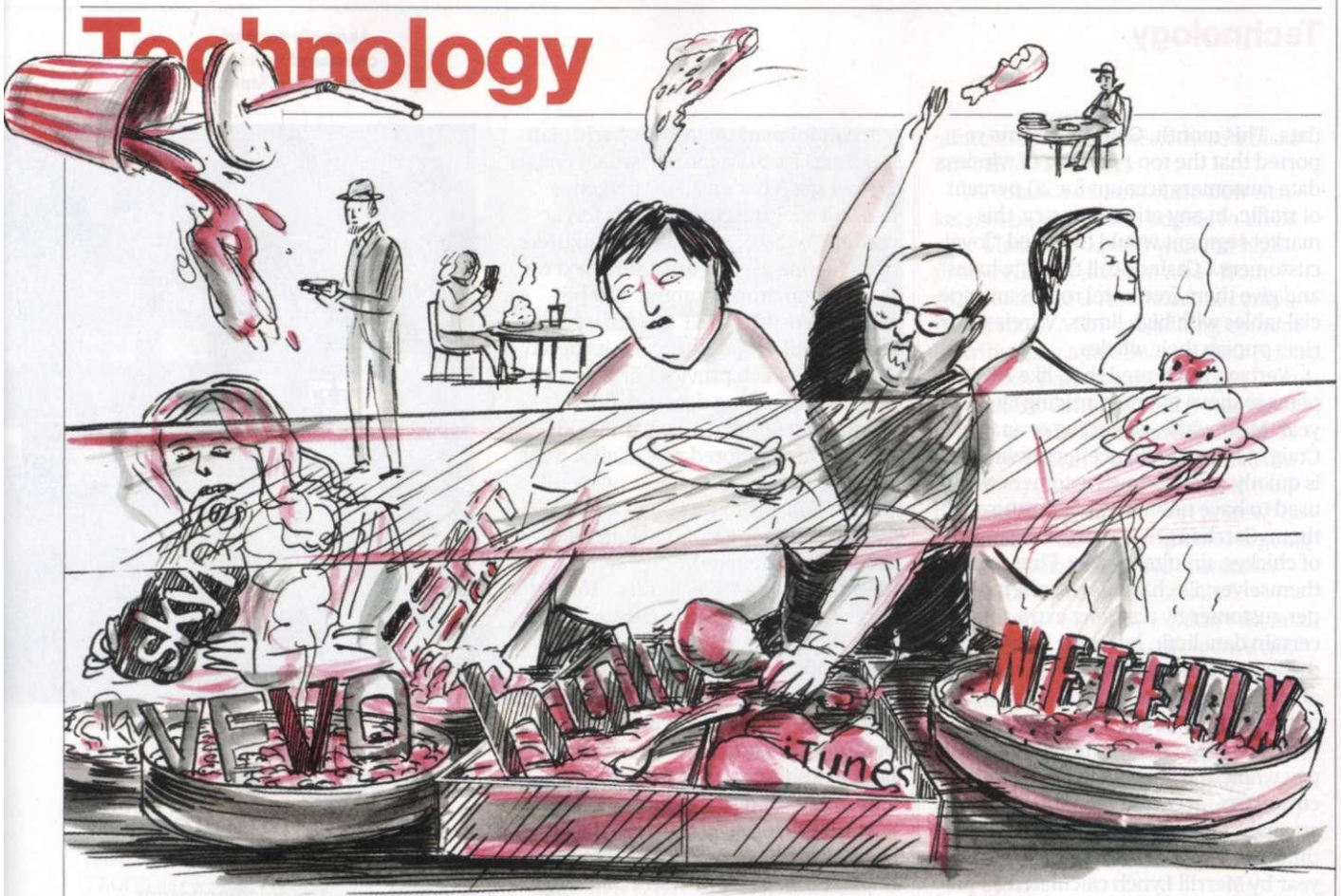
Technology



Who You Calling A Data Hog?

▶ Smartphone power users may not be the problem the wireless industry would have you believe

▶ Casinos call their best customers "whales." In wireless, they're stigmatized as gluttons

Thirty dollars for unlimited data: This is how **Verizon Wireless** beckoned **AT&T** customers as it took orders for iPhone contracts on its network. Poor AT&T capped its data plans last year at $25 for two gigabytes; one gig is about the size of an episode of *Glee* in standard definition.

Verizon then said in a two-paragraph notice buried on its website that its network was a "shared resource" among its customers. It further sighed that it would have to slow data speeds for the top 5 percent of its users to save its customers from the "inordinate data consumption of just a few users."

In other words, the bandwidth hogs are ruining it for everyone. It's a curious phrase, "bandwidth hogs." Executives at **Comcast** used it earlier this decade to justify limiting traffic on file-sharing sites. This week several newspapers, writing about Verizon's decision, used the phrase "data hogs" in headlines. The phrase suggests a moral failing: the sin of gluttony.

Wireless data is a finite resource. Data moves from a tower to a cell phone over electromagnetic spectrum, which carriers buy at auction from the federal government. Each carrier has a limited amount of spectrum, yet that limited amount renews itself, moment after moment. Think of electricity: The power plant runs all the time, but on hot days everyone turns on an air conditioner, straining the plant's capacity. Utilities are experimenting with smart meters that encourage customers to move their power use off-peak.

Wireless carriers, responding to a similar challenge, have chosen not to treat data like a commodity. Rather, they've carved off 5 percent of their heaviest users and stigmatized them. This is a business choice, not a natural economic consequence. Imagine that a power company, to prevent blackouts, has informed its customers that its heaviest users will be penalized with unpredictable brownouts two months running. Why do wireless customers tolerate this from carriers?

Some people do use a lot of

data. This month, **Cisco Systems** reported that the top 1 percent of wireless data customers account for 20 percent of traffic. In any other industry, this market segment would be called "loyal customers." Casinos call them "whales" and give them free hotel rooms and special tables with high limits. Wireless carriers punish their whales.

Verizon has hinted that, like AT&T, it plans to move to tiered pricing later this year. Meanwhile, according to analyst Craig Moffett of AllianceBernstein, AT&T is quietly letting some customers who used to have unlimited plans return to them. Carriers are playing two games of chicken simultaneously. First, among themselves: Each wants to earn more per customer by charging extra above a certain data limit, but none wants to be the first to do so. Second, with the rest of us: How low can they cap data without offending too many customers?

It's hard to tell how much carriers pay wholesale to provide bandwidth to customers. According to John Hodulik, an analyst for UBS, "It's just not something the telcos discuss." A paper last year by Merrill Lynch calculated $3 per gig and falling. (Verizon and AT&T declined to provide figures.)

Assuming that estimate is correct, almost every customer is buying data at a painful markup. AT&T's basic plan is 0.2 gigs for $15 a month, which equals $75 per gig. That's a 2,500 percent markup over the cost of goods for, according to Cisco, almost three-quarters of all mobile users. For AT&T's next tier, the markup drops to about 400 percent. Ostensibly, AT&T is worried about running out of spectrum, but its tiered structure, which provides little incentive for minimizing data use, doesn't seem engineered to save bandwidth.

One time-honored way of allocating a scarce resource is to agree on a unit-a barrel of oil, a kilowatt-hour, a *Glee* of data-and let the price of that unit fluctuate according to demand. Some refer to this mechanism as a "free market." But if the wireless carriers were to charge by the gig, even if the market arrived at a generous 1,000 percent markup, they'd lose money over the tiered setup AT&T has in place now. No wonder wireless carriers prefer the language of tiers, caps, and hogs to a simple per-gig price.

Analysts and shareholders prefer the current pricing structure, too. Let's be clear, though: Tiered data prices are not in place to save bandwidth. Data hogs aren't the problem the carriers would have us believe (Cisco has 0.4 percent of customers using more than 5 gigs a month), and the other customers are very profitable. Dave Burstein, an analyst for DSL Prime, estimates that if capacity were the only factor, no carrier would need to introduce a limit under 10 gigabytes. The carriers are like sadistic Italian grandmothers: "Eat, eat," they say, but then, "You're too fat."

The era of unlimited plans does have to end. The best way to allocate finite goods is through transparent, efficient markets. As traffic increases on mobile networks-it nearly tripled this year, and Cisco expects it to grow twenty-sixfold by 2015-consumers will be forced to make smarter choices about how they use mobile data. Perhaps parents will be forced to download the toddler-pacifying Elmo videos at home rather than on-demand in the car. That's not a tragedy, it's what markets do. So the next time you hear a wireless executive complaining about data hogs, ask yourself: What's my reward for being a data piglet?
—*Brendan Greeley*

The bottom line *The heaviest mobile users get stigmatized as data gluttons, and yet carriers charge them the lowest markups.*

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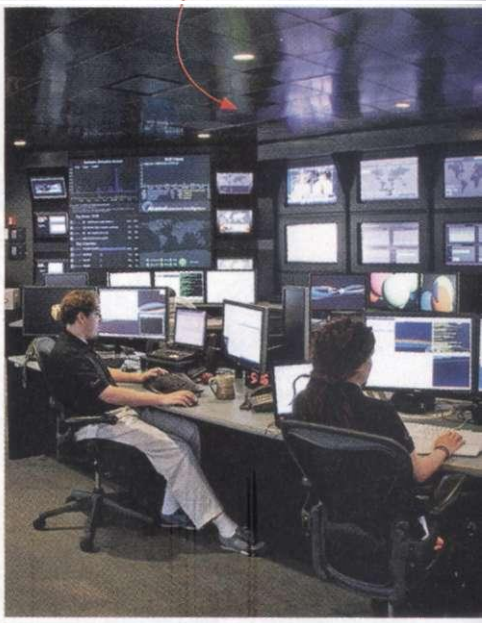
MILLION

The number of smartphones shipped in the fourth quarter of 2010—the first time they outsold PCs

DATA: IDC

Akamai's network command center in Cambridge, Mass.



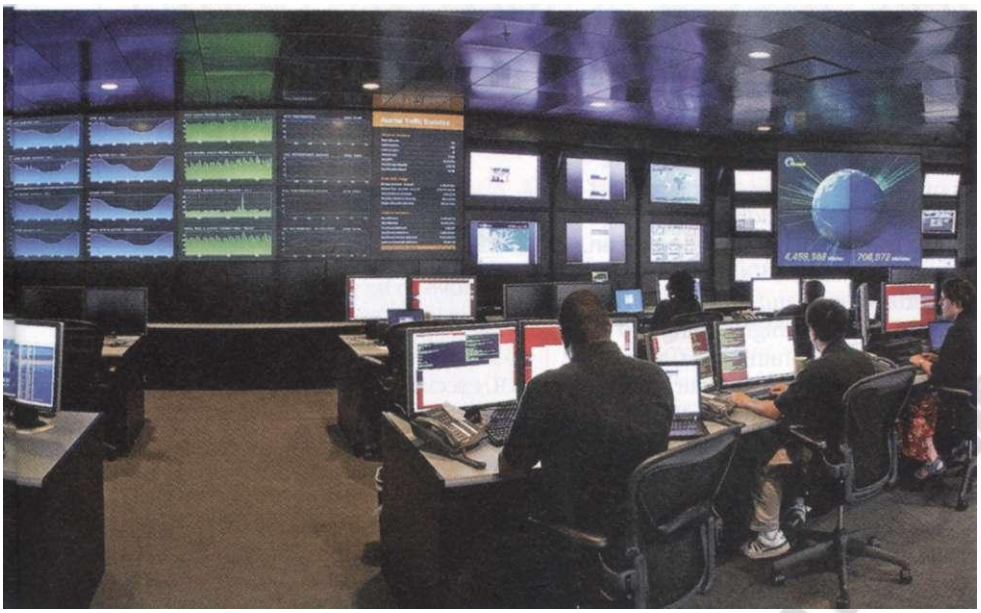
Networks

Psst! Wanna Buy a Content Distributor?

- Oft-rumored acquisition target Akamai says it plans to go it alone
- "They've been the Cadillac of the industry," says a competitor

Akamai Technologies has been a rumored takeover target 21 times since 2005, more than any other company, according to Bloomberg data. Chief Executive Officer Paul Sagan insists nobody there is paying attention. **"I** get more questions from employees about whether we can get more showers in the office," he says. Told that Akamai had been crowned king of the rumor mill, he laughs: "Well, I guess that makes you guys wrong more often than anyone."

The takeover chatter has included **Apple, AT&T, Cisco Systems,** and **Google.** Although shares of the Cambridge (Mass.) company with the funny name (it means "intelligent" in Hawaiian) tumbled nearly 12 percent on Feb. 9 after a weaker-than-expected forecast for the current quarter, Akamai still trades at roughly 50 times earnings. Apple, by comparison, trades at about 20 times profits. It's a sign that Wall Street expects Akamai's sales to keep zooming upward-revenue increased 19 percent in the fourth quarter of 2010, to $285 million.



The company is known for its dominance in the $2.5 billion market for content delivery network, or CDN, services. Content providers such as video sites and media companies pay a monthly fee to cache their content on Akamai's 77,000 servers in 71 countries. The company's network-which amounts to a more reliable, faster Internet-handles roughly 15 percent of all Web traffic, more than any other CDN and more even than Google, says Sagan.

Media companies use CDNs to distribute their articles, movies, and music. When a sports fan in Wisconsin presses "play" on a Super Bowl clip, the video comes from the nearest Akamai server rather than NFL.com's data center in El Segundo, Calif. "They're like a giant shock absorber," says Hans Schroeder, NFL.com's senior vice-president of media strategy and development. "When millions of people hit the site on Sunday, Akamai's ability to handle the load through their dispersed network is tremendous."

Rival CDN providers such as **Limelight Networks** and **Level 3 Communications** have pushed down the price Akamai can charge for basic CDN services. Sagan says the company's sales volume will make up for falling prices: Growing demand for Internet video delivered to everything from iPads to big-screen TVs will drive Akamai's CDN business from $400 million today to $2 billion within 10 years, he says.

Sagan, a cousin of 1980s scientist Carl Sagan, is also expanding Akamai's offerings. The company now takes in roughly $200 million a year from e-commerce sites, helping to cut seconds off the time it takes to deliver product recommendations to shoppers. It recently started a service that stores credit-card numbers for e-tailers. With Akamai maintaining the actual database of card numbers, merchants can forgo the expensive security audits demanded by payment processors, potentially saving them millions of dollars. Plus, e-tailers eliminate the risk of having thousands of credit-card numbers stolen.

Akamai has begun to sell to big corporations, too, letting them pay a monthly service fee rather than take on the cost and complexity of building sophisticated IT shops of their own. It offers security services to protect against denial-of-service attacks like the ones WikiLeaks supporters launched against sites run by **Visa** and **MasterCard** in December. Akamai's servers are programmed to spot and block suspicious traffic. Tom Leighton, a former Massachusetts Institute of Technology professor and one of Akamai's co-founders, says this strength-in-numbers approach is the only way to defeat massive cyber assaults. Most sites "just can't afford to fight off some of these attacks" on their own, he says.

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Times that Akamai has been rumored an M&A target since 2005

As Akamai expands into new markets, competitors are edging in on its core business. Level 3 won the high-profile **Netflix** account away from Akamai in late 2010. Telecom companies such as AT&T are adding content distribution capabilities to their phone networks. Barrett Lyon, who co-founded rival **Bit Gravity** (which was recently sold to **Tata Communications),** is about to launch a new video distribution company. "They've been the Cadillac of CDNs with Ferrari prices," he says of Akamai. "But someone is going to come along and solve customers' problems more economically."

With that in mind, wouldn't Akamai be better off under the protective umbrella of a large acquirer? Sagan says it's not an option. He thinks the company is better off on its own, free to market to and partner with anyone rather than be handcuffed by a parent company's strategic goals. "We don't get intimidated," he says. "And we don't take no for an answer." —*Peter Burrows*

The bottom line *Akamai, the "shock absorber" of the Internet, is diversifying into e-commerce, network security, and other businesses.*

E-Publishing

In Cramped Japan, the IPad Is the Home Library

- Families save space by paying startups to digitize their books
- "Publishers are not meeting the market's needs" for e-books

After his son was born in 2009, Satoshi Tagomori started having nightmares that the bookshelves lining his cramped living room would rain heavy tomes on the infant. Armed with a cutting board, the 28-year-old pharmaceutical company employee chopped his 850 titles to fit inside a cheap scanner and converted each book into a PDF file. His library now lives in his preferred tablet computer, a **Samsung** Galaxy Tab. "There was just no more room for books when my son was born," he says.

Japan's famously small living spaces-the country's average

home size is half that of the U.S.-make it a natural market for such space-saving innovations as digital books. Japanese have taken to tablet computers, especially **Apple's** market-leading iPad. While the iPad has opened the doors for e-books, the publishing industry has been slow to walk through them and still offers few Japanese-language editions. A cottage industry of pulp-to-PDF scanning startups are filling the void and now offer to digitize books for a modest fee.

Some Japanese, such as Tagomori, are doing the scanning on their own. **Fujitsu**'s PFU scanner-manufacturing subsidiary says sales of its consumer models rose 80 percent in June, the month after the iPad was released, and more than doubled the following month. The Tokyo-based company had to charter special flights from its China factories to meet demand, according to Tadashi Oura, PFU's head of marketing.

Publishers have been slow to react to the change in reading habits in part because they're reluctant to offer digital titles at reduced prices, as is common in the U.S., says Toshihiro Takagi, an analyst at market researcher Impress R&D. It also took time to develop standards for how Japanese characters, which are read from top to bottom rather than left to right, should be displayed on various screen formats. "People are taking matters in their own hands because the publishers are not meeting the market's needs," says Toshihiro Takagi, an analyst at Impress.

One of those people is Yusuke Ohki, a 28-year-old entrepreneur in Tokyo. As pre-release iPad fever hit Japan last April, Ohki and a childhood friend, Shinya Iwamatsu, founded **Bookscan.** The startup charges 100 yen, or $1.22, to digitize a book and produce PDFs replete with original highlighting and marginalia. After Takafumi Horie, a well-known Internet entrepreneur, tweeted about the company, a wave of media attention followed. Bookscan now has 140 employees and about 12,000 customers. Despite plenty of competition-Ohki estimates Bookscan is one of 60 such companies-the startup has a four-month waiting list.

Independent book scanners are filling a void but may also create headaches for copyright owners. Under Japanese law, book owners are allowed to digitize their libraries for personal use, but there's always the risk that "these homemade contents begin to circulate illegally," says Nobuo Kurahashi, an analyst at Mizuho Financial Group in Tokyo.

—Pavel Alpeyev and Yoshinori Eki

The bottom line *The rise of book-scanning startups in Japan is a sign of latent demand for e-books, which publishers have been slow to meet.*

A Bookscan worker in Tokyo preps a volume

New Media

$315M for Us. You? A Sense of Job Well Done

- Huffington Post's sale to AOL has contributors looking for their cut
- "I'd love to be paid, but it doesn't seem like it's in the cards"

At 7:48 a.m. on Feb. 7, the morning after AOL executives had completed a deal to purchase the Huffington Post for $315 million, the thousands of actors, authors, activists, academics, and comedians who collectively make up the blogging corps of the Huffington Post received an e-mail from the site's founder.

"Thank you," Arianna Huffington wrote, "for being such a vital part of the HuffPost family-which has suddenly gotten a whole lot bigger."

Huffington assured the bloggers that although her role is shifting-she will oversee all content at the new, merged venture-their roles aren't. "Together, our companies will have a combined base of 117 million unique U.S. visitors a month-and 250 million around the world-so your posts will have an even bigger impact on the national and global conversation," she wrote. "That's the only real change you'll notice-more people reading what you wrote." Conspicuously unmentioned: the subject of pay.

Since its launch in 2005, the Huffington Post has relied on unpaid contributors to stock the news-and-aggregation site with myriad opinions on everything from health care to Palin hair. It's an arrangement unlikely to change soon. "We're in the business of paying people for original reporting," says Roy Sekoff, the site's founding editor. "If people want to express their opinions, they do so on the site for free."

Sekoff, who will play a major (so far unspecified) editorial role in the new organization, says it's too early to say how the volunteer model might apply to the AOL blogs that do pay, which include TechCrunch, Engadget, and PopEater. "We haven't done all the nuts and bolts yet," says Sekoff. As rumors circulated about the size of Arianna Huffington's payday, some questioned the fairness of the compensation model.

CLOCKWISE FROM BOTTOM LEFT: KIMIMASA MAYAMA/BLOOMBERG; TIMOTHY A. CLARY/AFP/GETTY IMAGES; JIN LEE/BLOOMBERG; BRAD TRENT

February 14 — February 20, 2011
Bloomberg Businessweek

Innovator

Alberto Cavallo

The economist developed software that calculates real-time inflation by tracking 5 million products sold on 300 e-commerce sites

To track inflation, each month the Bureau of Labor Statistics canvasses businesses and records the price of, say, a 4.4-pound bag of golden delicious apples, among hundreds of other items. The agency dials land lines to survey how consumers spend their money. It's essentially the same process the BLS has used for half a century. In a recent budget request, the agency admitted its methods are "increasingly out of touch" in the age of cell phones and e-commerce.

Alberto Cavallo's Billion Prices Project may be a way to bring that process into the 21st century. Each day, software developed by Cavallo, a 33-year-old economist at Massachusetts Institute of Technology, scours the websites of roughly 300 online retailers and records the prices of some 5 million goods sold on the Web. "The technology is very similar to what Google uses to index Web pages," says Cavallo. The software, which Cavallo and his colleague Roberto Rigobon have fine-tuned over the past three years, spits out a daily estimate of price changes.

The BPP's focus on delivering real-time data "is paramount for businesspeople and policy makers," says James Hamilton, an economist at the University of California at San Diego. A week after Lehman Brothers collapsed in 2008, the BPP registered falling prices across the U.S. The BLS's official measure of inflation, the consumer price index, didn't report deflationary numbers until 56 days later. Cavallo says the BPP is currently running higher than official inflation estimates, and expects the latter to catch up soon. "I don't consider it an alarming trend," he says, "but it's worth watching closely."

A limitation to the BPP, says Hamilton, is that "not everything is traded on the Internet." Certain transactions, including real estate sales and services like medical care, still take place mostly offline. Yet Hal Varian, Google's chief economist, notes that one of the key benefits of the project may be that "it isn't filtered through a statistical agency which, for some countries, cannot be entirely trusted." Indeed, Cavallo, who spent much of his childhood in Buenos Aires, began an Argentina-only precursor to the BPP in 2007 because, he says, government officials had "started manipulating their inflation statistics." In such cases, he says, the BPP can serve as a private-sector check on officialdom.

Cavallo is a second-generation economist. His father, Domingo Cavallo, headed Argentina's Finance Ministry during the 1990s, and helped engineer the policies that cured the country of hyperinflation. The younger Cavallo emigrated in 2003 and got an economics PhD at Harvard. He views the BPP as a public resource-he has no plans to make money on it-and has made presentations to government officials about how it can complement their efforts. "The next challenge is to understand how governments can use this information to make better decisions," he says. —*Barrett Sheridan*

Cred ▶ MIT economist; father helped cure Argentina of hyperinflation
Technology ▶ Tracks prices with software "similar to what Google uses"
Benefit ▶ Complement to official stats that could keep governments honest

Dan Gillmor, the director of the Knight Center for Digital Media Entrepreneurship at Arizona State University, wrote that Huffington should cut checks to "the most productive contributors on whose work she's built a significant part of her new fortune."

Sekoff says the grumblers are a minority who show up whenever the site's finances are in the news. "No one has ever tried to fool anybody," says Sekoff. "When we started we had 500 contributors. Now we've had close to 15,000 people blogging at least once. They came to us and said, 'Please, can my stuff be on your site?'"

Currently, the Huffington Post has 255 paid employees, including 148 editorial staffers. Sekoff says the site invests much time and money in preparing bloggers' submissions for publication-editing the content, optimizing it for search engines, and moderating the millions of comments attached to posts every month. "It's a symbiotic relationship," says Sekoff.

Loyal contributors have long since grown accustomed to laboring gratis. "I'd We to be paid, but it doesn't seem like it's in the cards," says Bob Cesca, who has been writing a popular weekly political column since August 2005. He says his exposure on the Huffington Post helped him land a book deal in 2008, and that traffic from his columns generates enough ad revenue on his personal blog to cover "beer money."

Sekoff points out that plenty of bloggers don't need the money. Dan Rather, the former *CBS Evening News* anchor, who writes roughly three items a month for the Huffington Post, says he's "empathetic to those who are scrambling for an income and take the position, 'well, it's time to start paying something.'"

Comedian and regular Huffington Post contributor Andy Borowitz recently took to Twitter to weigh in on the deal. "My share of the Huffington Post sale, zero dollars, was a little disappointing," he tweeted. Asked by *Bloomberg Businessweek* to elaborate, Borowitz seemed ready to explore a new pay model. "I will be happy to make a comment," Borowitz replied via e-mail, "if you will pay me." Ⓑ
—*Felix Gillette*

The bottom line *The Huffington Post, bought by AOL for $315 million, prospered with an army of unpaid bloggers. Some want a piece of the action.*

PHOTOGRAPH BY MICHAEL WARREN FOR BLOOMBERG BUSINESSWEEK

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