cyber public spheres that deem them ill-equipped to provide society with quality online public discourse that approximates ideal speech situations: (1) the private and passive nature of cyber public spheres; (2) distorted communication; (3) niche consumerism of ideas; (4) lack of concern for the other; and (5) lack of consensus-building and (6) social disintegration. I will take them in turn.

### *The Private and Passive Nature of Cyber Public Spheres*

It is not often discussed, and yet in plain sight, that the new media and the channels of expression they enable are for the most part privately owned and run, and usually profit driven. This is not necessarily to say that it should not be this way or that the Internet should be heavily regulated by the government (or regulated at all). We should keep in mind, however, when thinking of the opportunities available via the Web that the frameworks within which it allows expression and discourse are naturally directed towards encouraging consumption of goods. To take Facebook as an example, with over 500 million users, corporations have understood the value of marketing through social media. Thus, many businesses have created customized (paid) Facebook pages with “fans” and “friends.” Some, like Honda and Absolut, direct those who view their ads to their Facebook pages,

not their websites; the Starbucks Facebook page had more than seven million fans in May 2010.

Consequently, in a profit-driven framework deliberation of values and norms may be seriously compromised. When considering the Web as a cyber public sphere, we should consider Habermas's warning that "The public realm, set up for effective legitimation, has above all the function of directing attention to topical areas- that is, of pushing *other* themes, problems, and arguments below the threshold of attention and, thereby, of withholding them from opinion-formation" (Habermas, 1975, p. 70; see also Habermas, 2009, pp. 177, 179). Indeed, Habermas recognized early on that mass media can promote consumer culture more than public debate (1991, p. 216).

That being said, it is true that not all Internet media are depoliticized and profit-driven. We may consider many blogs and sites as central hubs for critical thinking. However, as will be discussed below, most of these media are not dialogical, and often appeal to niche consumers who are looking to reinforce existing opinions. The new media that encourage social interaction most of all are the social networks, such as Facebook and MySpace. But these networks are oriented towards consumption and diversion from reality more than value discussion. For example, many "features" in Facebook are oriented towards "fun" or "play", including challenging "friends" to virtual contests, and other avenues which are more *mind-less* than *mind-ful*. Habermas is helpful in reminding us that the diminution of meaningful public spheres, and the rise of consumption-based interaction are not accidental: ~~the~~ less the cultural system is capable of producing adequate

## ARENDT, HABERMAS AND FACEBOOK

motivations for politics, the educational system, and the occupational system, the more must scarce meaning be replaced by consumable values” (1975, p. 93). What is even more significant is that the consequence of this process may be a diminishing of critical thinking: compliance with a social order and rendering that order legitimate is due, in part, to the citizens’ perception of themselves as powerless, as well as to an inability to imagine feasible alternatives (see p. 96).

Again, it is true that social justice issues can come up in the various cyber public spheres, but these spheres offer relatively passive ways of civic involvement which nevertheless give the actor a (false) sense of accomplishment. Actors engage in political activism by forwarding a YouTube video to a friend, joining a “group” or a “cause” on Facebook, or commenting on a blog. This kind of response to the needs of others is in part why cyber relationships and coalitions may be considered *inauthentic*. Habermas points to Amitai Etzioni’s conception that “a relationship, institution or society is inauthentic if it provides the appearance of responsiveness while the underlying condition is alienating” (1975, p. 128). Indeed, Habermas argues that

[i]n the structurally depoliticized public realm, the need for legitimation is reduced to two residual requirements: The first, civic privatism-- that is, political abstinence combined with an orientation to career, leisure, and consumption-- promotes the expectation of suitable rewards within the system (money, leisure-time and security)... Secondly, the structural depoliticization itself requires justification. (p. 37)

## BAR-TURA

The justification for the depoliticization itself may come in the form of the claim that this form of public engagement is ~~democratizing~~,” accessible, and sufficient. Thus, the frameworks of discussion that are created are often overlooked (or concealed). Accordingly, Habermas is cautious with regards to new media as an accelerator of political deliberation:

This revolution in the media for transmitting information has given rise to an ever-wider spread and density of communication networks and to a corresponding diversification of the mass public. However, these phenomenological indicators of an inflation in political communication and of a communicative liquefaction of politics do not of themselves speak for an upsurge of deliberative politics. (Habermas, 2009, p. 154)

So, for the most part the Web is a private-public sphere. However, although these media are private, they are nevertheless enabled by the government, in the form of regulative laws and the enforcement of these laws, such as those related to ~~spamming~~” and privacy rights. Just as with the enabling of free-market capitalism, ~~only~~ state functions that supplement, but are not subject to, the market mechanism make possible unpolitical domination” (Habermas, 1975, p. 50). It may be plausible to suggest that if government sees as its task to secure the largely depoliticized cyber public spheres, it should actively promote ~~real~~” public spheres as well (see Habermas, 2009, p. 136). This will be the focus in the final section of this discussion.

## ARENDT, HABERMAS AND FACEBOOK

### *Distorted Communication*

The broad publicity given to the intimate private sphere of our personal lives, publicity which is bolstered by social media, gives the feeling that now every aspect of our lives is in fact “public.” That is, the public sphere could be thought to be as large, as open and as accessible as it could ever get.<sup>7</sup> But a question must be raised, namely, do actors in cyber public spheres appear in these spheres as they are in themselves?

The cyber encounter is hyper-mediated by images that are meant to represent, and often deliberately misrepresent, the other actor. Consider for example a communicative interaction in the cyber sphere of social networks. Actors interacting on Facebook learn about each other—their background, wants, needs and opinions—through each other’s “profiles,” where they may have access to online photo albums, information about hobbies, and interests. The overall image is conveyed through fixed categories (favorite music, relationship status, and others) which do not necessarily represent what is significant to the actor, to what makes her *who she is* (see Walther et al., 2008). There are no categories for “deepest social concern,” or “my disability,” which may provide an opportunity for collaborative action.

The category of space is also significant. The fact that the cyber interaction is not face-to-face has at least two important implications. First, the spatio-separated

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<sup>7</sup> Habermas discusses the distinction between the intimate and the social spheres in *The Structural Transformation of the Public Sphere* (1991, pp. 151-159).

interaction is conducive to more extreme speech. It is much easier to be intolerant of someone else's demands and needs when you don't have to look her in the eye. Second, the separation in space allows actors to engage in cyber communication while devoting their attention to other tasks and activities. There is a lack of proper *attention* given to the other party. It quickly follows that a lack of attention inhibits proper listening, and often is conducive to a lack of respect for the other, and (often unconscious) lack of appreciation for the importance of what the other has to say.

It may be helpful here to highlight the distinction between *communication* and *expression*. Generally, the difference is that when we communicate there is a demand that what we communicate be acknowledged by some audience. Furthermore, communication carries with it *an expectation* of a response. If such an expectation does not exist, then we are merely expressing, not communicating. When we "post" a blog entry, a video, or an update on our profile page, we are not necessarily engaged in communication. Successful communication requires some sort of recognition or uptake by others (see O'Neill, 1991, p. 31).

Indeed, Habermas has correctly recognized the problematic within non-dialogical mass communication: "Disconnected from face-to-face interaction, the propositional contents begin to float free from the binding force of reciprocal validity claims. Once opinions degenerate into *mere* opinions, there is nothing left to deliberate about" (Habermas, 2009, p. 156). That being said, Habermas does seem to hold a positive role for web-based *communication*. He asserts that the Internet enables reintegrating "interactive and

## ARENDT, HABERMAS AND FACEBOOK

deliberative elements into an unregulated exchange between partners who communicate with one another as equals, if only virtually” (p. 157). This last qualification (~~only~~ virtually”) is noteworthy, because it alludes to the fact that virtual equality is not a substitute for ~~real~~ equality with regard to access to and benefit from public goods (including access to political power and to appearance in the public sphere).

### *Niche Consumerism of Ideas*

Since the Web offers access to an unprecedented vast pool of knowledge, it would seem plausible to assume that actors are now more exposed to other cultures and ideas. However, to a large extent actors choose *who* and *what* ideas they engage, and we witness niche consumerism of information and ideas. For example, they seek news reports and commentary from sites that often reinforce their existing views. Many even use social media as their news source, thus relying on those with whom they share views to ~~feed~~ them with the updated ~~news~~.<sup>8</sup> Thus, there is no true process of attempting to reach consensus. Moreover, since much of the speech-acts on the Internet are in the form of ~~posting~~ or ~~writing on walls~~, the cyber public sphere leaves out the possibility of actors formulating their ideas

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<sup>8</sup> Sunstein (2001) has analyzed this, especially in the chapter ~~The Daily Me~~. It is perhaps worth considering that this trend of user-edited news consumption runs counter to what Habermas calls ~~media power~~ – the power of ~~those~~ who work in the politically relevant sectors of the media system – reporters, columnists, editors, publishers, directors, and producers” to ~~select and process~~ politically relevant material and thus influence the formation of public opinion” (Habermas, 2009, p. 168).

together with others.<sup>9</sup> In many cyber-spheres actors “appear” with a ready-made position, seeking collaboration, if at all, with those who share those ready-made positions.

Thus, Lievrouw (2001, p. 8) points out that the “sense of declining civility and participation has developed concurrently with the proliferation and widening adoption of new information and communication technologies.” Habermas has also observed that the Internet “provides the hardware for the delocalization of an intensified and accelerated mode of communication, but it can itself do nothing to stem the centrifugal tendencies” (2009, p. 158).

### *Lack of Concern for the Other*

Drawing our attention to some practical aspects of cyber communicative action may be instructive in delineating the lack of concern that it generates towards the needs of other actors. The cyber interaction does not inherently raise concerns for the other, as there is a lack of *effort* invested in reaching the point of meeting. In face to face meetings parties must reach *common ground* in order to physically come together (one might think, for example, of the notion of *meeting half way*). When one has to meet with another, one may consider such factors as where the other lives, what means of transportation are available to her, and what may or may not be convenient. In contrast, in cyber-speech there is no effort to enable the other to speak, that is, to provide

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<sup>9</sup> For Habermas, the public sphere should function as “an intermediary domain between state and society and [as a domain] in which citizens *form* opinions and desires” (2009, p. 140).



## ARENDR, HABERMAS AND FACEBOOK

access to people with disabilities, to overcome language barriers, challenges of transportation, access to information, and more. In other words, there is no effort to ensure that the other has the *ability to appear*.

### *Social Disintegration*

When reviewing Habermas's conception of ideal speech situations, we learned that forms of discourse create forms of life, related to freedom, justice, tolerance, and others. Therefore, forms of discourse directly impact the tendency of individuals with differing views to seek consensus and the inclination of a society towards social integration or disintegration. Past empirical research supports the hypothesis concerning the positive impact of deliberation on the formation of considered opinions: "The final opinions differed considerably from those expressed at the outset. The group deliberations tended to promote a convergence rather than a polarization of opinions" (Habermas, 2009, p. 150).

As I have mentioned, cyber public spaces are *not* oriented towards consensus-building. They do not assist society in problem-solving and can sometimes hinder it. In Habermas's analysis, when a system is not able to solve problems effectively, these problems can develop into institutional as well as social crises.

### **Beyond Cyber Public Spheres**

As we near conclusion, it is important to emphasize again that the cyber sphere can have a very positive role in enabling meaningful participation in the public sphere. However, to do so we must go beyond the cyber sphere.

A fascinating example of this unfolded during political protests in Iran, which came in the aftermath of the presidential elections held there on June 12, 2009. As traditional mass media were under strict government censorship, the social network “Twitter” became a primary vehicle of information dissemination, organization and resistance amongst the government opposition (see, for example, Grossman, 2009). This new medium enabled activists to coordinate demonstrations, gather protesters in public spaces, and even send out information to international press and audiences. It was social media that enabled political actors to have their voice heard in the public sphere. Writing before these protests erupted, Habermas asserted that “computer-based communication can claim unequivocal democratic merits only for a specific context: it undermines censorship by authoritarian regimes which try to control and suppress spontaneous public opinions” (Habermas, 2009, p. 157).

Notice, however, that social media were used in order to mobilize and coordinate joint action in the public sphere, not instead of it. If all that had happened was that opposition forces posted their thoughts on the Internet, the impact of the movement would have been minimal. Habermas realized that “[p]olitical communication within national publics seems at present to be able to benefit from online debates only when groups which are active on the Web refer to *real processes*, such as election campaigns or current controversies, for example, in an attempt to mobilize the interest and support of members” (2009, p. 158). The power of the movement was in its physical gathering. The medium was a means to an end.

## ARENDT, HABERMAS AND FACEBOOK

Thus, new media should be used as a powerful vehicle for driving people towards the public sphere. The fact that many are utilizing these new media can be detractive, but can also be an opportunity to communicate, organize and foster collaborations that lead to concrete action; to participation, deliberation, grassroots activism as well as formal political procedures; to enhanced participation in undistorted, true public spheres.

I believe that great opportunity lies in the project of deliberative democracy. As an example of a practical model of creating institutionalized public spheres, one can specifically point to Ackerman and Fishkin's (2002) proposal of "Deliberation Day." It should be noted from the outset that "Deliberation Day" is not an exhaustive alternative, and does not exclude the use of cyber social interaction. Reintroducing it here is merely meant to demonstrate in what significant ways this form of discourse can be a complementary, institutionalized next step to activity in the cyber public sphere. The basic idea of Deliberation Day is to introduce a new national, government-enforced holiday. In short:

[Deliberation Day] will be held one week before major national elections. Registered voters will be called together in neighborhood meeting places, in small groups of 15, and larger groups of 500, to discuss the central issues raised by the campaign. Each deliberator will be paid \$150 for the day's work of citizenship, on the condition that he or she shows up at the polls next week. All other work, except the most essential, will be prohibited by law. (Ackerman and Fishkin, 2002, p. 129)

## BAR-TURA

Ackerman and Fishkin, along with Habermas, are concerned with the danger of civic privatism. They warn that “privatism has eroded central ideals of democratic citizenship in ways that are ultimately incompatible with the satisfactory operation of a democratic government.” Keeping in mind Habermas’s link of institutions to social integration, we should consider Ackerman and Fishkin’s conclusion that “we must create institutions that sustain citizen engagement in a *shared public dialogue*” (2002, p. 130 [my italics]). The structure of Deliberation Day would bring together communities for a discussion of national, as well as local issues. Thus, participants will not only posit (or “post”) their opinions, but will take an active role in formulating their, and others’, opinions. Furthermore, Ackerman and Fishkin argue that “being in a room with randomly assigned fellow citizens can stimulate understanding across social cleavages” (p. 141). They recognize, in accord with my earlier arguments, that “as the media move to more and more narrow-casting, the tendency for people to share viewpoints with those they already agree with will be further enhanced” (p. 141).

Such a process of deliberation will also enhance our concern for other actors, and their ability to “appear.” We will be obligated to make sure that people can attend, think of proper locations, accessibility, and more. Moreover, “the very process of engaging in extended dialogue about shared public problems will produce a greater susceptibility to the public interest – or at least to considerations beyond narrow, short-term self-interest or immediate personal gratification” (Ackerman and Fishkin, 2002, p. 144).

## ARENDT, HABERMAS AND FACEBOOK

The scope of my essay does not allow a more developed discussion of this model, its advantages and shortcomings. However, it does allow us to envision a public sphere that is radically different from its cyber counterpart, and enables us to see more clearly what we are missing. This model encourages direct dialogue based on values, social concerns, and justification of opinions. It exposes actors to a variety of ideas, and encourages a deliberation regarding these ideas. Even if the deliberation does not result in consensus, it does strengthen the legitimacy of consequent policies and has the potential of buttressing social integration.

Finally, as made apparent by the Iranian protesters, social media have the potential of promoting a more participatory democracy, and can facilitate critical debate and a more open public discourse. This possibility, however, is not promised. For its realization the “wall-to-wall” cyber interaction must result in a face-to-face encounter. “Profiles” must become people. The online “group” must actually gather. Only then is the public sphere appropriated, and public discourse made meaningful. Fraser is correct to emphasize that “[o]nly participants themselves can decide what is and what is not of common concern to them” (1992, p. 129). It is up to us, the public, to engage in discourse regarding meaningful issues, and not to settle for a cyber debate about which version of Facebook is better.

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## **Literature as Thought Experiment: Collaborative Knowledge Systems, Communication, and Democratic Citizenship**

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The New Media Consortium's 2008 *Horizon Report* identified collective intelligence as a technology trend to watch in the next four to five years. Collective intelligence and collaborative knowledge systems are indubitably changing the ways in which information is collected, stored, transmitted and used. These changes have impacts on the reality and ideals that underlie our democratic society, particularly in the area of communication and engagement with issues and one another. The issues raised by these changes, like many others of societal importance, have been compellingly explored in literature. Three works in particular, Richard Brautigan's *The Abortion* (1971), Don DeLillo's *White Noise* (1985), and Salman Rushdie's *The Fury* (2001), explore these questions and thus serve as a sort of laboratory where thought experiments regarding technology, democracy, and citizenship take place. An examination of these works reveals a relationship between the portrayal of the information-driven society in the literary laboratory and actual emerging technologies. The thought experiments begun in these novels lead us on interesting journeys of inquiry and discovery as we consider how a highly technologically influenced information environment affects our actual everyday role as citizens in a democratic society, as well as our ideas about citizenship and democracy.

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Keywords: collaborative knowledge, collaborative knowledge systems, collective intelligence, information science, citizenship, mass media, democracy, democratic citizenship.

## **Introduction**

The New Media Consortium's Horizon Project produces an annual report that identifies several technology trends that are significant at the present and those that will develop significantly in the near future. In the 2008 report, the Horizon Project identified "Collective Intelligence" as a trend that would be adopted widely in the next four to five years. The report defines collective intelligence as "the knowledge embedded within societies or large groups of individuals" (Johnson, Levine and Smith, 2008, p. 23). According to the report, collective intelligence is a technology trend worth watching because it is being transformed by the "information stores...being created in real time by thousands of people in the course of their daily activities" (p. 23). Collective intelligence, or knowledge, is also sometimes referred to as collaborative intelligence or knowledge, with the systems encompassing the phenomena known as collective knowledge or collaborative knowledge systems. This paper will refer to them as collaborative knowledge systems to highlight their communicatory aspects. Examples of collaborative knowledge systems are the well-known Wikipedia, the Hurricane Digital Memory Bank (<http://hurricanearchive.org/>) and the History Commons (<http://www.historycommons.org/>). Citizen science efforts, such as the Great Backyard Bird Count (<http://www.birdsource.org/gbbc/>), have used

## COLLABORATIVE KNOWLEDGE SYSTEMS

collaborative knowledge systems advantageously to collect, organize and store data.

Collaborative knowledge systems are perhaps praised most highly for their ability to facilitate communication at large-scale levels in novel and insightful ways (Johnson et al., 2008, p. 23). Tom Gruber (2008), in a keynote address to the International Semantic Web Conference, expounded this view:

The potential for knowledge sharing today is unmatched in history. Never before have so many creative and knowledgeable people been connected by such an efficient, universal network. . . . The result . . . is incredible breadth of information and diversity of perspective, and a culture of mass participation that sustains a fountain of publicly available content. (p. 4)

Others have also emphasized the democratic nature of these systems that assist communication and the creation of virtual communities. Andrew Feenberg (2009) writes, “This is significant because community is the primary scene of human communication. . . . It is in this context that people judge the world around them. . . . Any technology that offers new possibilities for the formation of community is thus democratically significant” (p. 81). These are lofty claims for the democratizing effects of a collaborative knowledge system. These claims presume that everyone is an equal participant, with equal access to the technological means to participate, and that the content is created and consumed by a diverse contributor-cum-audience.

Another facet of the communicatory aspect of collaborative knowledge systems is that the consumers of the knowledge are also its creators – a facet of these systems that has generated much debate. There is no infallible authority disseminating information from on high; however, there is also no one who bears responsibility for fact checking or editing the contributions to these systems. Such lack of oversight allows for incidents like the one experienced by John Seigenthaler, Sr., a journalist and former assistant to Robert Kennedy, who discovered that the Wikipedia entry about him was full of false and libelous information and had been for over four months. Even though he corrected the mistakes, other sites had already picked up the information from Wikipedia, giving the misinformation a long life on the web (Kim, Lee and Menon, 2009, p. 379). While proponents claim that because there is no need for contributors to possess demonstrable expertise or an academic pedigree, the systems are more democratic and open, critics use examples like the Wikipedia instance cited above to argue that this same characteristic makes these systems – and the people who use them – more susceptible to misinformation.

While the collaborative knowledge system currently under discussion is located primarily within the domain of computer and Internet technology, we can see, in earlier technological developments, nascent versions of today's collaborative knowledge system. Each technological development of collaborative knowledge systems has expanded the notion of who constitutes the collective that is generating knowledge. Thomas F. Murphy, III (2004) has noted that contemporary

## COLLABORATIVE KNOWLEDGE SYSTEMS

formations of the public sphere, the locus of much democratic interaction, include “abstract publics’ composed of individuals only brought together by means of the mass media” (p. 1966). At various points in history, the printing press, free public libraries, newspapers, radio and television have represented major developments in communication, the dissemination of information, and technological mediation of community formation and existence.

This paper uses a literary thought experiment to examine the political and social reality that generates such vigorous debates about technology, democracy, communication and collaborative knowledge. In order to study how a highly technologized information environment affects every day roles as citizens in a democratic society and core ideas about citizenship and democracy, I will use the following instruments: Richard Brautigan’s 1971 novel *The Abortion*, Don DeLillo’s 1985 *White Noise*, and Salman Rushdie’s 2001 *Fury*. In each of these books the protagonists must grapple with a changing information landscape and their participation in that landscape. Significant changes include the way information is collected, disseminated, shared and applied to daily life. These novels bring alive the issues at the heart of the debate about the benefits and detriments of collaborative knowledge systems.

### **Brautigan’s *The Abortion***

Brautigan’s *The Abortion* presents us with a vision of a collaborative knowledge system that seems, at first glance, to fulfill some of the lofty democratizing claims made by today’s technological boosters. The narrator of

*The Abortion* works in a non-traditional public library; rather than filling the shelves with published books arranged neatly into Dewey Decimal subject categories or alphabetically by author names, the shelves are filled with the works of the library's own users. In an enactment of democratic equality and tolerance, anyone can bring a book that they have written – on any subject – into the library and place it on the library's shelves, in the subject area of their choosing (Brautigan, 1971, pp. 18-19).

The narrator provides us with a glimpse of the people who contribute their books to this unique library. Some entries in the eccentric list include Clinton York, who has written a book titled *A History of Nebraska*. While placing the book in the library, he reveals that he has never been to Nebraska but “he had always been interested in the state” (Brautigan, 1971, p. 26). Then, there is Beatrice Quinn Porter, who adds a collection of poetry titled *The Egg Layed Twice* to the library's collection. After handing over her book, she says, “It may not be poetry...I never went to college, but it's sure as hell about chickens” (p. 30). Another author, James Fallon, contributes a cookbook of recipes he has gleaned from Dostoevsky novels. He claims, “I've eaten everything Dostoevski [sic] ever cooked” (p. 28). This list, while amusing, is also strangely prescient of the types of people who contribute in the online collaborative knowledge environment, for both good and ill: it is not always the most qualified or educated or those with institutional support for their projects. What these contributors do have is passion and practical experience. The freedom inherent in the system allows

## COLLABORATIVE KNOWLEDGE SYSTEMS

people who would perhaps otherwise go unheard to exercise their voices.

Perhaps it is this function of the library's existence that leads the novel's unnamed narrator to say, "This library came into being because of an overwhelming need and desire for such a place" (Brautigan, 1971, p. 21). To the early 21<sup>st</sup>-century reader it seems that it might be a similar need and desire that motivates people to contribute to the current social systems known as the participatory web; it is a need and desire to participate, to make a deposit in humanity's collective bank of knowledge.

The library of *The Abortion* is a complicated place, another characteristic it shares with the Internet-enabled collaborative knowledge system. The narrator derives great satisfaction from being involved in the library's existence. He takes his job very seriously, interpreting his duty in the library as a civic service to his fellow person (Brautigan, 1971, p. 22). It is the way he participates in society; in doing so, he facilitates other's ability to participate in a community-driven knowledge store.

Moreover, the library is complicated as an institution of democratic citizenship because it is, ultimately, an insular place where information goes to die. The same could also be said, with some degree of accuracy, of the current Internet-enabled collaborative knowledge system. Once information is placed in the fictional library, it stays there until it is moved to the library's storage facility. No one ever checks out a book or comes to the library to browse or read books from the collection (Brautigan, 1971, p. 19). Likewise, if no one is utilizing a web-based collaborative knowledge system, it ceases to

be a useful organ for communication – democratic or otherwise. A crucial feature of the successful collaborative knowledge system is its scale (Gruber, 2008, p. 7). A lot of people have to contribute frequently to make the system work; Wikipedia, whatever its faults, essentially works not only because so many people contribute to and edit it, but also because people consume it on a daily basis. No real library, or, for that matter, any kind of knowledge system, survives and thrives without consumers to provide feedback and comments that constantly revise – and hopefully better – the system.

The problem of insularity is also a significant one. The narrator of *The Abortion* seems to have lost touch with reality while sequestered in the library, as is apparent when he recounts a trip he has made to a nearby phone booth:

Gee, it had been a long time. I hadn't realized that being in the library for so many years was almost like being in some kind of timeless thing. Maybe an eternity. Actually being outside was quite different from looking out the window or the door. I walked down the street, feeling strangely awkward on the sidewalk. The concrete was too hard, aggressive or perhaps I was too light, passive. (Brautigan, 1971, p. 70)

Just as the experience of walking down the street is quite different from looking at the street through the window, the experience of actually participating in everyday life is quite different from participating in an exclusively online environment, where we have



## COLLABORATIVE KNOWLEDGE SYSTEMS

extensive control over the sites, people (or representations of people), and information with which we come in contact, where we essentially have the ability to choose in which conversations and events we're going to participate.

Engagement in society lies at the center of the ideal of democratic citizenship. In America's representative democracy, an engagement in society manifests itself most broadly through the act of voting, though there are certainly more active and sustained ways of participating in the political and social decisions that affect society. Besides these political connotations of democracy, the ideal of democracy connotes certain ethical values, such as inclusiveness, equality, and tolerance (Laird, 2005, p. 491; Selinger, 2005, p. 1381). There has historically been controversy around these ethical values and ideals versus real world practice: women's suffrage, for example, was an instance where ideals of equality and inclusiveness clashed with the reality of women's exclusion and inequality in voting rights. More recently, controversy and questions about the state of democratic citizenship in America and elsewhere have arisen from sweeping changes in technology that have affected society as a whole and which stand to redefine the nature of the collective at the core of democratic society.

Legal scholar Cass Sunstein (2007) has argued convincingly that the level of personalization of information sources available through various Internet channels has made us less democratic. He writes, "Common experiences, emphatically including the common experiences made possible by the media, provide a form of social glue" (p. 6). As we each retreat into our personalized and preferred knowledge systems,

## DESILVA

we become something like the narrator in *The Abortion*, except that instead of looking at the sidewalk through the library window, we look at our political and social landscapes almost exclusively through our computer screens.

### **DeLillo's *White Noise***

In *White Noise* the television is the window through which the characters view the world. The myopic, non-experiential view of the world portrayed in this novel shows how technological mediation of reality can have serious impacts on democratic citizenship and demands a close examination of the claims of the democratic nature of collaborative knowledge systems. For example, when the town of Blacksmith is threatened by an “airborne toxic event,” Jack Gladney and his family sit down to dinner amidst reports of “billowing black clouds” and the wailing of air sirens (DeLillo, 1986, pp. 110-12). Babette, Jack’s wife, at one point asks if they should be concerned about the impending natural disaster. Jack replies:

These things happen to poor people who live in exposed areas. Society is set up in such a way that it’s the poor and the uneducated who suffer the main impact of natural and man-made disasters.... I’m a college professor. Did you ever see a college professor rowing a boat down his own street in one of those TV floods? (DeLillo, 1986, p. 114)

Because he has been experiencing the world through his television screen, Gladney’s relationship to reality is

## COLLABORATIVE KNOWLEDGE SYSTEMS

disjointed. Natural disasters can happen to anyone, though it is a sad fact that poor people often suffer the effects disproportionately. That Gladney not only accepts inequality as a fact but even takes comfort in it suggests that his technological interface with the knowledge of reality has seriously warped his ethics and empathy. Indeed, Lucas Introna (2002) ties technological mediation of reality directly to a decline in ethical behavior: “[T]he ethical claim of the other, that sense of being *bound* to the other, may [become] more and more difficult to experience as information technology increasingly mediates our social being” (p. 71). Inherent in the move towards technologically mediating our democratic communication and lives as citizens is the danger that we will, in the process, undermine the ethical foundation that makes democracy work.

There is also another way in which technological mediation complicates how social and political roles play out in the collaborative knowledge landscape. It concerns the way in which information and the method of that information’s transmission can influence an individual’s perception of the world. This complication is beautifully illustrated in *White Noise*. Jack and his son, Heinrich, are in the car on the way to school and Heinrich says, “It’s going to rain tonight.” Jack, noticing the raindrops on the car windshield, says, “It’s raining now.” Heinrich insists, “The radio says tonight.” Jack counters, “Just because it’s on the radio doesn’t mean we have to suspend belief in the evidence of our senses” (DeLillo, 1986, pp. 22-23). Heinrich ignores his immediate sense experience in order to privilege the information transferred to him by a technological device, the radio. Collaborative knowledge systems similarly have the

potential to influence what people think, how they perceive the world and how they act out their respective roles in it.

### **Rushdie's *Fury***

Another significant feature of collaborative knowledge systems is their ability to affect discourse in a democratic society. The dangerous facet of this feature is the tendency of these systems to foster incivility. This tendency, along with the insularity of Brautigan's *Abortion* and the technological mediation of perception of DeLillo's *White Noise*, is illustrated by Salman Rushdie's *Fury*. The protagonist of this novel, Malik Solanka, listens to a radio call-in talk show while in a taxi. The conversation on the show is in pure chaos, full of unidentified speakers, aggressive non-sequiturs and people talking and talking but no one listening (Rushdie, 2001, pp. 143-145). The effect this has on Solanka is one of "drowning his own inner voice, making thought impossible, or choice, or peace. How to defeat the demons of the past when the demons of the future were all around him in full cry?" (Rushdie, 2001, p. 145). This show, itself a kind of collaborative knowledge system, is a dismal example of a system meant to provide a forum for communication; instead the radio show disintegrates into anonymous and adversarial incivility. This disintegration has the affect of paralyzing Solanka's ability to think or make choices effectively, a condition that is certainly detrimental to effective participation in a democratic society. The online collaborative knowledge environment makes it relatively easy to post anonymous content (or edits to or comments on existing content),

## COLLABORATIVE KNOWLEDGE SYSTEMS

with no fear of having to take responsibility for one's statements or deal with the repercussions in everyday life. Yet, this kind of content not only impacts people's lives in real ways, but the incivility involved threatens to leak into the traditional venues of civil, democratic discourse, as is exemplified by the behavior of individuals at the health care town halls of the summer of 2009 (for example, see Urbina, 2009). Just as Solanka was affected by the tenor of the talk radio, many Americans were extremely confused by the flurry of conflicting statements and accusations made at these town halls.

The kinds of words used in democratic discourse are important, as exemplified by another taxi scene in *Fury*. In this scene, Solanka confronts his driver, who has been cursing angrily in Urdu during the whole trip, unaware that Solanka understands Urdu. When Solanka confronts him, the driver claims, "It means nothing...It's just words" (Rushdie, 2001, p. 66). Solanka gives up the argument with the driver but observes to himself, "Yes, and words are not deeds...separating deeds from the words that define them – was apparently...an acceptable excuse" (p. 66). If we truly want collaborative knowledge systems to be a tool of democracy, then we must find a way both to encourage and carry out civil communication online and to maintain a meaningful connection between our words online and deeds in the everyday world that we inhabit.

The Internet appears as a tool for communication, mediation and participation in *Fury*. Solanka is the creator of a doll known as "Little Brain," a time-traveling, philosophical puppet so popular that the BBC eventually creates a TV show based on her character.

## DESILVA

Solanka saw his work with the Little Brain doll and TV show as a more democratic way of teaching philosophy, outside the walls of the elitist academy. However, by the time he has fled England and his family and arrived in New York, he no longer feels connected with his dolls nor the general television-watching public. He sequesters himself in a New York apartment and goes about being bewildered by the overwhelming amount of unsolicited and uninspiring information that assaults him every day.

Then, Solanka encounters the Internet, a technological development about which he had been wary, but where he sets up a site and writes science fiction serially:

He...was swept off his feet by the possibilities offered by the new technology, with its formal preference for lateral leaps and its relative disinterest in linear progression, a bias that had already bred in its users a greater interest in variation than in chronology. (Rushdie, 2001, p. 187)

Initially, his writing reawakens his inspiration to create dolls and participate in the world around him, but the more he spends time writing on his website and focusing on creating the variety of stories his readers crave, the less interested he becomes in his creative powers in other venues, his relationships with other people, and occurrences in the non-virtual world. So complete is his transformation that he finds himself “inhabiting a world he greatly preferred to the one outside his window” (Rushdie, 2001, p. 188). Although *Fury* was written thirty years later than Brautigan’s *The*

## COLLABORATIVE KNOWLEDGE SYSTEMS

*Abortion* and technology has changed drastically in those thirty years both in the fictive environments and the real world, Solanka's insularity and lack of engagement with society mirrors that of the unnamed narrator in *The Abortion*. This result from the literary laboratory suggests that collaborative knowledge systems have complicated effects on democratic communication and engagement.

### Conclusion

I would not entirely dismiss the idea that collaborative knowledge systems could benefit democracy. However, I would suggest that we be wary of subscribing wholeheartedly to the claims that suggest they have already done so, almost by the sheer virtue of existence. If one of the ethical values of a democratic society is inclusiveness, then it bears remembering that there are a great many people in America's democratic society who inhabit the lowlands and "exposed areas" of the technological landscape, people who are excluded from either creating or consuming the collective knowledge. The problem of the digital divide has not been solved, not even in highly developed countries (Kim et al., 2009, p. 377). There is a significant difference in access to and the ability to use technology among classes, ethnicities, genders and ages (p. 377). According to the Institute for Politics, Democracy and the Internet, the "online citizen" is "not only politically more engaged but" is "also better-educated, younger, and predominantly male" (p. 378). Creating a more inclusive collective to contribute to the collaborative knowledge system would have more than a theoretical or ethical

effect; research shows that the “digitally challenged” can make decisions in a representative democracy (i.e., through voting) that can harm society as a whole, simply through being under-informed (p. 384). If society as a whole is to benefit, then the extension of the democratic principles of inclusion and equality to the digital landscape is a necessity.

Even if everyone in a society were able to participate in a collaborative knowledge system, there is still the consideration of the significant issue of misinformation and its potential to cause harm. While the low barrier of entry for non-experts into these frequently unedited and unreviewed systems seems a boon for democratic communication, examples such as that provided by the Siegenthaler example above show how misinformation can harm individuals and how rapidly that misinformation can spread. Misinformation, if perpetuated broadly enough to become a part of the collective “intelligence,” could lead to the same kind of uninformed and harmful decision making as is fostered by unequal access to technology.

Additionally, there is the chance of being dazzled by the novelty of the Internet and various emerging technologies, a bedazzlement that results in a lack of careful inspection and cautious advancement. Albert Borgmann has explained how one might end up preferring the virtual world to the real:

[P]lugged into the network of communications and computers, people seem to enjoy omniscience and omnipotence; severed from their network, they turn out to be insubstantial and disoriented. They no longer command their world as persons in their



## COLLABORATIVE KNOWLEDGE SYSTEMS

own right...their sense of place is uncertain and fickle. (Borgmann, quoted in Feenberg, 2009, p. 78)

One thing that is clear from our foray into the literary laboratory is that technological mediation of communication and knowledge sharing often results in less democratic and less civil actions. For democratic citizenship to survive and even thrive in the era of collaborative knowledge systems, we must remember not only how to look at the world through the window, the television, or the computer but also must occasionally get out from behind through whatever it is we view the world and engage with it and with one another.

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## **The Politics of Displacements. Towards a Framework for Democratic Evaluation**

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The thesis of the German sociologist Ulrich Beck that politics is often displaced from traditional institutions that promote democratic politics to several other spheres of social life has gained special recognition in the study of technological innovation. A case study about the introduction and supervision of a flexible public transport system shows that „displacements“ of decision making are an inherent trait of innovation. The question addressed in this article is how these politics of displacements can be evaluated and on what ground such an evaluation could take place. Two different perspectives on technology and democracy are presented and a framework is proposed that integrates elements of both. An assessment of evaluation criteria shows that three principles should be foregrounded: representative participation, empowerment, and impact. Provided that relations of power and accountability between different settings are adequately taken into account these criteria suffice for a proper evaluation. A democratic evaluation of the case is conducted based on these criteria and conditions.

Keywords: innovation, displaced politics, democracy, public transport

### **Introduction**

The deeply ambivalent relationship between democracy and technology is one of the central themes in science and technology studies of the last decades. While

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science and technology have helped to improve standards of living and seem to make the world more transparent, they also challenge the common meaning of (democratic) politics (Nahuis and Van Lente, 2008; Salomon, 2000). Phrases like „science is the continuation of politics by other means“ (Latour, 1987) and „the politics of artefacts“ (Winner, 1980) clearly locate politics beyond formal institutions for democratic politics. In his study of the risk society the German sociologist Ulrich Beck (1991, 1996) highlights a proliferation of decentralized locations of „subpolitics“: the economy, labour unions, media, science, industry, the private realm, courts, and social movements. Rather than by laws of parliament or decisions by the executive branch, the future is shaped by incidental, thematic coalitions and oppositions at these locations. Politics is being displaced from democratically legitimated institutions to several other spheres of social life. This thesis has gained special recognition in science and technology studies, where the relation between knowledge and power has been of key interest for a long time (Garrety and Badham, 2004; Gjøen and Hård, 2002; Pfaffenberger, 1992; Summerton, 2004).

In this paper I contrast two different perspectives on technology and democracy, a proceduralist and a performative perspective, after raising a number of specific points in question in a case study. The case study shows that „displacements“ of decision making are an inherent trait of technological innovation. That does not automatically imply an undemocratic qualification of this decision making process. The point is that, in order to look for more democratic innovation processes, we should try to understand the democratic merits and

## POLITICS OF DISPLACEMENTS

deficits of displacements, for example when elected governments formulate policies and mandates and delegate authority, when societal organizations deliberate with civil servants, or when users vote with their feet. A more nuanced evaluation framework is required to explain whether displaced politics is democratic or not.

The case study deals with decision making about the introduction and development of a flexible public transport system in and around the town of Hoogeveen (in the Netherlands). The data used for the case study are derived from archival records, policy documents, evaluation reports, and minutes of meetings. Archives of newspaper articles were effective starting points, because popular media often focused on innovations in public transport. The snowball method was used to interpret the content of meetings, policy documents, project proposals, and other primary sources. For scrutiny of settings this study made use of thought experiments by asking: what are in this particular setting the access conditions, the attributes, and the audience?<sup>1</sup>

This study serves to show that innovation in a public transport service can be considered as a political process characterized by displacements. Decision making takes place in a number of different, but coupled settings. When decision making power about a particular issue shifts from one setting to another, we may speak of displaced politics. The question addressed in this article is how these displacements can be evaluated and on what ground such an evaluation could take place. I discuss a

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<sup>1</sup> A full account of this case study can be found in Nahuis (2007 and forthcoming). Due to restrictions on the length of this article, one particular episode is selected to set the stage for a comparison of the two perspectives that are contrasted here.

proceduralist and a performative perspective on answering this question and conclude that an appropriate framework should integrate elements emphasized by both perspectives. The framework will then be employed for the evaluation of the case.

### **The Case of a Flexible Public Transport System**

The politics of the Netherlands take place within the framework of a parliamentary representative democracy, with about four larger and various smaller political parties. It is a decentralized unitary state. Most political parties are national and have sub-national branches. The first-level sub-national divisions of the state are the twelve provinces, each governed by a locally elected provincial council, called the States Provincial. The States Provincial elects a provincial commission charged with executive power, called the Deputed States. The second-level divisions are the similarly governed municipalities.

Apart from the train system, decision making about public transport has been decentralized to the local (major cities) and the provincial level (towns and regions). Historically, public transport policy in the Netherlands is justified by two major public interests: (i) reliable connections in densely populated areas to stimulate economic activity and (ii) a minimum service level to guarantee accessibility of hospitals and other public services (see Ministry of Transport, 2004). Public transport has been put out for competitive bid since the end of the twentieth century. And such public interests are usually incorporated into the programs of requirements (proposal evaluation criteria).

## POLITICS OF DISPLACEMENTS

This is the context in which, in 1999, a former civil servant and his American companion negotiated with States Deputed of Drenthe, a province in the northern part of the Netherlands, a contract to provide a transport service with small buses for elderly and disabled in the town of Hoogeveen. Those days transport company Arriva provided regular public bus transport within the town, as it did in and between nearly all regions in the north. In addition, a railway operated by the Dutch Railways connects the town to the cities of Groningen and Zwolle. The transport system which the two entrepreneurs initially had in mind was supposed to serve the „bottom of the market“, thus complementing regular public transport. They proposed a quite innovative service concept for a number of reasons: in proportion with the town size and target group, the buses were just large enough to transport eight passengers; instead of at designated bus stops, the buses stopped for anyone on the route who raised his hand; it was even possible to pick up (disabled) people from their homes if that would not disrupt the time schedule; and panels of users determined the principle routes, time schedules, and tariffs (Schlingmann, 2002). These features amounted to a highly flexible and demand-driven system which was very attractive for small towns. States Deputed of Drenthe decided to start the experiment in Hoogeveen and the two entrepreneurs founded a company called Millennium Transport International (MTI). After a successful initial period, States Deputed decided in 2001 to scale up the experiment and to grant MTI a contract to provide a regular public transport service in and between the towns of Hoogeveen and Meppel (InterHoMe region).

## NAHUIS

Table 1 presents the set of stakeholders and their interests in the project. Most, but not all, of these stakeholders were represented in the Development Group Southwest Drenthe, which was founded and chaired by the provincial officials to supervise the project. This group, and the circumstances in which it met, is the first setting that is discussed in this case study. It is important to note here that the Development Group worked with a mandate from States Deputed and that States Deputed was obliged to inform the elected members of States Provincial about the performance of MTI, especially when a contract extension would be considered.

### *Development Group Southwest Drenthe*

MTI wanted to provide regular public transport in and between Hoozeveer and Meppel and this ambition was to be realized in conjunction with the interests of other stakeholders in the Development Group. The group held bi-weekly meetings starting in May 2001. Participants were provincial officials (who chaired the Development Group) and the municipalities in the region, as well as someone from traveller organization ROVER, who represented the Consumer Platform. Furthermore, the participation of both Arriva and MTI reflected constructive intentions: the group could directly allocate tasks to those actually serving the region.

After a relatively cooperative and constructive initial phase until about halfway through the MTI service contract period of three years, the case started to become controversial when the agenda of the group included a number of small issues that were not adequately taken up. MTI postponed or did not execute its tasks and over



## POLITICS OF DISPLACEMENTS

**Table 1. Stakeholders and their interests in the MTI project**

<b>Stakeholder</b>	<b>Interests</b>
Inhabitants and users	For whom the service is meant
States Provincial	The provincial parliament that has the right to be informed by States Deputed and has power to fire deputies. Members of States Provincial are members of political parties and elected by the inhabitants of Drenthe.
States Deputed	The executive board in charge of the provincial administration and responsible for public transport. Deputies are elected and controlled by States Provincial. The composition of the States Deputed is usually the result of negotiations between political parties.
Provincial officials	Employees of the provincial administration
Municipalities of Meppel and Hogeveen	Officials of local administrations, indirectly representing the inhabitants of Meppel and Hogeveen and taking care of local traffic policy
MTI	Transport company, initiator of the project
Arriva	Multinational transport company, providing nearly all public transport in the northern part of the country
Consumer platform	Meeting of fifteen societal organizations active in Drenthe, obligatory passage point for major public transport decisions
Traveller organization ROVER	National lobby group for good public transport, with local branches

## NAHUIS

time the list grew and turned into an issue itself. Provincial officials presented a document to the Development Group, which summarized thirty-eight insufficiently executed tasks documented during the last five meetings, most of them attributed to MTI and related to travel information and communication.

It was unclear whether there would be adequate follow up since the director of MTI often excused himself from meetings of the Development Group. The document reports that he was late once, replaced by subordinates twice, and just absent from the last meeting. The conclusion of the document clearly reflected the group's annoyance:

Unfortunately, MTI time and again shows its unprofessional side in spite of guidance by the province. There is a number of reasons, like a lack of experience in public transport, the small board of MTI, the many miscommunications within the company, and the non-attendance of meetings. There is a strong hierarchy at MTI, where the top decides what happens. The other parties in the development group unanimously find MTI unprofessional and there is explicit doubt whether MTI is capable of operating public transport services at all. (Development Group, 2003, translation by Roel Nahuis)<sup>2</sup>

The initial support for MTI thus transformed into opposition around the question whether MTI was competent to deliver the contracted services.

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<sup>2</sup> The overview was sent to members of the Development Group as an appendix to the minutes of the previous meeting.

## POLITICS OF DISPLACEMENTS

### *Private Meeting between the Provincial Deputy and MTI Board*

Continuation of the MTI project was both a concern for MTI and for the deputy and officials of the province, who had committed themselves to the project. If MTI were to survive in the next tender invitation then the issue needed to be displaced to another setting where MTI could be given a second chance. This displacement came about when the deputy of the province, who was in charge of the officials representing the province in the Development Group, invited MTI for a private meeting. In this „clarifying conversation“ the deputy of the province urged the board of MTI to work on an action list.

In effect, this displacement marked the beginning of rehabilitation. Firstly, the action list, an initiative of provincial officials, already reduced the variety of issues to one single issue: MTI's capability to operate a public transport system. Secondly, in the conversation the two parties made arrangements about this most urgent issue without interferences and irritations of the other actors. As a result, the action list returned on the agenda of subsequent meetings of the Development Group and MTI addressed the concerns and reported task by task about the state of affairs. In this refreshed atmosphere the Development Group did not raise new issues and the most controversial ones gradually disappeared from the agenda.

### *Project Evaluation*

A second step towards rehabilitation of MTI and eventual support from States Provincial was a

displacement of the issue to the office of a consultancy company. The deputy had commissioned this consultant to perform a project evaluation. In the Process Evaluation Experiment InterHoMe report (Diepens and Okkema, 2003), the consultancy company did not hold MTI primarily accountable for the current conflicts and tensions. Rather than evaluating MTI's performance the evaluation aimed at lessons for the province regarding forthcoming tenders. The evaluators mentioned a lot of problems, miscommunications and ignorance, but they only drew conclusions about how provincial officials should have prevented or solved these problems. For example, they ascribed the growing action list to a lack of steering by the province:

In the implementation phase the province insufficiently controls the execution of arrangements between Arriva and MTI [...] and MTI gets too much freedom in (not) living up to appointments. (Diepens and Okkema, 2003, translation by Roel Nahuis)

The Project Evaluation concluded that the project was indeed innovative and feasible and would have been better managed if provincial officials had played a more leading part. This focus on policy lessons offered valuable input for the new tender invitation, but it also neutralized the annoyance and „excused“ MTI for its failings.

### *States Provincial*

When the first contract was expiring, Deputed States of the province prepared a new tender invitation. It

## POLITICS OF DISPLACEMENTS

wanted to continue with MTI and should have informed States Provincial about MTI's doubtful capability to operate a public transport system. However, in the Committee on Spatial planning, Infrastructure and Mobility (SIM) – a committee composed of members of States Provincial and the deputy, who prepares debates in States Provincial – the deputy expressed his belief that public transport in rural areas could benefit from experiments like these. The deputy also defended a tender invitation that clearly favoured MTI. Deputed States had invited three transport companies to compete for the contract, but the program of requirements largely reinforced the existing situation: the winner should drive the same lines with the same time schedules and the same kind of equipment as MTI had been doing for the last two years. The program even required the absence of regular bus stops (except for unsafe locations), which was one of the specific features of the MTI concept. Moreover, the contract would just last for one and half years, because Drenthe and its southern neighbour Overijssel had already agreed to invite tenders for an extended region around July 2005. This short period was of little attraction to newcomers. Because the requirements obviously favoured MTI, the company indeed appeared to have made the most economic tender and was selected on that ground. Members of States Provincial, neither those participating in the committee SIM nor those in the audience of this decision making process, objected to the procedure and the outcome. The reason for this is their lack of empowerment. Due to the „clarifying conversation“ and its effects in the Development Group and the neutralizing evaluation report, members of States Provincial were just ignorant

about the doubts concerning the capability of MTI to provide public transport.

### **The Politics of Displacements and the Question of Democracy**

Before drawing conclusions about the democratic quality of decision making in this case I would like to emphasize the starting points for developing an evaluation framework. First, the case shows that decision making about innovation has a clear political dimension which begs for democratic evaluation, especially in the public sector. Various stakeholders are involved. The inhabitants of the province, who regularly or incidentally make use of public transport, have demands to be served. Societal organizations represent these interests. The province also looks after these interests, while being the main funder of the transport service. Local authorities have more specific interests related to travel demand and local policies in their municipality. MTI hopes to make a profit. And transport company Arriva serves other parts of the region, having an interest in good connections. Aligning these interests is clearly a political issue, which ought to take place in a democratic way given the political culture in the Netherlands on matters of public transport and the central role of the province in this case.

Second, the case runs through a number of different settings: the Development Group, a private meeting between the provincial deputy and MTI, an evaluation, and States Provincial. These settings are quite different in their characteristics. The composition of participants varies from broad to narrow, audiences play different parts or are excluded, the focal issue is the transport plan

## POLITICS OF DISPLACEMENTS

in one setting, and the organization of supervision in another, and the role of mandates to attribute legitimacy to authority varies across settings. An evaluation thus has to take into account how the characteristics of particular settings affect the overall decision making process.

Third, settings are nevertheless not institutionally separated. The private meeting is composed of actors participating in the Development Group, the evaluation is commissioned by States Provincial, and the Development Group works with a mandate from States Provincial. These settings are linked via chains of accountability, for instance by the fact that the audience in one setting is the gatekeeper of another. For an evaluation it is important to study these relations between settings. The concept of displacements will be further elaborated for this purpose.

Fourth, a case in public transport is interesting for analytical purposes. Public transport in the Netherlands is an empirical field where democratic legitimizations of decisions have always been very important since most transport companies were deprivatized in the first half of the twentieth century (Groenendijk, 1998). The case presented here, which occurred in the context of wider debates about re-privatization and liberalization at the end of the twentieth century, raised concerns about democratic quality and called for additional forms of control, of which the Development Group is an example. The fact that such debates surrounded the case enables learning about the democratic implications of displacements.

### **Perspectives on Technology and Democracy**

From what perspective could lessons about the democratization of displacements be learned? In a review of science and technology studies (STS) on the relevance of the notion of displaced politics for technological innovation, Nahuis and Van Lente (2008) have distinguished five different perspectives on technology and democracy. First, an „intentionalist“ perspective emphasizes how designers are politically active when they materialize particular values and norms in the technical content of artefacts. The second perspective is more focused on the process than the outcomes and is based on the criticism that mutual dependencies, interactions and contingencies are easily dismissed in the first. Social constructivist approaches to technology development, on which the „proceduralist“ perspective is based, rather look for politics in settings and procedures where mutually dependent social groups interact. Another response to the first perspective is actor-network theory. An „actor-network“ perspective also emphasizes the importance of interactions and network formation in the development of technology, but extrapolates these mechanisms to explain the emergence of hegemony in general. A fourth, „interpretivist“ perspective is based on the reflexive turn in STS. Self-application of insights about the dynamics of scientific development inspired the exploration of the role of ambiguity, rhetoric and network formation in analytical and evaluative accounts themselves. A last, „performative“ perspective builds on insights from actor-network theory, but specifically highlights the constraining and enabling conditions of settings. In contrast to the proceduralist perspective, this perspective emphasizes the need for *relative* evaluation



## POLITICS OF DISPLACEMENTS

criteria, like the potential to surprise and engage new audiences.

Due to their focus on the role of settings the proceduralist and the performative perspectives are particularly promising for our purposes. We want to contrast these perspectives as a source of inspiration for constructing a framework for democratic evaluation of the politics of displacements.

### *The Proceduralist Perspective*

The key question from the proceduralist perspective reads: how to intervene (democratically) at the right places and the right moments? It does not focus on design criteria of any new technology, but on procedures for involvement in the decision making process. It defines democracy in terms of participation, deliberation and consensus seeking (Bijker, 1997, 1999; Hamlett, 2003; Sclove, 1995). Strong arguments for the democratization of technology development have been made on the basis of claims that there is no a priori distinction between experts and lay people from a social constructivist point of view. Everybody is expert in some aspects and lay in others; expertness is a negotiated attribution. When relevant social groups (including citizens, organizations, architects and engineers) participate in committees, advice groups and vote sessions, then this should principally be on an equal basis and the outcomes should be the result of shared responsibility (Bijker, 1997). In this tradition, several authors have proposed criteria for evaluating whether individuals with diverse or opposing values and preferences can reach an aggregated, reasoned, informed,

## NAHUIS

consensual judgment when they get a fair opportunity to discuss controversial issues (Hamlett, 2003; Rowe and Frewer, 2000; Rowe, Marsh, and Frewer, 2004). Table 2 presents these criteria, which define a democratic process, particularly when applied to political innovations like consensus conferences and dialogue workshops. Democracy, in this perspective, is understood as a deliberative practice with strong, direct participation (Barber, 1984). By sharing preferences and interests among participants, mutually listening and proposing solutions, it is assumed that partial and private interests aggregate into solutions that are acceptable to everyone (Bijker, 1997; Hamlett, 2003; Sclove, 1995; Zimmerman, 1995). As Hamlett states: “The expectation is that the participants will find their ideas, preconceptions, and eventually their preferences changed and molded by the experience, rather than engaging only in various bargaining or advantage-seeking tactics to secure unchanged goals” (p. 122).

What can the understanding and evaluation of displacements in the politics of technology gain from the proceduralist perspective? The perspective points to the conditional role of settings and procedures and offers a coherent set of criteria for evaluation of deliberative practices such as consensus conferences and dialogue workshops. They have been applied to relatively well-organized and proceduralized settings (Rowe and Frewer, 2000, 2004; Rowe, Marsh, and Frewer, 2004).

## POLITICS OF DISPLACEMENTS

**Table 2. Democratic evaluation criteria for innovation processes**

<b>Criteria</b>	<b>Definition</b>
<i>Acceptance Criteria</i>	
<b>Representativeness</b>	The participants should comprise a broadly representative sample of the affected population.
<b>Independence</b>	The participation process should be conducted in an independent (unbiased) way.
<b>Early Involvement</b>	The participants should be involved as early as possible in the process, as soon as value judgments become salient.
<b>Influence</b>	The output of the procedure should have a genuine impact on policy.
<b>Transparency</b>	The process should be transparent so that the relevant population can see what is going on and how decisions are being made.
<i>Process Criteria</i>	
<b>Resource Accessibility</b>	Participants should have access to the appropriate resources to enable them to successfully fulfil their brief.
<b>Task Definition</b>	The nature and scope of the participation task should be clearly defined.
<b>Structured Decision</b>	The participation exercise should use/provide appropriate mechanisms for structuring and displaying the decision making process.
<b>Making Cost Effectiveness</b>	The procedure should in some sense be cost effective from the point of view of the sponsors.

Source: Rowe, Marsh and Frewer (2004) [modified format].

It is difficult to maintain that the settings featuring in our case were all organized according to such procedures. States Provincial is an institutionalized setting for democratic politics, the Development Group was designed for stakeholder deliberation, the „clarifying conversation“ should be characterized as a principle-agent meeting, and the evaluation by the consultancy company should be characterized as a setting to render account for a public service. In this context it is interesting to follow Hamlett’s (2003, p. 123) suggestion that application of these criteria can be extended to several other kinds of settings by treating them:

as one anchor of a continuum of political structures that might reach from the broadest participatory democracy; through various forms of limited participation democracy, such as pluralism, interest group bargaining, corporatism, or other representative forms; through to various forms of elitist, technocratic, or authoritarian systems.

This argument thus suggests a possibility for evaluating different kinds of settings for decision making about innovation, including the rules and procedures that de facto structure them. However, such evaluations have rarely been undertaken in an integrated way.

### **The Performative Perspective**

There is more than a suggestion in the proceduralist perspective that settings should be neutral. See for example the second criterion in table 2. For authors who take the performative aspect of settings as a starting point, this is an untenable assumption. They emphasize

## POLITICS OF DISPLACEMENTS

the role of settings in the mobilization of a particular discourse of democratic legitimacy. Levidow (1998), for example, argues in an essay on the regulation of agricultural biotechnology in Europe that in settings devised to democratize biotechnology the idea of „democracy“ in its turn is „biotechnologized“. “Participatory exercises help legitimize the neo-liberal framework of risk-benefit analysis, which offers us a free consumer choice to buy safe genetic fixes” (p. 223). Procedures for public participation, safety regulation and science education set the terms for expert regulation: “In all these ways, European democracy is biotechnologized” (ibid.).

According to the performative perspective, the setting of activities is never neutral but performative, it *does* something. In addition to asking „who participates“, the question „what enables people to become participants“ should be addressed (Gomart and Hajer, 2003; Mol, 2002). Settings empower some actors to be effective participants, while excluding others. The characteristics of settings define who has access and what counts as relevant information, reasonable arguments, and legitimate decisions. Barry’s (2001) notion of „demonstration“ provides a nice illustration. In its common political meaning „demonstration“ refers to protest. Typically the harmed and weaker party in a conflict protests against a situation to gain public support for its cause. In its second meaning „demonstration“ refers to the practice of showing something to an interested audience, which is historically rooted in the anatomical theatres as the origin of medical academia. This second meaning emphasizes the equipment needed to perform the (political) demonstration: a stage to speak

up, a case, valid argumentation, communication technology, an audience to speak to, and – more specific for the political settings – mandates, proposals, cost-benefit analyses, public enquiry and evaluation reports. The setting thus consists of those elements and techniques that make a performance possible.

Gomart and Hajer (2003) use the notion of bias to elaborate further on this performative dimension of settings. They argue that bias is inevitable, because settings always interfere with the performance. But they do not consider bias as a disturbing factor for democratic decision making, but rather as a productive factor. It is politically productive in the sense that a well-designed setting does not reproduce established patterns of power, but instead disrupts the usual patterns. In their opinion, politics is helped by new perspectives, by sudden reversals in the framing of problems and solutions, and by the engagement of silenced stakeholders and new audiences. The question, thus, is not whether a setting is pure and neutral, but which setting is more likely to bring about *interesting* outcomes and to *surprise* its audience. The point of this argument is that one does not need external criteria for evaluation if one would emphasize the positive role of bias. Interesting and surprising are relative principles for democratic evaluation. This is clearly a relevant position for the politics of displacements. If the bias of a setting indeed reveals certain aspects and engages certain audiences, then a democratic political process may benefit from the „mobilization of bias“, from passing through a variety of settings, and from the displacement of issues. Each displacement potentially offers surprising effects.

## POLITICS OF DISPLACEMENTS

Like the proceduralist perspective, the performative perspective puts the role of settings in the centre of analysis. They also share an explicit commitment to the democratization of innovation. But in the performative perspective „democracy“ does not refer to a model existing independently from the practices under study as in the proceduralist perspective. The performative perspective builds on the criticism of the proceduralist perspective that the latter presents one meaning of democracy as the most important or essential one (De Wilde, 1997). “Among all the different and often rival concepts one meaning obtains a privileged ontological status: direct democracy is thought to be the most ‘*real*’ democracy” (p. 41). With reference to „surprise“, in contrast, it is suggested that criteria for democratic quality can be derived from the practices themselves: “Surprise [...] insists that criteria are inherently *immanent* and cannot be picked a priori to guarantee outcomes” (Gomart and Hajer, 2003, p. 40).

According to critics of the performative perspective, however, such external criteria do seem to have slipped in via the backdoor. In the case described by Gomart and Hajer, the development of a plan for a multipurpose area called the Hoeksche Waard, creative experiments with political forms indeed led to the unexpected voicing of hitherto silenced „Hoekschewaarders“ (the inhabitants) among other things. But the authors also selected a case where creativity in political solutions happened to coincide with remedying injustice. By celebrating the first, they avoid spelling out what is involved in the second (Pestre, 2004). For example, would they also celebrate „sudden reversals“ and „unexpected turns“ if these instead revealed power centralization?

### **The Politics of Displacement**

The politics of displacement implies that the shaping of technologies and services by means of discussing and settling aspects of design, funding, regulation, marketing, and use occurs in more than one particular setting. Decision making about innovation generally extends over this range of settings. The performative perspective emphasizes a hardly explored dimension of the politics of innovation: the (positive) contribution of the biases of settings to the politics of innovation. Based on this perspective it is possible to further elaborate on the notion of displacement. Displacement refers to the movement of decision making with regard to an issue from one setting to an often differently organized setting. Consequently, displacements are not value-free. Conflicts may be won or lost by displacement, because each displacement mobilizes other biases. This may reinforce existing positions and roles, but it may also open up new opportunities and engage new allies or resources for advantageous solutions. Displacements are thus an essential characteristic of politics.

The displacement of politics is usually associated with a democratic deficit. In these associations displaced politics takes place in settings which lack democratic features like transparency, equality, accountability, or division of power (Beck, 1991, Bovens et al., 1995). If, in Winner's (1980) famous example, New York architect Robert Moses engages in racist politics by means of bridge building, then the democratic deficit emerges from the elitist nature of architects' decision making in contrast to democratic decision making in councils. This could be evaluated from a proceduralist perspective. But if the game passes through multiple settings with



## POLITICS OF DISPLACEMENTS

performative characteristics, then the proceduralist perspective falls short. One should also evaluate the relations between settings where issues are dealt with. For example, the audience in one setting might be in power in another. Settings may reinforce *or* compensate each other's biases. Such interdependencies cannot be taken into account without analysing displacements. Whether displaced politics are undemocratic should not be taken for granted, but should result from the analysis. This then raises the question on what grounds a democratic evaluation could take place.

### **A Definition of Democracy**

A proceduralist perspective proposes a list of democratic evaluation criteria (see table 2). I take this list as a starting point and follow Hamlett's (2003) suggestion that it can be treated as an anchor point for evaluating more mundane forms of politics as well. I argue that it is possible to reduce the elaborate list of criteria to three core principles: participation, empowerment and impact. Participation is the degree to which (representatives of) stakeholders are able to have input or express their point of view, either directly or indirectly. Empowerment is the degree to which all stakeholders have access to resources to articulate their ideas and interests. Impact is the degree to which the articulation of ideas and interests affects outcomes. Participation is a precondition for empowerment and empowerment for impact.

My argument is that the criteria emphasized by the proceduralist perspective (table 2) are reducible to the three principles *if one views decision making about innovation as a politics of displacement*. This argument

should not simply be understood as the mere substitution of a set of concrete criteria with a smaller set of more abstract ones. Instead, the argument partially draws on the performative perspective by assuming that some criteria are immanent to the process and dealt with by actors themselves. Whether this happens democratically can be assessed on the basis of the three principles.

The principles can be further clarified in comparison with the criteria in table 2. The criteria of „involvement“<sup>3</sup>, „resource availability“ and „influence“ are directly covered by the three principles of participation, empowerment and impact. Other criteria can be derived from these principles. Consider for example „representativeness“: if a participant in a certain setting claims to represent a broader constituency, then the analyst should trace back his/her mandate to the setting where it originates. Whether the mandate is legitimate should be determined by studying the displacement of the mandate, for example by asking whether all constituency members are sufficiently participating and empowered with resources in the voting process. A similar argument holds for „transparency“. A key characteristic of performative settings is the audience. The presence of stakeholders in the audience matters for the quality of the performance they witness. If the performance in a setting is not transparent, then stakeholders in the audience are insufficiently empowered as audience.

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<sup>3</sup> Involvement should not be early per se, I would argue. It should be timely and the right moment of participation depends on the evolution of the issue, that is: the moment when someone turns into a stakeholder.

## POLITICS OF DISPLACEMENTS

Remaining criteria can be legitimately disregarded for different reasons. „Independence“ should be dismissed, because settings need not be independent or neutral at all. Instead, the multitude of settings should together bias in favour of effective participation of a broad set of stakeholders. The criteria of „task definition“, „cost-effectiveness“ and „structuring“, finally, are emergent features of the process and evaluated by the actors involved. If a setting does not provide tasks and structure, then participants may be dissatisfied and contest the legitimacy of the setting along with the issues on the agenda. Criteria like transparency, independence, cost-effectiveness, task definition, and structuring refer to the bias of a setting. From a performative perspective, these qualities of settings should be evaluated in relation to other settings and the performances these enable and delimit. Applying the criteria in table 2 to the politics of displacement thus boils down to evaluating the multitude of settings and displacements in terms of participation, empowerment and impact.

### **Democratic Evaluation of the MTI Project**

How could these principles be applied to our case of implementation and supervision of the MTI project in Hoogeveen and Meppel? The supervising Development Group was installed to align the interests of MTI, the inhabitants of the province and other stakeholders in the region. The authority of this group was based on a mandate from States Provincial to look after the arrangements in the contract between MTI and the province. Representative participation of the inhabitants was ensured in three ways: via the municipalities of Hoogeveen and Meppel, via a representative from the

## NAHUIS

consumer platform, and via the mandate carried out by provincial officials. Due to the composition of this Development Group a constructive client perspective prevailed and as long as MTI took suggestions from participants into account, inhabitants were adequately represented. But the growing action list evoked serious doubts about hitherto unquestioned capabilities of MTI. If these doubts were right, then inhabitants would not get value for their money. At this point in time, representatives of inhabitants should have been empowered to decide about the conditions for continuation of the project. Instead, the group did not meet for some time. Provincial officials and their deputy tried to settle the issue via displacements to settings with limited access. The deputy met separately with MTI board members and bracketed the distrust in the Development Group. The Process Evaluation Experiment InterHoMe report merely focused on policy lessons.

Once the issue of MTI competency was displaced, the mandate from States Provincial remained the only mode of representative participation of inhabitants. Members of States Provincial should therefore have checked whether the mandate was carried out properly and question the mandate again when things did not work out as agreed upon. But when the project indeed got stuck, they remained silent. Members of States Provincial had not been very interested in the politics of the Development Group. They did not raise their voice in the name of inhabitants and did not prevent the bracketing of distrust as happened in the „good conversation“ and the „excusing“ Process Evaluation Experiment InterHoMe report. While States Deputed

## POLITICS OF DISPLACEMENTS

decided about the next tender, the results of these bracketing displacements – the image of a cooperative and flexible transport provider called MTI – became available as arguments pro MTI in States Provincial. The silence<sup>4</sup> in States Provincial after MTI's victory in the next tender invitation proves the strength of this cooperative and flexible image.

Whether deliberate or not, by excluding the stakeholders represented in the Development Group and by bracketing doubts and distrust, dominant provincial officials exceeded their mandate and constructed a „successful“ project. They were able to do so because members of States Provincial did not take part in the audience to look upon the mandate. As a consequence, members of States Provincial who represented inhabitants were not empowered to criticise States Deputed for continuing the project when the issue finally displaced to the committee of States Provincial.

### Conclusions

There is an important political dimension to innovation processes, which begs for democratic evaluation. This is especially urgent for innovation in the public sector, such as in public transport. Despite increased recognition of this political dimension and despite lively and ongoing debates about their democratization, there is no consensus in the literature on innovation and democracy. Different perspectives exist next to each other. This article contrasted two of these

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<sup>4</sup> Only one question about MTI's application of labor conditions was raised, but the deputy answered that labor conditions are a legal, not a political, issue (see references note 1).

perspectives, a proceduralist and a performative, which share a commitment to the democratization of technology development and a focus on settings for decision making. Differences exist in the conceptualization of settings – ideally neutral in the proceduralist perspective and inevitably biased in the performative perspective – and in assuming the existence of a transcendent reference model for democratic quality. With regard to setting, the performative perspective seemed to fit best given the many differences in the organization of settings encountered in this case. With regard to democratic criteria, this article develops a middle road. The proceduralist perspective postulates an essentialist view on democracy, which not only results in a long list of criteria, but also assumes that evaluators have moral authority over those who are evaluated. The performative perspective, in contrast, insists that actors themselves use criteria to evaluate the setting along with the issues on the agenda. Relative criteria like surprise or interesting reversals are proposed to reveal such actor evaluations. The problem with the claim that any criterion is immanent to the process, however, is that it turns „democracy“ into an empty concept. There is no convincing case of democratic decision making without some (implicit) reference to generally accepted democratic principles.

A middle road between proceduralist and performative positions could comprise a number of principles concerning effective stakeholder involvement, e.g. participation, empowerment and impact. These principles should be understood as dimensions of democracy that are general enough to capture local variation and specific enough to make a difference

## POLITICS OF DISPLACEMENTS

between good and bad politics. They are general enough to cover local variations like issue-specific requirements to participation, the actor-specific agreement about the proper level of empowerment, or contingent influences on the outcomes of the decision making process. Nevertheless, they are also specific enough for normative evaluations; they offer a ground for normative comparison of settings and henceforth a way to assess the contribution of displacements to democratic quality.

These principles, together with an account of the responsibilities related to the use of mandates are more important than criteria concerning the appropriateness of settings and procedures. The reason for this is that the quality of settings depends on the effects of the setting on the performance in relation to the effects of other settings in a chain of displacements. It may be the case that displacements amount to hegemony; it may also be the case that the democratic merits of one setting compensate for the democratic deficits of another. Whether and when displacements contribute to democratic quality is, however, essentially an empirical question.

To illustrate this latter proposition, an empirical study and evaluation of displacements in a case of public transport innovation was conducted. The study showed how an issue was depoliticized at the expense of empowerment requirements. These results illustrate how the conceptual framework that was developed in this research highlights the conditions that need to be fulfilled for the democratization of innovation processes. In this case, it appeared that elected members of States Provincial, who were supposed to be the main audience throughout the process and who eventually had to decide

about the continuation of the project, were insufficiently empowered to assess the transport company's capabilities.

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*The Hockey Stick Illusion: Climategate and the Corruption of Science.*

A. W. Mortford (author).

London: Stacey International, 2010. 482 pages. ISBN: 1906768358 (paper). \$18.00.

Reviewed by George Sochan, Bowie State University.

For two decades, certainly since the early 1990s, anthropogenic (manmade) global warming has been one of the most prominent issues discussed in academic seminars, written about in scholarly journals, reported by the media, taught in schools, publicized in certain nongovernmental assemblies, legislated on in some governmental assemblies, decried by many activists, and dramatized in documentaries. An example of the conspicuous attention given to this topic would be Al Gore's book, *An Inconvenient Truth*, which inspired a film documentary by the same name in 2006. A less famous but more scholarly expression of anthropogenic global warming is the Intergovernmental Panel on Climate Change's (IPCC's) Third Assessment Report produced for the United Nations in 2001. The iconic depiction of this type of global warming is the so-called hockey stick graph that originated in a paper published in *Nature*, a science journal, in 1998, and, since then, has

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appeared ubiquitously, including in the third IPCC Report and Gore's film, as if it were the Gospel truth. One source that assumes a less than laudatory view of the graph is A. W. Montford's *The Hockey Stick Illusion: Climategate and the Corruption of Science*. In his well-documented, 450-page book, Montford, a blogger with a background in chemistry, covers eleven years of history that is centered on the hockey stick graph, beginning with its introduction in the 1998 Michael Mann article in *Nature* and closing with the email scandal centering on Dr. Mann in 2009. In the process of unfolding the story of a deceptive graph, upon which anthropogenic global warming has been set, Montford establishes the general framework of some of the debate on global warming; shows the important place of the graph in the debate; unfolds the work of two Canadians who revealed the many flaws in the graph's construction; reveals the unprofessional conduct of many climatologists; and exposes the corrupt connection between politics and science.

In *The Hockey Stick Illusion* Montford picks up the climate story, in 1998, after the paradigm for anthropogenic global warming had already been established in the previous decade. Before the twentieth century many scientists as well as millions of Americans assumed that nature, including the weather, was fairly stable and that any momentous change in the weather, like the last Ice Age, would not occur abruptly but evolve over millennia. During the twentieth century, especially after World War II, this interpretation was overthrown as scientists constructed a new paradigm that included the following features: the fragile balance of the planet's eco-systems; the abrupt volatility of the weather; and the

Book Review of *The Hockey Stick Illusion: Climategate and the Corruption of Science* by A. W. Mortford

potential for humanity to change the weather, including in a very catastrophic way. In regard to the latter item, the main cause for concern has been the tremendous increase in the emission of CO<sub>2</sub> as well as other greenhouse gases into the atmosphere. By the late 1970s the new scientific paradigm, to use Thomas Kuhn's term, had been established. Since then, normal science, which Kuhn explains in *The Structure of Scientific Revolutions* as the research conducted in accordance with the prevailing paradigm to resolve particular problems, has been conducted to show that anthropogenic global warming is probable and has already started. Appearing just before the new millennium, the hockey stick graph seemed to provide the proof for many climatologists that anthropogenic global warming had, indeed, begun. Those who disagreed have been labeled skeptics and, in Kuhnian terms, seemed to be engaged in a counterrevolution against the new paradigm. *The Hockey Stick Illusion* is a publication that can be set within this so-called counterrevolution and much of its information has been used by skeptics to challenge claims about global warming.

In the book's introduction two graphs are shown: The one on page twenty-five shows varying temperatures during the last one thousand years while the one on page thirty-four shows unvarying temperatures from the beginning of the fifteenth century into the twentieth century but with a sharp upward spike at the end of the 1900s. The former graph shows both the Medieval Warm Period, occurring from 1000 to 1400, and the Little Ice Age, lasting from 1450 to 1850. The other graph is the hockey stick one that first appeared in "Global Scale Temperature Patterns and Climate Forcing

## SOCHAN

Over the Past Six Centuries,” published in *Nature* in 1998 and that later resurfaced six times in the IPCC’s Third Assessment Report (TAR). This graph, which is the work of Michael Mann and his two associates, Ray Bradley and Malcolm Hughes, looks like a hockey stick with the handle leveling out the Medieval Warm Period and the Little Ice Age and the blade shooting up temperatures for the late twentieth century. The importance of the hockey stick graph is that it did two things: removed the warmth of the Middle Ages when temperatures were apparently higher than today and indicated exceedingly high temperatures during the carbon-dioxide-profligate years of the late twentieth century. Stated simply, this graph supported the contention that it was not until the massive urban industrialization of contemporary history that temperatures rose and, since humans had caused this noxious rise in temperature, they were responsible to change their lifestyle in order to save the planet.

While many persons and institutions accepted, supported, and even propagated anthropogenic global warming and humanity’s responsibility to stop it, there were skeptics. Some, like S. Fred Singer, a noted physicist, referred to the extensive record that supported a Medieval Warm Period while others felt that significantly higher temperatures for the 1980s and the 1990s did not accord with their personal experiences. Included among the latter is Steve McIntyre, who, at the turn of the millennium when TAR was published, was a semi-retired mining consultant who had lived in one of the areas cited by Mann as having sharply higher temperatures. Since McIntyre did not personally recall these for the late twentieth century where he had been



Book Review of *The Hockey Stick Illusion: Climategate and the Corruption of Science* by A. W. Montford

living in Canada, he began to post questions on the Internet about Mann's methods and conclusions, especially on his own site Climate2003, where bloggers encouraged him to critique Mann's work. Through much of *The Hockey Stick Illusion*, especially chapters three through five, Montford first details McIntyre's many efforts at wrestling with Mann's evidence (the principal components) and calculations upon which the hockey stick graph is based and then, in chapters six and eight, recounts McIntyre's responses to Mann's many supporters among the climatologists. In chapter three Montford details McIntyre's review of Mann's development of the hockey stick graph. McIntyre, who has a background in mathematics and is skilled in the use of statistics, discovered serious flaws in Mann's work. According to McIntyre, it was the cherry-picked data of certain tree rings (bristlecone pines) and Mann's use of a faulty algorithm that produced a graph in the shape of a hockey stick. Montford claims that McIntyre conducted 10,000 simulations of the climatologists' work, but using different data, and always produced a hockey stick, provided that he used the few bristlecone pines. As statistician David Stockwell noted, "a „hockey-stick“ shape is inevitable" because the "reconstructions are essentially already encoded into the methodology" (p. 300). When McIntyre believed he was ready to publish in 2003, he was joined by another Canadian, Ross McKittrick, a professor of economics, who co-authored papers with McIntyre that were published in various journals between 2003 and 2005.

During the years that McIntyre and McKittrick published their papers, a war of words ensued between McIntyre, McKittrick and their supporters and Mann and

his supporters. Much of this engagement occurred on the Internet, especially at their respective websites, ClimateAudit for the former and RealClimate for the latter. The importance of blogging on the Internet became apparent when members of both camps posted parts of their scholarly papers and aspects of their research on the web. At the time of this web engagement, McIntyre and McKittrick were unaware that a concerted, behind-the-scenes action was occurring to restrict their access to data and codes used by many climatologists, to deny them publication in certain scholarly journals, and to sanction journals that had published them. In the final chapter of *The Hockey Stick Illusion* Montford excerpts from numerous personal emails, which were hacked in late 2009, that reveal the aforementioned unprofessional conduct of Mann and some of his associates as they wrangled publicly with the climate skeptics on the Internet. The Internet controversy spilled into the newspapers, such as the *Wall Street Journal*, which published an article critical of the climatologists, centered on the question “But is the hockey stick true?” in February 2005 (cited on p. 187 in Montford’s book). The battle on the blogs even reached Washington, DC where Congress set up two committees to investigate the hockey stick graph in 2006. By this year it had become apparent even to proponents of anthropogenic global warming that significant flaws affected Mann’s methodology. The defense offered on behalf of the hockey stick graph is that while Mann’s work has some errors, his conclusions, including the spike of high temperatures at the end of the twentieth century, has been confirmed by other professionals working in the field of climatology. On page 254 in his

Book Review of *The Hockey Stick Illusion: Climategate and the Corruption of Science* by A. W. Montford

book Montford uses a diagram to show what confirmation by others means. At the center of the diagram is Mann and lines link him, either directly or indirectly, to forty-two other scientists who had published papers, often in association with Mann, on global warming. In his report to one of the two congressional committees Edward Wegman, a professor of statistics at George Mason University, noted “the isolation of the paleoclimate community” and asserted that its “work has been sufficiently politicized” (p. 252) .

In chapter fifteen, effectively the book’s conclusion, Montford reflects on the meaning of the hockey stick graph. He concludes that while the graph’s scientific value was successfully challenged by McIntyre and McKittrick, it has continued to maintain its propaganda value. Mounted on a timeline, the hockey stick clearly conveys the message that temperatures had skyrocketed at the same time that more and more Americans began to drive SUVs, use air-conditioning nearly everywhere, and fly on jets for at least one annual trip. The graph was used in schools to teach children that the aforementioned behavior was responsible for the melting of the glaciers that, as shown in Gore’s documentary, had left a lonely polar bear floating on an iceberg in a warming Arctic Ocean. Many scientists within that “paleoclimate community” used the hockey stick image to promote anthropogenic global warming as they received grant monies for further research to confirm what they already fervently believed. Finally, those who wanted to change patterns of living in the developed countries also latched onto the hockey stick as an effective weapon to beat back skeptics and others who opposed more governmental regulation of personal behavior.

## SOCHAN

To use Kuhn's terminology, A. W. Montford's *The Hockey Stick Illusion* provides a detailed account of normal science in the field of climatology. In the case of this book the perspective comes from the side of the skeptics who, for more than two decades, have been challenging the paradigm that presents humanity as being primarily responsible for global warming. In particular, Montford focuses on two Canadians who have challenged a key representation of anthropogenic global warming, which is the hockey stick graph. Chapter after chapter reveal the contentious debates between the climatologists and the skeptics. In *The Structure of Scientific Revolutions* Kuhn sees such academic battles as comparable to those of political revolutions, wherein the participants in the revolutionary process try to impose a new world view or to maintain an existing one. Since Kuhn does not perceive the history of science as the story of one achievement progressing to another and then to another, he might find the account contained within Montford's book to be the usual practice of professional scientists as they establish or overthrow a paradigm. Some readers of *The Hockey Stick Illusion*, however, may conclude that the book's subtitle, "the corruption of science," is the more appropriate assessment for at least some of the so-called normal science of certain climatologists.

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*Fetal Fatal Knowledge: New Reproductive Technologies and Family Building Strategies in India.*

Sunil K. Khanna (author).

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153 pages. ISBN: 0495095257 (paper). \$32.95.

Reviewed by Jennifer DeGrafft, Chester, Maryland.

Over the past few decades, particularly since the 1980s, many persons have become more aware of the controversy over abortion. Time and time again, it has been voiced that it is a woman's right to choose an abortion while many others believe that life is sacred and begins at conception. In the USA it is legal that a woman may choose to abort her fetus simply because she no longer wants to be pregnant, but what are the practices of abortion elsewhere in the world? In India millions of women practice sex-selective abortion; they intentionally abort a female fetus because of Indians' historical preference for sons. In *Fetal/Fatal Knowledge: New Reproductive Technologies and Family Building Strategies in India*, Sunil Khanna examines sex-selective abortion in Shahargaon, which is located just south of New Delhi. As a cultural anthropologist, he made a case study of the people in Shahargaon during the 1990s and into the early years of the next century in order to

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understand the connection among historical son preference, new reproductive technologies, and sex-selective abortion.

In the introduction Khanna asserts that his book is a study of son preference and female abortion in Shahargaon, which was a peasant community that underwent rapid urbanization during the late twentieth century. He explains that cultural changes, cultural preferences, and economic opportunities play a role in a couple's decisions to use sex-selective abortion. To show the interconnection of the aforementioned factors and female abortion, he presents a poignant illustration in chapter one. The illustration unfolds just as Khanna was about to begin his interview with Dr. Mahavir Singh, a doctor at a local clinic. As the interview commenced, a concerned patient entered the doctor's office inquiring about ultrasonography. Singh inquired about the number of daughters the man already had. The man already had two daughters. "I think if this time it is a girl we should go for an abortion and then try again. Hopefully, next time it will be boy" (p. 3). Khanna used the above narrative to establish the purpose of his book, which is to understand why some couples in India use ultrasonography and other reproductive technologies to identify the sex of the fetus and then choose abortion if the sex of the fetus is female. Khanna does not support the use of reproductive technologies to determine the sex of fetuses nor does he support female abortion; moreover, he believes that his empathetic case study may help to diminish this practice in India.

Shahargaon is a community deeply rooted in historical preference for sons. In the beginning of the village's existence its inhabitants were susceptible to

Book Review of *Fetal Fatal Knowledge: New Reproductive Technologies and Family Building Strategies in India* by Sunil K. Khanna

encroachment from neighboring villages. Due to external threats, sons were preferred because they protected the community and the women. It was also the son's family that received the dowry when he was married. Therefore, Shahargaon Jats, the dominant social group in Shahargaon, perceived sons as assets while daughters were considered burdens or liabilities. The goal was to maximize the number of sons born. The previous sentiment was expressed by a few Jat elders with the following phrase: "Parents are unlucky if a son dies, but they are lucky if a daughter dies" (p. 29). Khanna believes that this historical heritage is still a strong factor in influencing many Shahargaon couples to opt for sex-selective abortion. Khanna, who has years of field research in India, has noted that there are contemporary issues as well as historical preferences for sex-selective abortion in India.

By the late 1970s the need to control population growth in India became paramount. During this time several governmental campaigns, including forced sterilization, were launched to encourage reduced family size. A popular 1970s slogan read: "A small family is a happy family" (p. 60). Shortly after the failed campaign of forced sterilization, many billboards sprang up throughout India advertising ultrasound and other "miracle technologies." From the 1980s and into the 1990s, advertisements also promoted sex-determination tests as a means to identify the sex of the fetus in order to avoid the birth of any unwanted girls. By the end of the twentieth century it had become apparent that a significant imbalance in the population of the two sexes

was developing in India. Concerned persons recognized that the imbalance was due to the reduction in the birth of females which scholars have termed as the “missing girls.” On page 71, the section entitled “Missing Girls” shows a table illustrating the sex ratios between boys and girls in Shahargaon. Table 4.6 shows a drastic decline from 1993 when there were 710 girls per 1000 boys to 2003 when there were only 597 girls for every 1000 boys. To show that the imbalance has been due to female abortion, not female infanticide, Khanna cites a study (Parikh, 1990), conducted between 1978 and 1983, that discloses about 78,000 female fetuses were aborted in India.

Khanna’s field research found that in Shahargaon female abortion was prevalent. A Jat woman of 32 years commented, “I did not want another daughter. So I went for ultrasound” (p. 89). The previous quote illustrates the association between the use of ultrasound and sex-selective abortion. The use of the “new” reproductive technologies such as ultrasonography often involve a two-step process. The first step consists of ultrasound to identify the sex of the fetus, which, if a female fetus, leads to the second step, female abortion. Certainly reproductive technologies like ultrasound became the basis for the determination of the sex of the fetus and whether or not abortion was chosen. In order to reduce the abuse of ultrasonography and female abortion, sex determination by ultrasound became illegal in 1994 under the Prenatal Diagnostic Techniques Act (PDTA). Female abortions did not diminish after 1994, however, because some clinicians and doctors found indirect means to communicate the sex of the fetus to expectant couples. Khanna’s research clearly shows that Jat women



Book Review of *Fetal Fatal Knowledge: New Reproductive Technologies and Family Building Strategies in India* by Sunil K. Khanna

associate ultrasonography primarily with prenatal sex identification regardless of what doctors see as the medical miracle of such technology.

In the latter part of the book, especially in chapter 6, Khanna refined his research. In 2003 he conducted a survey that factored the following: family size and composition, use or non-use of ultrasonography, having had or not having had an abortion, and socioeconomic status. Based on socioeconomic status, he divided his participants into three different groups (A,B,C). Significant findings across all three groups show that 57% sought an abortion based on the result of the ultrasound and in all cases female abortion was performed. Khanna also found that 43% did not have an abortion based on the result of an ultrasound. However, in all of these cases the women were carrying male fetuses. These results support the fact that son preference is still highly important in Shahargaon. Khanna notes that some women prefer double-ultrasonography. These women choose double-ultrasonography in order to avoid aborting a male fetus. Normally, the first ultrasound will be performed at one clinic and then the second will be performed at another clinic. These women desire a second opinion, so to speak. Sushila, a Jat woman, commented: “We worry about having too many girls. We are not concerned about having too many boys” (p. 102). Thus, the use of ultrasonography in Shahargaon is rooted in the historical preference for sons and other contemporary forces which reflect a preference for smaller family sizes. The availability of ultrasonography and female abortion services offer couples an alternative

to giving birth to females. Essentially, if a couple desires a son they will abort their daughters while at the same time keeping the family size small.

The book presents cases wherein, despite personal abuse, women continued a pregnancy with a female fetus. Sudha, a married Jat woman, strongly opposed female abortion even when faced with physical and emotional abuse. Her husband and mother-in-law requested that she undergo ultrasonography to identify the sex of the fetus. She yielded and the results revealed that she was pregnant with a daughter; nonetheless, she was determined to continue her pregnancy despite the sentiments of her husband and her mother-in-law. Physical and emotional abuse caused Sudha to flee to her native village in neighboring Haryana where she delivered her daughter. The book's last chapter, entitled "Advocating for Change," presents Khanna's reflections on the means to halt sex-determination tests and female abortion. Khanna notes that prenatal sex-identification and female feticide "constitute a social problem and demand a social fix, not a technological fix" (p. 139). He has identified these issues as ones that are sensitive and need to be addressed with urgency. He is aware that opposition to female abortion has "transformed into advocacy without the benefit of well-researched, community based understanding of why people choose to engage in such practices" (p. x of preface) While being careful to constrain overt expressions of personal sentiments on these issues, Khanna has acted to end female abortion and the misuse of ultrasonography. Along with writing this book, he has educated community members on the following: the negative effects of repeated abortions on reproductive health; the

Book Review of *Fetal Fatal Knowledge: New Reproductive Technologies and Family Building Strategies in India* by Sunil K. Khanna

social disadvantages of a male-dominated sex ratio; the purpose of the PDTA; and the value of females, including those who give birth to daughters, in society.

*Fetal/Fatal Knowledge: New Reproductive Technologies and Family Building Strategies in India* brings to light two important matters: the misuse of modern medical technology and the prevalence of female abortion in India. Moreover, aside from a few typographical errors, the book is an excellent read. It was clear that the author had conducted much research. The amount of personal experiences and interviews used in the book make the presentation of Khanna's research quite realistic. Students of anthropology and sociology can use this book as a model when conducting ethnographic research. Finally, to his credit, Khanna has addressed a controversial subject with sensitivity and professionalism and he seems to have provided an effective resolution, by educating community members, to end a practice that bodes ill, not just for females but for all persons.



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