The Filter Bubble: What the Internet is Hiding from You by Eli Pariser. New York: Penguin Press, 2011. 294 pp. ISBN: 978-0-670-92038-9

"We're not evil. We try really hard not to be evil. But if we wanted to, man, could we ever." - An unnamed Google engineer, interviewed in *The Filter Bubble*.

In 1991, Mark Weiser wrote, "the most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it… The constant background presence of these products…does not require active attention…It [becomes] difficult to imagine modern life otherwise" (p. 94). Weiser, a Xerox PARC researcher, would witness the personal computing revolution from an epicenter of technological innovation. Though Weiser's article did not necessarily anticipate the impact of search engines, "Computing in the 21st Century," would prove prescient.

More than twenty years after Weiser's publication, Eli Pariser's *The Filter Bubble* examines the unintended consequences of web personalization: technologies which, while not disappearing into society's fabric, are growing ubiquitous, and therefore less visible in our critical evaluation of information. Pariser's svelte, readable book is less a polemic and more a work of consumer advocacy. In eight chapters, he examines the cost of personalized intellectual environments from the perspective of many stakeholders: everyday searchers, scholars, Google engineers, marketers, and even national security agents. He argues that search settings and social media allow us to pre-sanitize our information environments without our full realization of the lost information channels. Millions of metrics — from our Facebook "likes" to our aggregated history of selected banner ads — accrue into an algorithmic profile of encounter information we deem unpleasant or objectionable. The resulting bubble deflects various new information sources, while still promoting the illusion of comprehensive search. The potential cost is not just anathema to good search, but to the foundations of an informed citizenry.

The web we navigate navigates us. Google tracks our searches, engineering "personalized" results, which are tailored to our supposed needs. Facebook aggregates our likes, login times, and other metrics to target advertisements. Amazon has built a digital empire on its alchemy of stored consumer behavior, purchase correlation research, and predictive marketing. Marketers have an enormous appetite for data that can help them send the right ad at the right time to prospective consumers. The more aggregated information advertisers can find, the most numbers they can sift. Various algorithms can correlate interests or preferences that many experts would never imagine (Pariser cites the Netflix algorithm Cinematch, which accurately predicted that people who liked *Silence of the Lambs* typically liked *The Wizard of Oz).*

Successfully pinpointing such counter-intuitive correlations requires data that is both broadly sampled and deeply granular (read: private). But when data aggregators find such predictors, the results are hugely profitable for marketers. So while a single Facebook programmer may only care about optimizing the site for the user's preferences, the market ensures that (privacy policy or not) users can be observed, profiled, and most importantly, recognized on subsequent visits.

That marketers watch us may not come as a surprise to some web users. But Pariser's book is not intended as an expose — it is designed as a work of consumer advocacy. Children born into the information age are supposedly the most media savvy in modern history: politically literate and skeptical of corporate malfeasance. But as Facebook and Google become increasingly integrated with ad beacons and data aggregators, even savvy web users are losing sight of their private data's exposure. Since 1995, Google's search engine has moved from a site you consciously visit to an embedded feature in most web browsers' address bars.

In execution, *The Filter Bubble* is not a strictly scholarly work. However, it does benefit from an array of interview subjects, such as Google engineers, human-computer interaction scholars, privacy advocates, and legal authorities. Pariser targets a broad audience with an informal, anecdotal style. As the board president of MoveOn.org, he may be accustomed to summarizing policy issues for a broad cross section of listeners. Unfortunately, this sometimes means the truncation of complex issues that deserve more elaboration.

Pariser excels when he describes the creeping intellectual toll of personalized environments. His chapter on social networking, "The You Loop," could be required reading for any freshman entering a liberal arts program. Here, he charts how the gulf between personal identity and user profiles (already a function of Lee Ross' fundamental attribution error) is further exacerbated by technical settings that change below our conscious awareness.

Still, the book benefits from a rich breadth of research. Given the diversity of political, sociological, and psychological contexts which Pariser draws upon, educators may find various chapters a useful starting point for prompting discussions with undergraduates or even high school students. The public policy implications of Pariser's book alone could inspire a syllabus on privacy rights and the blurred line between behavioral data collection and outright surveillance. Similarly, librarians and information professionals will appreciate the dissection of search engines as both an instructive tool and a policy concern.

As Pariser points out, the risks posed in the filter bubble are not undone with a simple "Privacy Settings" adjustment in our browsers. Despite pundits' knighting of the "Google Generation" as technical übermensch, even the smartest user may not appreciate that despite clicking on "delete history," their precise

navigation of a website (also known as a "click-stream") can be retained by marketers for years.

A lot of personal information is mishandled behind our browser's digital veil. The matrix of engineers, market demographers, and data aggregators are contracted third parties to our trusted hosts; they are not contractually bound to the same privacy standards that Facebook acquiesced to in 2010. The "right to privacy" aegis, which many Americans imagine protects them, is actually a loose net of judicial rulings and corporate "best practices."

Pariser's refrain is a warning: in the unmapped territory of online privacy, the onus is on consumers to maintain an enforceable barrier between public and private information. The author doesn't vilify the web giants who have succeeded in the Web 3.0 environment. He simply reiterates the caveat: if you're enjoying a free web service and you didn't have to buy anything, then *you* are what is being sold.

References

Pariser, E. (2011). *The filter bubble: What the Internet is hiding from you*. New York: Penguin Press.

Weiser, M. (1991). The computer for the 21st century. *Scientific American*, *265*(3), 94–104.

Reviewer

Mark Samuels is a graduate of UCLA's Library and Information Science school. His interests include human-computer interactions, the psychological impact of information technology, and the intersection of privacy law with emerging technologies.