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When the Rebel Alliance Sells Out

By David Dobbs

When scholarly publishing behemoth Elsevier gobbled up London software start-up Mendeley earlier this week, many Mendeley users felt as if the Galactic Empire had coöpted the Rebel Alliance.

Mendeley, founded in late 2008 by three tech-savvy scholars, had become a sort of rebel-scientist icon for producing a software-and-paper-sharing service that threatened to disrupt scholarly publishing in the way that Napster and last.fm had disrupted the music industry a few years earlier.

Elsevier, on the other hand, is infamous for restricting the flow of scientific information so it can sell research papers for as much as fifty dollars a piece, generating profit margins of thirty-six per cent and netting the company billions of dollars in revenue annually. The company has fought legislation designed to open up academic research, offered scholars money to file positive reviews, sued libraries for oversharing, and allegedly published fake journals on behalf of the pharmaceuticals industry.

So Mendeley's sale to Elsevier struck many as a betrayal. Microsoft researcher Danah Boyd angrily closed her account, saying she could never trust Elsevier; researcher David Weinberger, of Harvard's Berkman Center for Internet & Society, said he'll close his account too. And Duke University information-science postdoc Heather Piwowar, a longtime Mendeley fan, has decided that sharing with Elsevier just doesn't make sense. "I don't want my search patterns to help Elsevier sell me closed science," she said. She also plans to cancel her account.

Former Mendeley employee Jason Hoyt, however, was not surprised. Hoyt, a young onetime geneticist out of Stanford, had moved to London in 2010 to serve as Mendeley's vice president of research and development. Over the next eighteen months, he saw that the company might not prove as disruptive as he had hoped. Mendeley's main product, which Hoyt helped refine, was a reference manager app, the sort of desktop software that academics use to organize research papers. It also offered users a cloud-based Web site where they could stash their references and P.D.F.s and—here is the disruptive part—form collegial groups in which they could share not just references, ideas, and gossip, but copyrighted P.D.F.s. The company argued that such in-group

sharing amounted to fair use among colleagues. This argument rang true to researchers who often found their research projects blocked by high paywalls. But to many publishers, Mendeley's collegial-sharing feature looked awfully close to copyright theft.

Copyrighted papers lie at the center of researchers' growing discontent with the scientific-publishing establishment. The paper and journal system was developed over three hundred years ago, when sharing science required an expensive print-and-distribution infrastructure. Now, even though the Internet provides a faster, freer, more flexible way to share, discuss, and archive scientific findings and ideas, the business infrastructure built around that print model still dominates and constrains the sharing of scientific information. The research paper, created as a conduit for information, has become a bottleneck.

Which is one reason that discontented researchers loved Mendeley. Simply by searching, finding, reading, and sharing papers on Mendeley, researchers could rebel both personally and politically: they could enjoy the frisson of obtaining a paywalled paper without paying for it. And by unbundling the paper from the journal, as last.fm had let music fans unbundle songs from albums, they felt like they were kicking a brick out of the outmoded publishing infrastructure.

Hoyt, however, found that his efforts to strengthen this tool increasingly revealed its limits. On several occasions, he designed software features that increased the flow of information and papers within Mendeley, only to be forced to pull them back when publishers, including Elsevier, made scary lawyerly noises loud enough to give Mendeley pause. One day in August, 2011, his bosses asked him to kill previews of all papers published by Elsevier. The preview feature allowed users to see the first few paragraphs of any paper listed by Mendeley's members so they could decide if a paper looked useful before tracking it down in a user group or, if that failed, buying it for fifteen to fifty dollars. Users loved the feature, but Elsevier hated it and pressured Mendeley to remove it. Removing Elsevier's papers destroyed "a huge percentage of what we had," Hoyt said. For Hoyt, this rollback clarified that "things were closing off."

Regardless, by the end of that summer, Mendeley had over a million users who had uploaded over sixty million papers—the world's single biggest repository of academic papers—and were sharing many of them. As users became happier, publishers grew grumpier and investors less patient. The company was generating lots of *potential* value, but had not yet collected on it. Collecting on it would require something new, bold, and distinctly profitable. (One recurring idea was an iTunes-like deal with publishers that would let Mendeley sell papers for a buck or two.) Those paying attention knew the company was open to offers of a partnership or a buyout.

Elsevier has two reasons to buy Mendeley. One is to squash it—to destroy or coöpt an open-science icon that threatens its business model. Many critics fear that's the case. The other reason is to possess the aggregated data that Mendeley's users generate with all of their searching and sharing. Mendeley is still growing, with two million three hundred thousand users sifting through over a hundred million references. Their use patterns reveal who is reading what, which papers are popular, what lines of research are surging, which disciplines and journals are crucial, and a lot of other extremely valuable information.

No one has that kind of data at the scale of Mendeley. Mendeley had been selling access to segments of that data to publishers and other institutions, including Elsevier, as part of its business

model. Now Elsevier owns all of that data. But if it wants users to continue generating streams of data, the company will have to play nice, which leaves it with something like the Facebook model: create software and a huge social network in which people share information that it can profitably harvest, and be just conciliatory enough about privacy, anyway, to repel fewer people than it attracts.

By that measure, things still look good for Mendeley, since most critics are sitting tight. (Very few have left so far, Mendeley's spokesperson said.) Roderic Page, a University of Glasgow taxonomist and open-science advocate who has long watchdogged Mendeley, wants to see what happens. It's possible, he notes, that Mendeley will use its Elsevier backing to do something really fantastic, like finally launch an iTunes-like service. It would not be free and open, but for better or for worse, technology companies have shown time and again that good products tend to win out over open ones.