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BIAS IN SEARCH RESULTS?: DIAGNOSIS AND RESPONSE*Benjamin Edelman****ABSTRACT**

The author explores allegations of search engine bias, including understanding a search engine's incentives to bias results, identifying possible forms of bias, and evaluating methods of verifying whether bias in fact occurs. He then considers possible legal and policy responses, and assesses search engines' likely defences. He concludes that regulatory intervention is justified in light of the importance of search engines in referring users to all manner of other sites, and in light of striking market concentration among search engines.

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I. INTRODUCTION

The essence of a search engine is the selection of a series of links responsive to a user’s request. However, the web offers billions of pages, and even an obscure query often uses words mentioned in hundreds or thousands of pages. Meanwhile, pages compete for top positions where they can enjoy the most clicks and, for commercial sites, the most purchases. To decide which links to feature, it is widely understood that search engines build an index of page contents and use proprietary algorithms to match user requests to pages from the index. On the most charitable view, a well-designed fully-automated index and search algorithm select those search results that are most relevant to a user’s request. But a growing undercurrent questions whether search results are in fact chosen optimally and evenhandedly. Might a search engine sometimes elect to favor links to its own sites and its partners’ sites? Or disfavour sites in some way adverse to the search engine’s interests, perhaps current or prospective competitors? How would users know if search results suffered from any of these biases?

This paper proceeds in four parts. First, I identify the incentives that might push a search engine to favour and disfavour certain results. Second, I propose mechanisms to identify bias. Third, I sketch possible claims and defenses, assessing the ability of litigation and regulation to shape search results. Finally, I present possible remedies to blunt alleged bias while minimizing the intrusiveness of regulatory intervention.

Let me pause at the outset to note that my analysis focuses largely on Google. I choose this focus for two reasons. First, while Google widely claims that its algorithmic results are “algorithmically-generated”,¹ “objective”,² and “never

¹ *Technology Overview*, GOOGLE, <http://www.google.com/corporate/tech.html>.

² *Our Philosophy*, GOOGLE, <http://www.google.com/intl/en/corporate/tenthings.html>.

manipulated”³; other search engines make such claims rarely or never. Second, Google’s dominant market share (presently estimated at 66% of U.S. core searches, and 95%+ in many European countries) means that any bias at Google has a much larger impact than bias at another search engine. In short, Google alone has the power to make or break a site – and Google alone has promised not to abuse that power.

II. THE MARKET FOR WEB SEARCH AND THE THREAT OF BIAS

Web search is notable in part for the value of the leads it can provide to users. Whereas news sites reach users as they follow world events and social networking sites reach users communicating with friends, web search reaches users as they seek information and, often, plan purchases. Web sites therefore place a particularly high value on referrals from search.

For more than a decade, leading search engines have combined both paid and unpaid results. Paid results, typically at screen top and right, are allocated through a bidding process, and advertisers are typically charged for each click from search results through to an advertiser’s destination. Unpaid results, typically appearing at the left side of a search results screen, are understood to come from search engine’s indexing of all manner of sites.

In both paid and unpaid results, search engines retain substantial discretion to select which listings to present and in which order. Various critics have alleged that search engines use this discretion improperly.⁴ Indeed, Google co-founders Sergey Brin and Larry Page argued in 1998 that “advertising funded search engines will be inherently biased towards the advertisers and away from the needs of the consumers”, which led them to conclude that it is “crucial” for a search engine to be “transparent”.⁵ Despite the co-founders’ early concern about search bias, Google has more recently faced all manner of allegations of impropriety in search results. Consider three recent complaints:

³ *Id.*

⁴ Among the earliest to flag this concern were L. Inrona and H. Nissenbaum, *Shaping the Web: Why the Politics of Search Engines Matters*, 16(3) THE INFORMATION SOCIETY, 1-17 (2000).

⁵ Sergey Brin and Larry Page. *The Anatomy of a Large-Scale Hypertextual Web Search Engine*, <http://www7.scu.edu.au/1921/com1921.html>.

- In a search for “network neutrality”, Google allegedly grants more favorable positions to sites that favour network neutrality than to sites presenting an opposing view.⁶ Separately, Google’s management and public policy staff have spoken in favour of network neutrality.⁷ By promoting listings consistent with Google’s corporate position, Google allegedly builds support for the policy it favors.
- In searches for restaurant reviews (e.g. “best burrito boston”), Google’s newly-introduced Places service claims substantial (allegedly, excessive) on-screen space and multiple listings. In contrast, sites that specialize in storing and analyzing restaurant reviews – Yelp and Chowhound, among others – find their links less prominent. By sending users to Google’s own local search service rather than competitors, Google builds traffic to its own offering, to competitors’ dismay.⁸
- In searches for industrial supplies, users rarely receive algorithmic links to the business-to-business “vertical search” site TradeComet. Furthermore, Google allegedly refuses to sell advertisements to TradeComet on the same terms Google offers to others. By denying traffic to a would-be competitor (offering an alternative search engine and alternative ad platform), Google protects its established search engine and advertising system.⁹

Each of these allegations is, to date, substantially unproven – at least as to Google’s intentions, and arguably as to at least a portion of the underlying acts.

⁶ Frank Pasquale, *Federal Search Commission? Access, Fairness, and Accountability in the Law of Search*, 93 CORNELL LAW REVIEW 1185(2007). In my tests on January 17, 2011, searching for “network neutrality” at Google, five of Google’s nine first-page algorithmic search results took positions strongly in favor of network neutrality (pages at savetheinternet.com, publicknowledge.org, googlepublicpolicy.blogspot.com, freepress.net, and commoncause.org), and four took mixed positions (wikipedia.org, wisegeek.com, nytimes.com, and timwu.org). Google’s results also included two videos, both of which presented arguments in favor of network neutrality. No result took a position firmly against network neutrality.

⁷ Richard Whitt, *What Do We Mean by ‘Net Neutrality’?*, GOOGLE PUBLIC POLICY BLOG, (June 16, 2007), <http://googlepublicpolicy.blogspot.com/2007/06/what-do-we-mean-by-net-neutrality.html>. (“Without nondiscrimination safeguards that preserve an environment of network neutrality, the Internet could be shaped in ways that only serve the interests of broadband carriers, rather than U.S. consumers and Web entrepreneurs.”).

⁸ Amir Efrati, *Rivals Say Google Plays Favorites*, WALL STREET JOURNAL, December 12, 2010. (Quoting Yelp CEO Jeremy Stoppelman complaining that Google “is trying to leverage its distribution power” over search results.)

⁹ TradeComet.Com LLC v. Google, Inc., S.D.NY Case No 1:2009cv01400 (2009).

(Indeed, only the third is currently the subject of litigation.) Yet each allegation tells a cogent story – not just identifying practices consistent with initial attempts at verification, but also identifying how such behavior serves Google’s interests.

Furthermore, each of these allegations typifies a broader class of concerns. Network neutrality is just one of scores of issues about which Google, both as a company and through its leaders’ well-known opinions, holds a distinctive corporate view. (Consider climate change, Internet filtering in China, and US presidential politics.) Just as Google Places enjoys prominent space within Google’s results, so too does Google grant abundant space to Google Maps,¹⁰ Google Product Search,¹¹ and YouTube¹²; in addition, Google sometimes gives its own services distinctive benefits no one else can enjoy, such as guaranteed top-of-page placement for Health and Finance¹³ and the exclusive ability to show images in paid search advertisements.¹⁴ And TradeComet’s allegations follow complaints from Foundem,¹⁵ My Triggers,¹⁶ and Search King¹⁷ – each alleging that their algorithmic links became less prominent and/or that their advertising prices increased dramatically, a concern subsequently echoed by better-known sites such as Expedia and Kayak.¹⁸

¹⁰ *Traffic Report: How Google Is Squeezing Out Competitors and Muscling Into New Markets* INSIDE GOOGLE (June 2, 2010), <http://www.consumerwatchdog.org/resources/TrafficStudy-Google.pdf>.

¹¹ Philip Segal, comment on Danny Sullivan, *Study: Google ‘Favors’ Itself Only 19% Of The Time*, SEARCH ENGINE LAND, (January 19, 2011), <http://searchengineland.com/survey-google-favors-itself-only-19-of-the-time-61675>.

¹² Frank Reed, *Is Google Bowing to Pressure to Show More Competitive Offerings?*, MARKETING PILGRIM, <http://www.marketingpilgrim.com/2011/01/is-google-bowing-to-pressure-to-show-more-competitive-offerings.html>.

¹³ Benjamin Edelman, *Hard-Coding Bias in Google ‘Algorithmic’ Search Results* (November 15, 2010), <http://www.benedelman.org/hardcoding/>.

¹⁴ Benjamin Edelman, *Tying Google Affiliate Network* (September 28, 2010), <http://www.benedelman.org/news/092810-1.html>.

¹⁵ *Foundem’s Google Story*, SEARCHNEUTRALITY.ORG (August 18, 2009), <http://www.searchneutrality.org/foundem-google-story>.

¹⁶ Answer and Counterclaim of Defendant Mytriggers.com, Inc., *Google, Inc., v. myTriggers.com, Inc.*, Case No. 09 CVH-10-14836 (Oh.).

¹⁷ *Search King v. Google Technology, Inc.* Case No. Civ-02-1457-M (W.D. Okla., 2003).

¹⁸ *Online Travel and Technology Companies Launch FairSearch.org Coalition, Urge Justice Department to Challenge Google-ITA Deal*, FAIR SEARCH (October 26, 2010), http://www.fairsearch.org/wp-content/uploads/2010/10/FairSearch.org-Coalition-Urges-DOJ-To-Challenge-Google-ITA-Deal_10-26-10.pdf.

III. IDENTIFYING BIAS

While the preceding section presents a series of allegations of bias, each allegation leaves room for doubt. Perhaps a Google search for “network neutrality” links to sites favoring that policy because such sites are more numerous or better designed (in a way that Google’s crawlers assess more favorably), or perhaps sites presenting a contrary view tend to use other terms. Perhaps Google’s search listings are in some important sense more useful without TradeComet’s links. More generally, any notion of “bias” requires a notion of a baseline, yet it is less than obvious where to look for a basis of comparison.

A. Comparing Results Across Search Engines

In principle, a comparison between search engines could offer insight into bias. Each difference might result from innovation (one search engine finding ways to improve on the others’ approach), ordinary innocuous diversity (search engines randomly linking to differing sites), or bias. But where a difference reflects a targeted removal of a site or class of sites, and where the removed sites seem to be favourably received by users (as evidenced in site usage, click patterns, visit duration upon arriving at a site, and more), there is greater cause to suspect the removal is for ulterior motives. So too if one search engine links to its own services more often than other search engines link to its services. Ben Lockwood and I recently ran such comparisons, finding that Google links to its services more often than other search engines do so.¹⁹ An enlarged version of this test, covering more search terms and running on an ongoing basis, could uncover all manner of other anomalies.

Despite the promise of comparisons across search engines, this approach suffers important limitations. If one site were found to be missing from Google (and only Google), a few weeks after publicly criticizing some aspect of Google’s practices, it might be reasonable to infer that Google had singled out that site for a penalty. But suppose Google instead removed links to a class of sites, dozens or hundreds, that share some characteristic Google characterizes as objectionable. The suggestion is more than speculative: Google has defended its removal of

¹⁹ Benjamin Edelman and Benjamin Lockwood, *Measuring Bias in ‘Organic’ Web Search* (January 19, 2011), <http://www.benedelman.org/searchbias/>.

links to TradeComet and Foundem by arguing that their sites were not useful and duplicated content elsewhere on the web, suggesting that Google removed their links for good cause.²⁰

B. Comparing Results Over Time

A comparison could also focus on changes over time, building on the assumption that any given bias likely had a start date and that the installation of that bias thus causes a change in search results. Of sites alleging bias, many report a *sudden* change in search results.²¹ Allegations grounded in change over time are more persuasive when a site suffers multiple losses simultaneously (e.g. a drop in algorithmic search prominence as well as an increase in minimum bids for advertisement purchases). And sometimes such allegations come from sites that are both popular and well-known (e.g. Yelp), circumstances that tend to make it all the more puzzling when their links disappear.

Yet inferences based on change over time also suffer from important limits. For one, changing circumstances threaten the assumption that a site's listings should remain equally prominent - conditions may change, yielding an appropriate reduction in a site's prominence. Even well-known sites can become less appealing to users and, hence, properly made less prominent in search results. Furthermore, if a search engine uncovers a site engaged in some form of impropriety - perhaps using trickery to artificially inflate its apparent importance - a penalty might be appropriate, and such a penalty would ordinarily entail a large drop in rankings. Finally, if change over time were the hallmark of bias, a concerned search engine could design its systems to make changes more slowly - achieving a similar level of bias without suspicious sudden changes.

C. Comparing Across Searches

Occasionally, anomalies in search results may reveal biased rankings. Searches and results are available for free and immediate public inspection by

²⁰ Don Harrison, *Texas Inquires on Our Approach to Competition*, GOOGLE PUBLIC POLICY BLOG (September 3, 2010), <http://googlepublicpolicy.blogspot.com/2010/09/texas-inquires-on-our-approach-to.html>.

²¹ See, e.g. Richard Waters, *Unrest Over Google's Secret Formula*, FINANCIAL TIMES, July 11, 2010. (Quoting website Technorati claiming it had "certainly [been] penalized" by Google when its search rankings "tumbled" on multiple occasions.) See also *Foundem's Google Story*, *supra* note 15 (showing dramatic drops in ranking and quality score).

anyone interested, and some combinations may reveal behaviour that supports an inference of bias or other impropriety.

In a recent article,²² I presented a set of searches and results that, I argued, reveal Google intentionally and systematically putting its own services in undeservedly prominent locations. First, I pointed out that adding a trailing comma to a given search (e.g. searching for “car,” rather than just “car”) ordinarily yields no change in algorithmic search results. But I showed an important exception to that rule: certain searches yield Google results in exceptionally prominent image-enhanced top-of-page listings, yet the same searches with trailing commas omit those Google results altogether (not merely moving them down a few spots, but rather removing them completely). What technical underpinnings would yield that combination of behaviours? I argued that the best explanation is that Google intentionally “hard-coded” its systems to assure that they link to Google services in the highly-valued top position for selected keywords. But Google failed to hard-code close variations of affected searches, and I argued that this omission reveals that these prominent own-service results come not from Google’s core search algorithms but from a separate set of manual overrides.

My hard-coding article addresses just a few classes of search terms. I know of no other articles that attempt to infer bias from patterns in a combination of searches and their respective results. Indeed, for bias embodied in boosted assessments of some sites’ overall importance or reduced assessment of others, comparisons across searches probably would not flag any impropriety. But when search bias is implemented by changing a search engine’s algorithms, imperfect changes – changing only a portion of the algorithm – can leave anomalies of the form I identified in my hard-coding article.

D. Allegations Grounded in Competition and Market Structure

A final class of inferences draws on competition and incentives, often combining this analysis with the data sources suggested in preceding sections. The key insight is that a search engine has a particularly clear incentive to penalize certain kinds of sites (competitors and prospective competitors) and to

²² Benjamin Edelman, *supra* note 13.

reward certain other sites (its own services and, perhaps, partners). Awareness of these incentives could inform evaluation of bias: all else being equal, an allegation of bias is more persuasive if there is an articulable rationale for a search engine to impose such bias.

One impediment to this approach is that it may be difficult to determine which alleged incentives are actually plausible. In 2009, it might have strained credibility to argue that Google competed with Yelp and Groupon. Yet by late 2010, Google's Places service supplanted Yelp results for numerous search terms;²³ and in January 2011, Google acknowledged a forthcoming Offers service matching Groupon's large discounts and daily email.²⁴ That said, as soon as Google announced its plan for these services, the incentive for bias was apparent. If competitors subsequently and suddenly drop to less prominent positions in search results, it would be little reach to infer that Google's new aspirations drove those drops.

IV. CLAIMS AND DEFENSES

Making allegations grounded in the theories presented in the prior section, various companies have attempted litigation against Google as to Google's removal or deprioritization of their links. Pasquale presents their claims in detail,²⁵ while Grimmelmann questions whether such claims are compelling either in theory or at law.²⁶ I do not attempt to revisit claims and defenses in full; it suffices for present purposes to sketch the essence of the arguments.

Complaints from advertisers would most naturally arise out of Google's contractual obligations to advertisers. But Google's form contract²⁷ is squarely to Google's advantage. Among other provisions, Google purports to retain unfettered discretion to place an advertiser's listings on whatever sites Google chooses in whatever sequence Google chooses, or alternatively not to show an advertiser's

²³ Amir Efrati, *supra* note 8.

²⁴ Ben Parr, *Google to Launch Groupon Competitor* MASHABLE, <http://mashable.com/2011/01/20/google-offers/>.

²⁵ Frank Pasquale, *supra* note 6 at 1188 to 1206.

²⁶ James Grimmelmann, *Some Skepticism About Search Neutrality*, in *THE NEXT DIGITAL DECADE* 435, 435-439 (2011).

²⁷ *Google AdWords Terms and Conditions*, GOOGLE, <https://adwords.google.com/select/tsandcsfinder>.

ads at all (a right that lets Google in turn demand a higher payment from an affected advertiser, on pain of ceasing to show the advertisement anywhere). A claim in contract would seem to require establishing the unenforceability or other inapplicability of the strong language Google so capably drafted.

Lacking a contractual relationship with Google, ordinary web sites dissatisfied with algorithmic traffic and rankings cannot sue in contract. Instead, their claims typically sound in tort, alleging interference with prospective economic advantage.²⁸ But as Pasquale argues,²⁹ it is no small feat to reconcile a claim of search engine bias with centuries of tort law: it is less than obvious how to fit Google's duty to web sites into the framework tort law seeks.

In litigation, Google has repeatedly invoked First Amendment rights against compelled speech – arguing that it must not be forced to link to particular sites plaintiffs believe have been rated unfairly.³⁰ This argument has proven influential in that at least two courts have ruled in Google's favour on this point.³¹ Yet gaps are apparent. For one, Google has also argued that the Digital Millennium Copyright Act and Communications Decency Act immunize Google from tort and copyright theory; Google argues that the underlying web site, and not Google, is the speaker of the information at issue. It is paradoxical for Google to be the speaker for the purposes of enjoying First Amendment protections, yet not for purposes of tort and copyright claims. A similar tension appears in Google simultaneously arguing that search results are “Google's opinion”³² (which, Google argues, triggers heightened First Amendment protections) while Google also claims its results are “algorithmically-generated”, “objective”, and “never manipulated”³³ (seemingly making the results more factual and further from First Amendment purposes). Meanwhile, the commerciality of Google's search results suggests, at the very least, a lesser level of First Amendment protection.³⁴

²⁸ *Langdon v. Google*, 2007 WL 530156 (D.Del. 2007). See also *KinderStart v. Google*, Case No. C 06-2057 (N.D.Cal. 2006). See also *Search King*, *supra* note 17.

²⁹ Frank Pasquale, *supra* note 6 at 1207.

³⁰ *Langdon*, *supra* note 28. See also *Search King*, *supra* note 17.

³¹ See note 30.

³² Defendant Google's Reply Memorandum in Support of Motion to Dismiss the First Amended Complaint. *Kinderstart v. Google*, *supra* note 28.

³³ See notes 1 through 3.

³⁴ Frank Pasquale, *supra* note 6 at 1195.

In principle, users might challenge apparent inconsistencies between Google's statements and its practices as to objectivity of search results. If it could be shown that Google delivers a level of objectivity less than it promised, consumers might plausibly allege that they were misled by the untrue promises. Because Google prominently and repeatedly claims to offer objective results, consumers presumptively rely on these claims. Consumers' direct damages are less clear, but given Google's direct profits from users' visits and searches, restitution damages could be substantial.

Considering possible claims against search engines, Pasquale concludes that only antitrust law can adequately address search bias.³⁵ Yet the laissez-faire instinct is strong – not only among legal academics³⁶ but also among industry experts³⁷ and the trade press.³⁸ And Google claims that regulation of its algorithms would discourage search engines from innovating while also inviting spammers to game the system.³⁹ Could any plausible remedy achieve reasonable policy interests while avoiding the pitfalls so many seem to anticipate? I turn to that question in the next section.

V. TOWARDS REMEDIES BOTH EFFECTIVE AND LIMITED

A search industry news site recently questioned the wisdom of investigating search bias by arguing that, even if bias were uncovered, “it’s not clear what any remedy would be.”⁴⁰ Certainly some heavy-handed remedies would be both impractical and ill-advised. Titling a recent paper “Federal Search Commission”, Pasquale ends the title with a crucial question mark – flagging the immediate shortfalls of an overly bureaucratic approach. And Google’s caricature of

³⁵ Frank Pasquale, *supra* note 6 at 1207-1209.

³⁶ See, e.g. James Grimmelman, *supra* note 26. See also Geoffrey Manne, *The Problem of Search Engines as Essential Facilities: An Economic & Legal Assessment in THE NEXT DIGITAL DECADE* 419, 419-434 (2011).

³⁷ See, e.g. Danny Sullivan, *The Incredible Stupidity Of Investigating Google For Acting Like A Search Engine*, SEARCH ENGINE LAND (November 30, 2010), <http://searchengineland.com/the-incredible-stupidity-of-investigating-google-for-acting-like-a-search-engine-57268>.

³⁸ See, e.g. Kaila Colbin, *Choice Architecture: Why Search Can't Be Totally Objective*, MEDIA POST (July 20, 2010), http://www.mediapost.com/publications/?fa=Articles.showArticle&art_aid=132290.

³⁹ Marissa Mayer, *Do Not Neutralise the Web's Endless Search*, FINANCIAL TIMES, July 14, 2010.

⁴⁰ Greg Sterling, *Deconstructing 'Search Neutrality'*, SEARCH ENGINE LAND (January 19, 2011), <http://searchengineland.com/deconstructing-search-neutrality-61614>.

regulation warns of government-mandated homogeneous results and unblockable web spam,⁴¹ suggesting that regulation of search is intrusive and undesirable.

In this section I sketch a competing vision for policy intervention – suggesting remedies to address the improprieties an investigation might plausibly uncover, while avoiding unnecessary restrictions on search engines’ activities.

A. Experience from Airline Reservation Systems: Avoiding Improper Ranking Factors

A first insight comes from recognizing that regulators have already – successfully! – addressed the problem of bias in information services. One key area of intervention was customer reservation systems (CRS’s), the computer networks that let travel agents see flight availability and pricing for various major airlines. Three decades ago, when CRS’s were largely owned by the various airlines, some airlines favored their own flights. For example, when a travel agent searched for flights through Apollo, a CRS then owned by United Airlines, United flights would come up first – even if other carriers offered lower prices or nonstop service. The Department of Justice intervened, culminating in rules prohibiting any CRS owned by an airline from ordering listings “us[ing] any factors directly or indirectly relating to carrier identity” (14 CFR 255). Certainly one could argue that the rule was ill-advised: a travel agent was always free to find a different CRS, and further additional searches could have uncovered alternative flights. Yet most travel agents hesitated to switch CRS’s, and extra searches would be both time-consuming and error-prone. Prohibiting biased listings was the better approach.

The same principle applies in the context of web search. On this theory, Google ought not to rank results by any metric that distinctively favours Google. Certainly, web search considers myriad web sites and pages – far more than the number of airlines, flights, or fares. And web search indisputably considers more attributes of each web page – not just airfare price, transit time, and number of

⁴¹ Marissa Mayer, *supra* note 39.

stops. But these differences only grant a search engine that much more room to innovate. These differences do not change the underlying reasoning, so compelling in the CRS context, that a system provider must not design its rules to systematically put itself first.

I credit that some metrics might incidentally favour Google even as they are, on their face, neutral. But periodic oversight by a special master (or similar arbiter) could accept allegations of such metrics; both in the US and in Europe, a similar approach oversaw disputes as to what documentation Microsoft made available to those wishing to interoperate with Microsoft software.

B. Evaluating Manual Ranking Adjustments through Compulsory Disclosures

An alternative approach to avoiding improper ranking factors would require disclosure of all manual adjustments to search results. Whenever Google adjusts individual results, rather than selecting results through algorithmic rules of general applicability, the fact of that adjustment would be reported to a special master or similar authority, along with the affected site, duration, reason, and specific person authorizing the change. The special master would review these notifications and, where warranted, seek further information from relevant staff as well as from affected sites.

Why the concern at ad hoc ranking adjustments? Manual modifications are a particularly clear area for abuse – a natural way for Google to penalize a competitor or critic. Discourage such penalties by increasing their complexity and difficulty for Google, and Google’s use of such penalties would decrease.

I credit that Google would respond to the proposed disclosure requirement by reducing the frequency of manual adjustments. But that’s exactly the point: results that do not flow from an algorithmic rule of general applicability are, by hypothesis, ad hoc. Where Google elects to use such methods, its market share demands outside review.

Grimmelmann argues that these ad hoc result adjustments are a “distraction”.⁴² But if Google’s manual adjustments ultimately prove to be

⁴² James Grimmelmann, *supra* note 26.

nothing more than penalties to spammers, then regulators will naturally turn their attention elsewhere. Meanwhile, by forcing Google to impose penalties through general algorithms rather than quick manual adjustments, Google will face increased burdens in establishing such penalties – more code required and, crucially, greater likelihood of an email or meeting agenda revealing Google’s genuine intent.

C. Experience from Browser Choice: Swapping “Integrated” Components

Many complaints about search bias arise when longstanding innovative services are, or appear to be at risk of getting, subsumed into Google’s own offerings. No ordinary algorithmic link to Mapquest can compete with an oversized multicolor miniature Google Maps display appearing inline within search results. (And, as Consumer Watchdog documented, Mapquest’s traffic dropped sharply when Google deployed inline maps.⁴³)

On one hand it is troubling to see established firms disappear in the face of a seemingly insurmountable Google advantage. The concern is all the greater when Google’s advantage comes not from intrinsic product quality but from bundling and defaults. After all, if Google can use search to push users to its Maps product, Maps will gain market share even if competitors’ services are, on their merits, superior.

Yet it would be untenable to ask Google to disavow new businesses. It is hard to imagine a modern search engine without maps, news, or local search (among other functions largely absent from core search a decade ago). If legal intervention prevented Google from entering these fields, users might lose the useful functions that stem from integration between seemingly disparate services.

What remedy could offer a fair chance of multiple surviving vendors (with attendant benefits to consumers), while still letting Google offer new vertical search services when it so chooses? E.C. antitrust litigation against Microsoft is squarely on point, requiring Microsoft to display a large choice screen that prompts users to pick a web browser. An initial listing presents the five market-leading options, while seven more are available if a user scrolls. But there is no default; a user must affirmatively choose one of the various options.

⁴³ *Traffic Report*, *supra* note 10.

Taking the “browser choice” concept to search results, each vertical search service could, in principle, come from a different vendor. If a user prefers that her Google algorithmic search present embedded maps from Mapquest along with local search from Yelp and video search from Hulu, the user could configure browser preferences accordingly. Furthermore, a user could make such choices on a just-in-time basis. (A possible prompt: “We noticed you’re looking for a map, and there are five vendors to choose from. Please choose a logo below.”) Later, an unobtrusive drop-down could allow adjustments. The technical barriers are reasonable: external objects could be integrated through client-side JavaScript, just as many sites already embed AdSense ads, YouTube player, and other widgets. Or Google and contributors might prefer server-to-server communications of the sort Google uses in its partnerships with AOL and with Yahoo Japan. Technology need not stand in the way.

I credit that many users may be content with most Google services. For example, Google Maps enjoyed instant success through its early offering of draggable maps. But in some areas, Google’s offerings have little traction. Google’s Places service aspires to assess quality of restaurants and local businesses – but Yelp and Angie’s List draw on specialized algorithms, deeper data, and longstanding expertise. So too for TripAdvisor as to hotel reviews, and myriad other sites in their respective sectors. A user might well prefer to get information in these areas from the respective specialized services, not from Google, were the user able to make that choice.

Google often argues that competition is one click away.⁴⁴ But here too, the E.C.’s Microsoft litigation is on point. Users had ample ability to install other browsers if they so chose, but that general capability was not enough when the standard operating system made one choice a default. Furthermore, at least Windows let other browsers truly immerse themselves in the operating system – as the default viewer for .HTML files, the default application for hyperlinks in email messages, and so forth. But there is currently no analogue on Google – no way for a user, even one who seeks this function, to combine Google algorithmic search with a competitor’s maps, local results, or other specialized search services.

⁴⁴ Adam Kovacevich, *Google’s Approach to Competition*, GOOGLE PUBLIC POLICY BLOG (May 8, 2009), <http://googlepublicpolicy.blogspot.com/2009/05/googles-approach-to-competition.html>.

D. Banning Other Bad Behaviours: Tying

Using its market power over search, Google sometimes pushes sites to adopt technologies or services Google chooses. Sometimes, Google's favoured implementations may be competitively neutral – simply technical standards Google wants sites to adopt (for example, presenting an index of pages to Google's crawlers in a particular format). But in other instances, Google uses its power in search to promote adoption of Google's own services.

I first flagged this tactic as to Google Affiliate Network (GAN), Google's affiliate marketing service. Affiliate marketing is one of the few sectors of Internet advertising where Google is not dominant, and to date Google has struggled to gain traction in affiliate marketing. However, Google offers remarkable benefits to advertisers who agree to use GAN: GAN advertisers alone enjoy images in their AdWords advertisements on Google.com; their advertisements always appear in the top-right corner above all other right-side advertisements (never further down the page); they receive preferred payment terms (paying only if a user makes a purchase, not merely if a user clicks; paying nothing if a user returns merchandise, a credit card is declined, or a server malfunctions).⁴⁵ Moreover, merchants tend to use only a single affiliate network; coordinating multiple networks entails additional complexity and risks paying duplicate commissions on a single purchase. So if Google can convince advertisers to use GAN, advertisers may well abandon competing affiliate platforms.

Google's tying strategy portends a future where Google can force advertisers and sites to use almost any service Google envisions. Google could condition a top AdWords position not just on a high bid and a relevant listing, but on an advertiser agreeing to use Google Offers or Google Checkout. (Indeed, Checkout advertisers who also used AdWords initially received dramatic discounts on the bundle,⁴⁶ and to this day Checkout advertisers enjoy a dramatic multicolor logo adjacent to their AdWords advertisements, a benefit unavailable to any

⁴⁵ Benjamin Edelman, *Tying Google Affiliate Network* (September 28, 2010), <http://www.benedelman.org/news/092810-1.html>.

⁴⁶ Gavin Chan, *Google Checkout and AdWords*, *THE OFFICIAL GOOGLE CHECKOUT BLOG* (July 13, 2006), http://googlecheckout.blogspot.com/2006/07/google-checkout-and-adwords_13.html.

other class of advertiser.⁴⁷) Google would get a major leg up in mobilizing whatever new services it envisions, but Google's advantage would come at the expense of genuine innovation and competition.

VI. A WAY FORWARD

Perhaps it's a bit presumptuous to focus on remedies before an appropriate investigation has adequately proven violations of antitrust or other laws. But a widely-circulated critique of search oversight argues that remedies for search bias are "unlikely to be workable and quite likely to make things work"⁴⁸ – suggesting that the supposed lack of remedies provides reason to decline to investigate in the first place. Of that, I am less sure. Lightweight remedies like those sketched above could put a reasonable check on many improprieties, while facilitating robust competition in various markets adjacent to search.

Google's market share in many countries is already a rounding error from 100%, and various sites report receiving an overwhelming share of both search and overall traffic from Google.⁴⁹ Search plays a uniquely central role in delivering users to web sites, and of course the Internet is crucial to facilitating modern and efficient commerce. It is untenable for one company to clutch such dramatic power over so much, with such opacity, and with opportunity for abuse. We can and should put a check on this control.

⁴⁷ Michael Kaye, *Use Google Checkout To Boost Click Through Rates In AdWords & Base*, ECOMMERCECIRCLE (August 3, 2009), http://www.ecommercecircle.com/google-checkout-click-through-rates-adwords-base_3912625.html.

⁴⁸ James Grimmelmann, *supra* note 26 at 438.

⁴⁹ See, e.g. Jeff Atwood, *The Elephant in the Room: Google Monoculture*, CODING HORROR (February 9, 2009), <http://www.codinghorror.com/blog/2009/02/the-elephant-in-the-room-google-monoculture.html>.