Search and Destroy?:
How to Tame A Spider[1]

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1. Introduction

"Spiders", "metacrawlers", or "bots" are automated Internet search tools that scan web sites in search-and-retrieve missions that can enact thousands of processing instructions per minute. They are particularly useful for portals, information aggregators, and shopping services, which may extract information on product prices and related data from other sites across the web. Evidently supportive of consumer choice, "crawler" use nonetheless should not be permitted in a manner that would harm the business interests of the visited web site. I shall review three cases involving the resolution of "crawling" issues from the perspective of an economic expert familiar with the techniques of antitrust, cost-benefit analysis, damage estimation, and the conceptual approach of the "law and economics" school of jurisprudence.[2]

Economic analysis may serve four purposes in matters that involve copyright and cyber-trespass. First, experts may help estimate the market harm likely to result from an unauthorized use of a copyrighted work,[3] emanating either from direct sales displacement or foreclosed opportunities to license material in actual or potential markets.[4] Second, economists can analyze seller concentration, entry barriers, and price coordination to examine whether a copyright is inappropriately levered or whether a free market negotiation can efficiently resolve a contested use. Third, if markets are problematic, judges may use economic reasoning to assign prevention responsibilities to plaintiffs or defendants in the least cost manner.[5] Finally, judges or arbitrators may establish transfer

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[2]R.H. Coase, "The Problem of Social Costs", 3 J. OF L. AND ECON. 1 (1960); G. Calabresi and D. Melamed, "Property Rules, Liability Rules, and Inalienability: One View of the Cathedral", 85 HARV. L. REV. 1089 (1972); W. M. Landes and R. A. Posner, "An Economic Analysis of Copyright Law", 18 J. OF LEG. STUD. 325, 357 (1989).

[3]Harm to the copyright owner is the fourth criteria under fair use, as specified in 17 U.S.C. 107.

[4]American Geophysical Union v. Texaco Inc., 60 F.3d 913, 928 (2d. Cir. 1995); citing Campbell, 114 S. Ct. at 1178, Harper and Row, 471 U.S. at 568-69; Twin Peaks, 996 F. 2d at 1377; D.C. Comics Inc. v. Reel Fantasy Inc., 696 F. 2d 24, 28 (2d Cir. 1982); United Telephone Co. of Missouri v. Johnson Publishing Co., Inc. 855 F. 2d 604, 610 (8th Cir. 1988).

[5]See H. Demsetz, *When Does the Rule of Liability Matter?*, 1 J. OF LEG. STUD. 13, 27 (1972), also S.G.Gilles, *Negligence, Strict Liability, and the Cheapest Cost Avoider*, 78 VA. L. REV. 465 (1992)

prices or compulsory licenses that impute a fair market value to a protected work.[6] This paper discusses the interplay of these four economic strands in Spider Jungle.

2. Ebay Inc v. Bidder's Edge

In a decision characterized by one reporter as "the most liberal use of a preliminary injunction ever applied to a traditional cause of action adapted to the Internet"[7], the U.S. District Court in the Northern District of California decided *Ebay Inc v. Bidder's Edge* in May, 2000.[8] Ebay was an internet-based auction site that allowed buyers to search and bid for goods in over 2500 product categories. Bidder's Edge was an information aggregator that offered to online buyers the ability to search for items across a number of different auction sites without having to visit each individually. Approximately 69 percent of the auction items in the BE database were from ebay.[9]

EBay had been willing to allow automatic searches of its site if queried directly by BE customers at the moment of use. However, to expedite searches, BE instead chose to deploy "crawlers" to automatically visit and view eBay's site recursively up to 100,000 times per day to compile its own database.[10] BE's searches consumed a small fraction (1-2%)[11] of eBay's processing and storage capacity and thereby rendered a portion of the system unavailable to other users. BE also deliberately circumvented standards that eBay had put in place for the purpose of blocking unauthorized robotic searches; other search engines -- such as Yahoo, Google, Excite, and AltaVista -- respected these exclusion standards.[12]

EBay initially suggested to the Court a prorated access price that would have allocated to BE a share of capacity costs based on its respective proportion of usage of the eBay site. The Court held that eBay's monetary assignment overestimated the incremental costs that BE actually imposed.[13] However, the Court ruled that if BE's trespass were to continue

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[6] Fair transfer prices can be used to facilitate an outcome that is socially productive when high transaction costs block an efficient exchange. Such a fee-setting may be more equitable than either injunctions or outright grants of "fair use". A. Kozinski and C. Newman, *What's So Fair About Fair Use?*, 46 J. COPYRIGHT SOC. 513 (1999).

[7] A.X. Fellmeth, "Cyber Trespass Comes of Age", 19(2) INTELLECTUAL PROPERTY LAWYER NEWSLETTER 8 (Winter, 2001).

[8] 100 F. Supp. 2d 1058 (N.D. Ca. 2000); 2000 U.S. Dist. LEXIS 7287; 54 U.S.P.Q. 2D (BNA) 1798.

[9] Carney Decl., 17.

[10] Felten Decl.., 33.

[11] Johnson-Laird Decl., 64.

[12] Id., 81-5

[13] *eBay*, 100 F. Supp., at 1066.

unchecked, "it would encourage other auction aggregators to engage in similar recursive searching of the eBay system such that eBay would suffer irreparable harm from reduced system performance, system unavailability, or data losses."[14] It thus granted an injunction that foreclosed robot access to eBay's data entirely.[15]

From an economic perspective, the two resolutions can be meaningfully contrasted. In standard free market perspective,[16] the injunction grants a property right that can be transferred if and only if market efficiency can be improved. That is, if no great transaction costs bear on the outcome, eBay and BE might have negotiated among themselves a mutually beneficial alternative arrangement that would have allowed access at a profitable fee.

However, vertical market power can confound the ability of bilateral negotiation to bring about an efficient resolution. BE and eBay were market competitors in the sense that the former web service at times diverted traffic that might have otherwise gone to eBay. With this complication, eBay might have had sufficient incentive to raise its rivals' costs to drive it out of business and capture a greater market share. When vertical market power complicates the ability of negotiation to resolve matters efficiently, courts may reasonably impose license fees based on some imputed notion of fair market value.

From the perspective of first-best economic efficiency, the Court would have set BE's access fees equal to the incremental congestion costs imposed by a trespass. This cost would reasonably be expected to increase with general usage of eBay's system, including searches by other parties. Admittedly, such a measurement of incremental cost would be impractical. Nonetheless, eBay's suggested prorated fees, though higher than the proper measure of incremental cost, might have enabled some usage and therefore led to a more efficient outcome than enjoining searches altogether.

Whatever the starting position, eBay and BE could have found it in their joint interest to negotiate an alternative access arrangement. One possible license alternative to high prorated unit costs would have entitled BE to pay a blanket license fee to search the eBay system in an unrestricted manner during moments of low demand, and a limited number of times otherwise. The amount permitted could have varied in real time with the number of searches simultaneously performed by other crawlers and could have been supplemented with additional surcharges that would have enabled BE (and others) to purchase priority access during congested periods.

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[14] Id.

[15] Id.

[16] R.H. Coase, Id. at 2.

3. Ticketmaster v. Tickets.com

In contrast to *eBay*, Courts at other times are best advised to stay out and let the market resolve the difficulty on its own. This would have been the economic solution in *Ticketmaster v. Tickets.com*, which the U.S. District Court decided in August, 2000 on different criteria.[17]

As the nation's largest vendor of tickets for entertainment and sports events, TM's web site included a home page directory and separate "event" pages for each item ticketed through its service. TM made money online from ticket commissions as well as advertising revenues that were based on the number of viewer hits on the home page.

Similar to Bidders' Edge, T.com was an online clearinghouse that "deep linked" prospective ticket buyers directly to web pages from ticket vendors who covered specific events. To construct the search database, T.com crawled the Internet and pulled relevant event, price, and URL information from web pages of other ticket services. The most frequently visited host site for event and price information was TM.

Fearing that "deep linkers" would avoid hitting home page ads, TM sought to enjoin T.com's searches. The matter calls to mind an earlier settlement that TM struck with Microsoft, which agreed to stop "deep linking" after TM alleged that bypass of the home page constituted trademark dilution and unfair competition.[18] In the present matter, TM argued that T.com infringed its copyright because, *inter alia*, the clearinghouse made temporary copies of host material into random access memory for 10 to 15 seconds before formatting its displays.

The District Court held that material temporarily copied into RAM for the intended purpose was "fair use" and that the extracted facts were not copyrightable.[19] The market effect of the practice on TM was ambiguous; ads were avoided but more tickets possibly were sold.[20] TM failed to demonstrate physical harm, obstruction of access to business

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[17] 2000 U.S. Dist. LEXIS 12987; Copy. L. Rep. (CCH) P28, 146; 140 F. 3d 1166.

[18] G. R. Cummins, *Cyberspace: Will It Erode Constitutional Protections for Free Speech and Association?*, at http://www.gcwf.com/articles/interest/interest_33.htm (visited August 27, 2001).

[19] "The time, place, venue, price, etc. of public events are not protected by copyright even if great cost and expense is expended in gathering the information … Thus, unfair as it may seem to TM, the basic facts that it gathers and publishes cannot be protected from copying. " Id., *10. See also *Feist Publications, Inc., v. Rural Telephone Service Company, Inc.*, 499 U.S. 340

[20] "While TM sees some detriment in T.Com's operation (possibly in the loss of advertising revenue), there is also a beneficial effect in the referral of customers looking for tickets to TM events directly to TM. In fact, other companies, who presumably pay a fee, are allowed to refer customers directly to the internal web pages of TM, presumably leading to sale of TM tickets despite hypothetical loss of advertising revenue by not going through the TM home web page." Id., *18.

operations, or further likelihood of additional "parasites joining the fray, the cumulative total of which could affect the operation of TM's business".[21]

From an economic perspective, the argument whether T.com's copying was an infringement or not is irrelevant to a larger consideration. TM had the "self help" power to undo advertising losses from T.com's unwanted visits by setting ticket commissions differently to viewers who avoided its home page. That is, TM could have affixed a premium to "deep linkers" who missed its advertisements. All incoming ticket buyers could have been informed that discounts were available for people willing to "click through" to view advertisements on TM's home page.

Price differentiation here would have allowed each site visitor the direct option of viewing TM's advertisements, or paying for the convenience of avoiding them. Had TM done this, T.com itself could have agreed to route users through TM's home pages or buy down the commissions by compensating TM for advertising dollars lost through "deep links". TM would have been made whole for its advertising losses and T.com's references would have been unalloyed boons. No Court injunction could have benefited TM any more than its own self-help.

4. Kelly v. Arriba Soft Corporation

If the fair use defense is to be invoked, courts are obliged to consider as a factor the potential economic harm that may affect the copyright owner. This restriction was tested in *Kelly v. Arriba Soft Corporation,* which the U.S. District Court for the Central District of California (Southern Division) decided in December, 1999.[22] The Ninth Circuit Court of Appeals modified the decision.

The plaintiff was a professional photographer who maintained two web sites that displayed photos he had taken of scenes in California's "gold rush country". Arriba (later Ditto) operated an innovative search engine that allowed viewers to retrieve photographic images instead of text. In response to any viewer request, the Arriba engine produced a display of related "thumbnail" pictures that were gleaned from web material by a "crawler" that surveyed other sites for photographic files.[23] By clicking on a particular "thumbnail", a user could view an attributes window of a photo with a full-size image, a description of its dimensions, and an originating web address for linking. Without authorization, Arriba copied thirty-five images from Kelly's web sites.[24]

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[21] Id., *17.

[22]77 F. Supp. 2d 1116; 1999 U.S. Dist. LEXIS 19304; 53 U.S.P.Q. 2D (BNA) 1361; Copy. L. Rep. (CCH) P28,014.

[23]Id., 1117.

[24] Id.

Kelly claimed that he was denied an opportunity to license his material and that Arriba's viewers avoided his home page advertisements.[25] Although Arriba's web site was commercial, Kelly's photos creative, and the copies complete, the District Court ruled that Arriba's takings – particularly its thumbnail directory -- qualified for "fair use" because its application was transformative and of a "somewhat more incidental and less exploitative nature than more traditional types of commercial use."[26] Although the Court saw greater difficulties in Arriba's images attributes page, which displayed and framed a full-size image separated from Kelly's originating Web page.[27] the Court in the end conflated the two uses, ruling that Arriba's takings on the whole were significantly transformative for "fair use".[28]

In an initial decision, the Circuit Court reversed in part.[29] While Arriba's thumbnail reproductions that expedited web searching for photographic material might qualified for fair use, the reframed full-size reproductions deprived Kelly of advertising dollars and a reasonable licensing opportunity, and clearly did not. The Court then appropriately categorized Arriba's takings into "fair use" and "licensable" components, and disallowed Arriba' free taking of the latter.

From an economic perspective, the first Circuit Court practiced efficient deterrence. If fair use rights are to be granted to a defendant without compensating rights owners, it is imperative that takings be narrowly limited to specific uses that cannot otherwise be reasonably licensed. The District Court decision did not adhere to the proper restraint.

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[25]The matter calls to mind a settlement of a related framing issue with a similar fact pattern, *Washington Post Company v. Total News Inc.* , in Cummins, supra at note 18. Additionally, Kelly claimed that Arriba's display of images without copyright management information was a violation of the Digital Millenium Copyright Act. Id.

[26]"The most significant factor favoring Defendant is the transformative nature of its use of Plaintiff's images. Defendant's use is very different from the use for which the images were originally created. Plaintiff's photographs are artistic works used for illustrative purposes. Defendant's visual search engine is designed to catalog and improve access to images on the Internet. The character of the thumbnail index is not esthetic, but functional; its purpose is not to be artistic, but to be comprehensive." Id., 1119.

[27]"The image attributes page, however, raises other concerns. It allowed users to view (and potentially download) full-size images without necessarily viewing the rest of the originating Web page. At the same time, it was less clearly connected to the search engine's purpose of finding and organizing Internet content for users. The presence of the image attributes page in the old version of the search engine somewhat detracts from the transformative effect of the search engine." Id., 1120.

[28] Id., 1121.

[29]The Court later vacated its decision and remanded the case when it ruled that it had no jurisdiction because the District Court did not first rule on the issue. The case ended with Arriba's closure without a rehearing at the District Court level.

ABOUT THE AUTHOR

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In the technology sector, Dr. Einhorn worked at Bell Laboratories and the U.S. Department of Justice (Antitrust Division) and consulted to General Electric, AT&T, Argonne Labs, Telcordia, Pacific Gas and Electric, and the Federal Energy Regulatory Commission. He has advised parties and supported litigation in matters involving patent damages and related valuations in semiconductors, medical technologies, search engines, e-commerce, wireless systems, and proprietary and open source software.

Litigation support involving media economics and copyright damages has involved music, movies, television, advertising, branding, apparel, architecture, fine arts, video games, and photography. Matters have involved Universal Music, BMG, Sony Music Holdings, Disney Music, NBCUniversal, Paramount Pictures, DreamWorks, Burnett Productions, Rascal Flatts, P. Diddy, Nelly Furtado, Usher, 50 Cent, Madonna, and U2.

Matters involving trademark damages have included the Kardashians/BOLDFACE Licensing, Oprah Winfrey/Harpo Productions, Madonna/Material Girl, CompUSA, Steve Madden Shoes, Kohl's Department Stores, *The New York Observer*, and Avon Cosmetics. Matters in publicity right damages have involved Zooey Deschanel, Arnold Schwarzenegger, Rosa Parks, Diane Keaton, Michelle Pfeiffer, Yogi Berra, Melina Kanakaredes, Woody Allen, and Sandra Bullock.

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