ENLIGHTENED BY THE SHADOWS: THE IMPLICATIONS OF PIRATE LIBRARIES FOR ACADEMIC AND PUBLIC LIBRARIES.

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Whatever the reader's stance on the ethics of copyright and copyleft, book piracy should not be dismissed as mere search for free entertainment. Under the conditions of digital disruption, when the traditional institutions of knowledge dissemination - the library, the university, the newspaper, and the publishing house- feel themselves challenged and transformed by the internet, we can look to online book sharing communities for lessons in participatory governance, technological innovation, and economic sustainability.

Book Piracy as Peer Preservation, Tenen and Foxman[1]

INTRODUCTION: PIRATE LIBRARIES AND HOW THEY WORK

In 2015 Alexandra Elbakyan, a 28-year old Kazakhstani Neural Engineering Graduate, was targeted with a lawsuit from the big-league publishing company Elsevier. Elbakyan is the creator of Sci-Hub, a website that provides illegal access to proprietary scholarly journal databases. Instead of hiding in the shadows, Elbakyan used the lawsuit as a platform to garner attention to the malpractices of big publishers in today's academic landscape. The crux of her argument is that the business model of journal publishers is largely corrupt and unethical, and that scientific knowledge should be freely accessible to everyone.[2]

Elbakyan's public campaign against the academic publishing industry can be seen as the starting point of the widespread interest in copyright and open access in academic publishing. The debate is of great interest to academic libraries. They have seen their interlibrary loans gradually decrease over the past few years, as well as their in-house loans. This evolution in the academic publishing industry coincides with an increased attention to the role of public libraries in a media landscape of widespread media piracy. With e-books increasing their market share of the global book industry[3] each year, born-digital texts becoming ever more prevalent, and the emergence of online communities of readers, public libraries see their role as distributors of texts and social hubs changing. How did these changes in academic and public libraries occur? Why are libraries so late to react to the shifting markets and communities? And how can they react successfully to these changes? Looking at how online pirate libraries AKA shadow libraries have emerged to fill a newly rising demand can be a good source of answers to these questions. Firstly, I'll look at the rise of pirate libraries in reaction to changes in the academic and public sphere. With this foundation I will point out a few intrinsic differences between these illegal libraries and their legal counterparts to show in which ways libraries could adapt to the changing landscape of texts and readers.

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[1] Dennis Tenen and Maxwell Henry Foxman, "Book Piracy As Peer Preservation," *Computational Culture*, no. 4 (November 9, 2014), 1.

[2] Balázs Bodó, "Pirates in the Library – An Inquiry into the Guerilla Open Access Movement," SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, July 6, 2016), 2.

[3] In this paper I will use 'books' and 'book industry' to denote non-academic texts intended for use by the public. These are the kinds of texts that are available in public libraries. I use this description to make a clear distinction between academic publications and non-academic publications, since I will be looking at both but they exist in a different context and thus need a different approach.

Illegal copying of text might be the oldest form of intellectual property piracy. Most works on book piracy are historical ones, documenting the rise of the notion of authorship of texts, the first intellectual property laws, and the inevitable breaching of those laws. This history is a fascinating one, not in the least because book piracy can speak volumes[4] about sociocultural views on property, theft, the state, and the common interest. It is also interesting to point out that the historiography on intellectual property piracy shifts from text piracy to other forms of media piracy with the dawn of the age of technology. A personal favorite for the history of piracy is "Piracy: the intellectual property wars from Gutenberg to Gates." When this book reaches the 20th century, the subject of piracy switches from books and industrial patents to radio, television, music, software, etcetera. Where have the book pirates gone then? Why, after such a rich history of stealing books, have pirates turned to other forms of media?

A simple explanation would be simply that with the invention and mass proliferation of non-textual media more interest and demand has gone to that instead of books. This is in itself a plausible cause. Adrian Johns states:

> *"Since the last years of the nineteenth century, new forms of communication and recording have proliferated as never before. [...] During the 1920's pirates were seen as a potentially mortal threat to the nascent enterprise of [radio] broadcasting itself. But two kinds of piracy were at issue, exemplified in the United States and Great Britain. [...] In America, piracy was a form of transmission. Their story is relatively familiar and fits neatly into the long history of piracy as a practice of reproduction or circulation. In the United Kingdom, by contrast, something more interesting happened. Although such challengers did exist, the more dangerous pirates were not transmitters at all. They were listeners. This was a radically new kind of piracy - a receptive practice, not a productive one. It came into being, significantly, at the time when the concept of 'Information' started to emerge."[5]*

Here John talks about radio piracy. The American piracy of transmitting radio broadcasts illegally, without paying for broadcasting rights, is still a kind of piracy that can directly be linked to the kinds of piracy of the centuries before the twentieth. Book piracy was also one of transmission. Pirate printers not only sold cheap copies of copyrighted works but also distributed censored texts, and printed political and religious propaganda outlawed by the state.[6] But with the emergence of the concept of information piratical activity switched to one of consumers accessing this information without paying for it. This fundamental change in piracy clarifies the shift from book piracy to other forms of media piracy. The change in available media plays a role, but more importantly it's the emergence of the concept of information and the new ways in which people seek access to this information that shaped piracy as we know it today.

Contemporary business models also focus more on other kinds of media than text, which explains why the focus has been mostly on the piracy of those kinds of media.

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[4] Pun intended.

[5] Adrian Johns, *Piracy: The Intellectual Property Wars from Gutenberg to Gates* (Chicago: Univ. of Chicago Press, 2009), 357-358.

[6] "Coda: a short history of book piracy", Bodó Balász, in: Joe Karaganis, ed., *Media Piracy in Emerging Economies* (New York, NY: Social Science Research Council, 2011), 399-400.

> *"The big money (and the bandwidth) in online media is in film, music, and software. Text is less profitable for copyright holders; it is cheaper to duplicate and easier to share. Consequently, issues surrounding the unsanctioned sharing of print material receive less press and scant academic attention."[7]*

Studies on this new, modern, form of piracy are plentiful. Research on book piracy in the 20th and 21st century is minimal. The most important author on modern book piracy is Balász Bodó, a Hungarian sociolegal researcher currently working at the university of Amsterdam. He has published several papers on book piracy and pirate libraries in the 21st century. Dennis Tenen, professor of English and comparative literature at Columbia University, has also delved into shadow libraries for his research. He was involved in the short-lived Piracy Lab, an academic research collective looking at the impact of piracy on the spread of knowledge around the world.[8] The Piracy Lab mostly looked at the shadow library named Library Genesis and did some preliminary statistical analysis on its contents. Apart from Bodó and Tenen, there are a lot of other researchers looking at book piracy, but they all focus almost exclusively on the pirating of academic works. This topic is just as interesting as researching the illegal distribution of non-academic texts, but it remains remarkable that so little attention has gone to other forms of text piracy. The first complete book on 21st century book piracy came out in 2016, written by Gini Scott.[9] It isn't at all a politically neutral history or analysis of modern book piracy though. It reads more like a personal outcry of frustration on behalf of the author after their realization that most of their books were freely available for download online. Instead of being a text that inspires debate on the fundamentals of piracy in a digital world, it is based on unfounded assumptions and is thus inherently biased. So why is there so little actual research on mainstream book piracy? Well, it could be said that simply not many people are pirating books. This is correct in the sense that overall media piracy is much, much bigger if we're talking about pirating music, videos, or software. Relative to the piracy of other forms of media book piracy claims a really small fraction of the piracy market, if you could call it that. Bodó estimates the amount of works downloaded from one of the biggest shadow libraries at the moment, Aleph[10], to be somewhere between 50.000 and 100.000.[11] This pales in comparison with pirated downloads for other media. The Game of Thrones season four finale was estimated to be downloaded about 14.4 million times.[12] This is for a single episode of a single TV show, where most of the downloads probably occurred within a week of its release. Every episode of game of thrones is being downloaded about 3 to 4 million times.[13]

That being said, the book publishing industry is in flux at the moment. With the rise of e-books and e-readers, hybrid publishing, digital-born texts and so forth, the piracy of books might change as well. As the book industry marches towards new publishing platforms and models, e.g. Amazon Unlimited and Oyster, they are starting to resemble the way other types of media have already gone. With this change of course towards the digital and the blanket license, this might bring with it a rise in book piracy.

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[7] Tenen and Foxman, "Book Piracy As Peer Preservation.", 1.

[8] www.piracylab.org

[9] Gini Scott, *Internet Book Piracy: The Fight to Protect Authors, Publishers, and Our Culture* (Skyhorse Publishing, Inc., 2016).

[10] Aleph is a nom de plume used to hide the actual identity of the shadow library in question.

[11] Balázs Bodó, "Libraries in the Post-Scarcity Era," SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, June 10, 2015), 9.

[12] www.huffingtonpost.com/entry/game-of-thrones-pirated-tv-show_us_5681429ce4b0b958f659d458, last accessed on 08.01.2017

[13] http://torrentfreak.com/whos-pirating-game-of-thrones-and-why-120520/#prclt-jjF1LLmA, last accessed on 08.01.2017

Where did non-academic online book piracy come from? It emerged, in part, together with other forms of media piracy. The history of media piracy in general is well documented and quite interesting.[14] From copying files from floppy disks and CD's to sending content through online messaging boards and IRC channels to the first Peer-to-peer networks like Napster and Limewire all the way to where we are now with the Pirate Bay and other torrenting sites: books have always been in some way a part of online piracy. Simply all kinds of media were distributed if it was possible to distribute them. On today's torrenting websites you'll always find books alongside videos, music and computer programs. But this doesn't explain the emergence of online shadow libraries, networks and websites specifically designed for the dissemination of text files. In 'Libraries in a post-scarcity era', Bodó traces the first online shadow libraries back to post-USSR Russia. After the fall of the soviet bloc, even though the former political oppression had fallen away, access to the literary market was limited due to the bad economic shape eastern Europe was in. But during the communist reign people had developed the skills to overcome political and economic access to books. Clandestine printing and distribution of books and uncensored texts proliferated before 1991, and after the fall of the USSR these skills were put to use in the emerging digital age. On top of that, while in other parts of the world texts were mostly copied by using photocopiers, in post-soviet Eastern Europe photocopiers weren't all that widespread. When photocopy machines did start to penetrate the Eastern European market, it happened at about the same time personal computers did. "In the Soviet-bloc PC's instantly offered a less costly and more adaptive technology to copy and distribute texts".[15]

It is at this point that the spheres of non-academic literature and academic literature meet in the story of online pirate libraries. Academic publishing grew rapidly in the second half of the twentieth century. By the end of the 1980s, a few big conglomerates of publishing companies had established a quasi-monopoly over the biggest academic journals. A new model emerged: scholarly publishing went from a non-profit endeavor towards a for-profit business model. With just a few companies at the top of the academic publishing industry, they could set the prizes of academic journals as high as they wanted to.[16] Academic Libraries and universities needed access to the latest scholarly research to stay relevant and provide their staff with the tools needed to produce their own scholarly works. "...there are powerful reasons for believing that high and rising prices are due not to costs, but rather to the combination of highly inelastic demand and suppliers' substantial market power".[17] Between 1984 and 2002, the price of science journals skyrocketed, increasing by nearly 600 percent.[18] At the same time that scholarly works started to get paywalled off and researchers saw their access to academic publishing dwindling due to their institutions having to pick and choose their subscriptions carefully to fit into the budget, the first Russian shadow libraries were taking form. Eastern Europeans had even less access to academic research. The first shadow libraries were set up in a few different academic institutions in Russia, such as the Department of Mechanics and Mathematics of Moscow State University.[19] These libraries were thus not only interesting for academics in Eastern Europe, but for

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[14] Cfr. Nathan W. Fisk, *Understanding Online Piracy: The Truth About Illegal File Sharing*, 1st ed. (Westport, CT, USA: Praeger Publishers, 2009); Stephen Witt, *How Music Got Free: A Story of Obsession and Invention*, Reprint edition (Penguin Books, 2016); Bengt Carlsson and Rune Gustavsson, "The Rise and Fall of Napster-an Evolutionary Approach," in *International Computer Science Conference on Active Media Technology* (Springer, 2001), 347–54.

[15] Bodó, "Libraries in the Post-Scarcity Era.", 6-7.

[16] Richard Edwards and David Shulenburger, "The High Cost of Scholarly Journals:(And What To Do About It)," *Change: The Magazine of Higher Learning* 35, no. 6 (2003): 6.

[17] Ibid., 4.

[18] Aaron S. Edlin and D. L. Rubinfeld, "Exclusion or Efficient Pricing? The 'Big Deal' Bundling of Academic Journals," *Antitrust Law Journal* 72, no. 1 (January 1, 2004), 122-123.

[19] Bodó, "Libraries in the Post-Scarcity Era.", 7.

academics all over the globe. They play an important role in the debate about the crisis in academic publishing.

The history of online book sharing can be categorized into two periods. The first has been described above: the local, ad-hoc peer-to-peer document exchanges following the samizdat model. Somewhere around the second half of the 2000s a second kind of shadow library emerged, characterized by communal governance and distributed infrastructure.[20] These were important tools in the debate on the dominant business models of the academic publishing industry. Questioning these models has gone on for decades now, entering a new phase in the 2000s with Lawrence Lessig introducing the idea of Open Access academia in 2004[21], Aaron Swartz publishing his Open Access Manifesto in 2008[22], the hashtag #icanhazpdf becoming a widespread way of getting around academic paywalls [23] , and eventually Elbakyan getting sued by Elsevier in 2015. Piracy for non-academic writing has not been called a cause for crisis yet, but as said with the direction the book industry is going this may not be far off. What connects the pirate libraries of the academic and the public sphere is that they emerged due to the limitations that copyright and restrictive business models put on the publishing industry.[24] Academic libraries have been facing the need to redefine themselves in the past years, and public libraries are slowly following suit. This redefinition is now mostly focused on looking what is broken and trying to fix it. The next segment of this paper would instead like to look at what is working and try to implement it in legal libraries. Let's bring to light why shadow libraries are so successful.

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[20] Tenen and Foxman, "Book Piracy As Peer Preservation.", 2.

[21] Lawrence Lessig, *Free Culture: The Nature and Future of Creativity* (New York: Penguin Books, 2005).

[22] Benjamin Hockenberry, "The Guerilla Open Access Manifesto: Aaron Swartz, Open Access and the Sharing Imperative," *Lavery Library Faculty/Staff Publications*, November 21, 2013, 1–7.

[23] Carolyn Gardner and Gabriel Gardner, "Bypassing Interlibrary Loan Via Twitter: An Exploration of #icanhazpdf Requests," 2015, http://eprints.rclis.org/24847/.

[24] Bodó, "Libraries in the Post-Scarcity Era.", 5.

EXAMINING THE SHADOWS

The infrastructure of shadow libraries is shaped in a fundamentally different way. The original russian shadow libraries copied the model of the Soviet-era samizdat networks, which is Russian for 'self-publishing'. Receive a copy of an illegal new bulletin, carbon copy it on a typewriter or a screen printer and pass it along. "These are effective underground distribution networks that are difficult to take down because few people in the network know who the original editor is", says Balázs. "The network also allows for two-way communication as important news traveled back to the editors through the same channels."[25] So shadow libraries are decentralized, anonymous, and powered by peer-to-peer networks.

On top of that they strive to be completely open source. the whole database can be downloaded and locally hosted. legal internet companies bank on centralization of control. They are the gatekeepers. creating artificial scarcity in a post-scarcity world is where the revenue comes from.

Resource control and creation of artificial scarcity makes it possible for Western companies to establish dominance in the market. It prohibits less dominant players like developing countries to access publications that arguably should be a basic resource. The example of access to medical literature is a strong one, since it shows how denying access to information can cost lives.

> *"Some argue that this global enforcement of IP is a way of the West to maintain its global leading position and it is a very sophisticated tool of locking in global inequalities. You condemn developing countries to a developing position because you make sure you dictate the terms of their access to knowledge. [...] The question is: can we argue for a similar type of exception when it is not about saving the lives of HIV patients but when it concerns access to health science or anti-corruption literature. My argument is that, yes, this the same type of basic resource that you need as a developing country. Piracy is often portrayed as a copyright problem, a problem for Hollywood and solved by copyright lawyers. But it is not, this is a symptom of big social problems."[26]*

 In the creation of the first Russian shadow libraries, economic shortage also played a role. Books of Fyodor Dostoevsky, for instance, weren't censored but paper shortage caused failure to meet demand. Foreign publications could be inaccessible because they had to be paid for in hard currency. In response the Soviet Union knew a maturely developed infrastructure of black markets for cheaply reproduced cultural works. The online pirate libraries that grew out of these networks were perfectly placed to answer the scarcity of access to academic and public literature in developing countries. Bodó shows in his analysis of Gigapedia that developing countries are one of the biggest users of pirate libraries.[27]

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[25] http://gr1p.org/en/pirate-libraries-and-access/ , last accessed on 09.01.2017.

[26] Ibid.

[27] Balázs Bodó, "In the Shadow of the Gigapedia-The Analysis of Supply and Demand for the Biggest Pirate Library on Earth," *Bodó B,: In the Shadow of Gigapedia: Quantitative Analysis of Shadow Library Usage. in: Karaganis (ed): Shadow Libraries, Forthcoming*, 2014, 18-19.

Pirate libraries like Aleph took a radical step to openness. they decouple the survival of the texts to the survival of the service.

The push for open access and increased questioning of the legitimacy of monopolies is a slow and painful process, says Bodó. Piracy may not be the right solution to alter the system, but it serves several important functions while we're on the road to open access. It solves the access problem on the short term. And secondly, it will always be there as a threat, as a means of leverage on the dominant forces in the publishing industry. [28] A widespread adoption of creative commons seems like a great compromise when the alternative is piracy.

ENLIGHTENING LIBRARIES

It is clear that the services that shadow libraries provide can be used as learning points for traditional libraries. Focusing on decentralization, breaking down barriers of access, making infrastructure more open to lessen the grip of resources held by the few, cherishing user input and the creation of community, and simply making electronic lending services easier, better, and more integrated should be the main points of focus of innovating libraries. But it isn't enough to try and rival shadow libraries. The goal should be to make libraries go above and beyond what pirate libraries do. And this is well within a libraries' reach. Traditional libraries still have quite some unique functions and services that they can capitalize on that shadow libraries simply can't. Finding the unique aspects of your library and promoting and expanding them is what will make patrons favor your institution over piracy.

A lot of the monopoly libraries had has faded away.

> *"This monopoly position has been lost in a remarkably short period of time due to the internet and the rapid innovations in the legal e-book distribution markets. Textbooks can be rented, e-books can be lent, a number of new startups and major sellers offer flat rate access to huge collections. Expertise that helps navigate the domains of knowledge is abundant, there are multiple authoritative sources of information and meta-information online. The search box of the library catalog is only one, and not even the most usable of all the different search boxes one can type a query in. Meanwhile there are plenty of physical spaces which offer good coffee, an AC plug, comfortable chairs and low levels of noise to meet, read and study from local cafes via hacker- and maker spaces, to co- working offices. Many library competitors have access to resources (human, financial, technological and legal) way beyond the possibilities of even the richest libraries. In addition, publishers control the copyrights in digital copies which, absent of well fortified statutory limitations and exceptions, prevent libraries keeping up with the changes in user habits and with the competing commercial services."[29]*

Realizing the loss of this dominant market position is the first step libraries and knowledge repositories in general need to take before they can start thinking about ways to improve their services. Because even though libraries don't hold the monopoly on collection access, reference and search, a public sphere, resources, and copyright any more they can still position them as a unique force in the global community.

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[28] http://gr1p.org/en/pirate-libraries-and-access/ , last accessed on 09.01.2017.

[29] Bodó, "Libraries in the Post-Scarcity Era.", 5.

The first question a library should ask itself is why people come to their website or physical location and use their services. Patrons now have a plethora of places to search, find, read, and socialize. It's infinitely easier to type in the title of a book in a pirate library and click download than to do the same in a library repository. Making online library search bars and their underpinning catalogues better than those of pirate libraries is key in attracting more users. Ease of use, multi-platform accessibility, and advanced search functions like faceted search can all improve the quality of a library's online service. A very important factor is the connection a libraries' online catalog has with other knowledge repositories. Investing in being part of a knowledge network is mandatory if a library service doesn't want to be isolated in the web of information. A lot of users access library repositories through other gateways like Google Scholar, Europeana or Worldcat. A library should make sure its catalog integrates with those services. Investing in international cataloging standards and embedding as much linked data as possible works towards this integration. Only if a library has realized that it has lost its monopoly position, it can think about working towards being a valuable node in the network of information users engage in daily.[30] The library's search bar is only one of many users type their queries into today. Making sure that other search bars connect to your catalog, and that yours also connects to others, constitutes your library as being a node in this network.

With an accessible, linked, and user-friendly online catalog come bigger opportunities. Making the access to the collection and the infrastructure of the library as open as possible is the next step. In pirate libraries, downloading a book is just a click away, and uploading one to the database is as well. This is of course easiest to do when one circumvents copyright laws, which official institutions cannot do. The fight for open access and better electronic lending services will show itself most clearly in this part of library services. It might seem impossible to make lending services as easy and direct as pirate libraries do. But hope is on the horizon. For public libraries, lending of electronic books is not yet well documented and regulated. It's such a new way of providing access to books that publishers are weary to allow it, and libraries don't know how to provide it. Since there's no scarcity in a digital copy of a book like a physical one, questions of the control of intellectual property are still being debated. But at the end of last year, a preliminary ruling of the Court of Justice of the European Union (CJEU) stated that the electronic lending of books could be treated in the same way as the physical lending of one. This follows the 'one copy, one user' principle, meaning that if a library has a physical copy of a book in its repository and has a legally acquired digital copy of that same book, a single user might have access to that digital copy for same timespan that the user might have access to the physical copy.[31] While the electronic copy is checked out by a patron, it cannot be loaned by another patron until that loan expires. This is an important step in making electronic copies of books available to patrons as easily as pirate libraries do it. If a book isn't loaned out yet, a patron might have the possibility of getting a digital copy of the book in one click, just as he/she/they would be able to in a shadow library. On top of that, depending on the structure the library is embedded in, the author of the work might get an inter alia remuneration. This is for instance the case in the Netherlands. A library repository can provide a qualitative and updated electronic copy in ways that a pirate library could not. Making these kinds of library loans possible is vitally important if libraries want to rival the service that pirate libraries provide. For academic libraries, the fight for Open Access is harsher. Academic libraries need to battle the very few big companies that hold almost all the intellectual property of the most highly acclaimed journals and other academic publications. But just as academic libraries depend on the access to these collections, the publishers depend on academic libraries to pay their licensing fees. In Germany, over sixty major research institutions have come together in an effort to boycott the skyrocketing licensing

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[30] Laurel Tarulli and Louise F. Spiteri, "Library Catalogues of the Future: A Social Space and Collaborative Tool?," *Library Trends* 61, no. 1 (September 12, 2012): 107–31.

[31] http://ipkitten.blogspot.be/2016/11/breaking-cjeu-says-that-eu-law-allows-e.html, last accessed on 09.01.2017.

deals Elsevier is imposing on them for access to their academic publications. The consortium of research institutions have stated that they will not be renewing their Elsevier blanket licenses in 2017 "in response to Elsevier's refusal to adopt "transparent business models" to "make publications more openly accessible."" The DEAL project, as the consortium calls itself, claims that "Its objective is to significantly improve the status quo regarding the provision of and access to content (Open Access) as well as pricing. It aims at relieving the institutions' acquisition budgets and at improving access to scientific literature in a broad and sustainable way."[32]. Boycotts like these gain extra leverage from projects like Sci-Hub to show that the business models the publishing conglomerates have are unsustainable and will be circumvented until a better solution is agreed upon. The German research institutions promise to use 'alternative services' to keep providing their patrons with the texts they need, i.e. by using pirate libraries to gain free access to academic publications.[33]

Libraries can capitalize on another unique aspect they possess: their physicality, their ties to local spaces. Dudley has edited an excellent piece on the possibilities public libraries hold as a driving force in urban areas.[34] If libraries can wield the power that other services have in creating an online community, this community can be tied to a physical location and physical events. Libraries can offer spaces for workshops, meetings, fanbase gatherings, book clubs etcetera. Pirate libraries and other online communities don't have these options as readily available to them. The physical space libraries occupy shouldn't simply be a place of repository and consultation, but of connection, discovery, relationship-building, safe spaces, ... A library's online presence can complement this physicality. "next-generation catalogues provide the branch library experience virtually. They can link to recorded author readings or programs and provide pathways to program announcements, special events within the library, and links into the greater community."[35]

To cultivate and sustain communities forming inside and around libraries, being user-centered is an important tool. Opening up library infrastructure, both digitally and physically, allows users the freedom to explore, interact, and add value to the institution. Bodó advocates the opening of library infrastructure like pirate libraries do, countering centralization and a mindset of seeing patrons simply as consumers.[36] For academic libraries, their strength lies within the value added by researchers from the institution tied to the library adding their own research to the repository. Giving researchers more direct access to storage and indexing possibilities of their own work puts the power over publications back into the authors' hands. It allows them to make their own decisions about the openness of access to their work and connects them with the library in a meaningful way. Public libraries can expand by using next-generation cataloguing services:

> "An advantage of next-generation catalogues is that they provide a platform for developing and extending relationships of trust and community between our staff and patrons — patrons who may never walk through the doors of the physical library. They can also bring like-minded patrons together, encourage the sharing of information, invite community-created information, and act not only as a place of discovery for the local library collection but also as a gateway to information far beyond the walls of the library. [...] Next-generation catalogues are library

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[32] https://www.sub.uni-goettingen.de/en/news/details/voraussichtlich-keine-volltexte-von-zeitschriften-des-elsevier-verlags-ab-dem-112017/, last accessed on 09.01.2017.

[33] http://boingboing.net/2016/12/15/germany-wide-consortium-of-res.html ,last accessed on 09.01.2017

[34] Michael Dudley, *Public Libraries and Resilient Cities*, 1 edition (Chicago: Amer Library Assn Editions, 2012).

[35] Tarulli and Spiteri, "Library Catalogues of the Future.", 109.

[36] Bodó, "Libraries in the Post-Scarcity Era.", 16.

catalogues that encourage interaction and contribution by users. They allow for user-generated ratings, tags, and reading lists as well as reviews written by readers."[37]

Lastly, even though libraries should let go of their monopoly position and delusion of unicity, libraries as brands can still function well as seals of quality. Digital copies coming from a trusted institution can assure a high quality of documents, while pirate libraries don't necessarily have the best possible versions of texts in their repositories.

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[37] Tarulli and Spiteri, "Library Catalogues of the Future.", 109-114.

CONCLUSION

Book piracy has a long and rich history. But the study book piracy of the twentieth and twenty-first century has largely been eschewed in favor of research on piracy of other types of media. Digital non-academic book piracy emerged together with these other forms of media piracy, taking part in the paradigm shift in overall media piracy brought on with the invention of the internet. The newest kind of digital book piracy comes in the form of vast shadow libraries, originally set up by Eastern Europeans after the fall of the USSR. Non-academic online book piracy and academic online book piracy crossed paths and merged somewhere in the last decade of the twentieth century. In the twenty-first century, both the public book industry and the academic publishing industry are changing rapidly. The traditional business models are being questioned. Even though public libraries and academic libraries have different challenges to face, both share the fact that they have to redefine themselves in some way. The rising success of pirate libraries is a sign on the wall, and an opportunity for libraries to learn and innovate.

The most recent and successful shadow libraries are decentralized, community-driven, open-ended, peer-to-peer networks. They take a radical step towards openness by decoupling the power in infrastructure and control of resources from access to the texts themselves. Traditional libraries seeking to create a service rivalling that of pirate libraries should thus work on opening up access to their repository, but also their infrastructure. Letting users feel like they are part of the ecosystem of the library could foster community creations and stronger ties between patrons and the library institution. Striving for open access to texts means taking part in actively questioning todays' business models of publishing companies that control access to intellectual property.

Once libraries realize that they have lost their spaces of monopoly, they can focus on finding their unique aspects and strong points to redefine themselves along those axes. Libraries should strive to go further than pirate libraries do in trying to provide the best service to access the worlds' knowledge. The main points of innovation described in this article are:

1. Becoming a node in todays' network of information. Ways to achieve this include:

- Using next-generation cataloguing services
- Connecting to other search gateways
- Using linked data

2. Improving services by opening up access to infrastructure and collections. Libraries could for instance:

- Open up digital infrastructure to allow for user input and communication
- Strive for open access to collections by improving digital lending of texts
- Coming together with other institutions to negotiate better deals from publishing industries

3. Take advantage of the physicality of the library by opening up spaces for community interaction and discovery.

4. Become more user-centered by giving researchers control over their own publications in academic library repositories and by letting users interact both digitally and physically with the infrastructure and catalogue to add their own value to the institution.

5. Using the brand of the library for quality assurance and authority.

"The library will endure; it is the universe. As for us, everything has not been written; we are not turning into phantoms. We walk the corridors, searching the shelves and rearranging them, looking for lines of meaning amid leagues of cacophony and incoherence, reading the history of the past and our future, collecting our thoughts and collecting the thoughts of others, and every so often glimpsing mirrors, in which we may recognize creatures of the information."[38]

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[38] Jorge Luis Borges, the Library of Babel.

REFERENCES AND FURTHER READING

Acker, Wouter Van, Pieter Uyttenhove, and Sylvia Van Peteghem. "Library Towers and the Vertical Dimension of Knowledge." *Library Trends* 62, no. 3 (April 17, 2014): 530–40. doi:10.1353/lib.2014.0010.

Barton, Joshua, and Lucas Mak. "Old Hopes, New Possibilities: Next-Generation Catalogues and the Centralization of Access." *Library Trends* 61, no. 1 (September 12, 2012): 83–106. doi:10.1353/lib.2012.0030.

Bodó, B., and others. "Eastern Europeans in the Pirate Library." *Visegrad Insight* 2015, no. 1 (7) (2015): 98–102.

———. "Piratenbibliotheken En Hun Rol in de Kenniseconomie:'ignoti et Quasi Occulti'." *Informatie Professional* 19, no. 6 (2015): 16–20.

Bodó, Balázs. "A Short History of the Russian Digital Shadow Libraries." *Available at SSRN 2616631*, 2014. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2616631.

———. "In the Shadow of the Gigapedia-The Analysis of Supply and Demand for the Biggest Pirate Library on Earth." Bodó B,: In the Shadow of Gigapedia: Quantitative Analysis of Shadow Library Usage. in: Karaganis (ed): Shadow Libraries, Forthcoming, 2014. http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=2616633.

———. "Libraries in the Post-Scarcity Era." SSRN Scholarly Paper. Rochester, NY: Social Science Research Network, June 10, 2015. https://papers.ssrn.com/abstract=2616636.

———. "Libraries in the Post-Scarcity Era." Bodó B.(2015): Libraries in the Post-Scarcity Era in: Porsdam (ed): Copyrighting Creativity: Creative Values, Cultural Heritage Institutions and Systems of Intellectual Property, Ashgate, 2015. http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=2616636.

———. "Piracy & Social Change| Piracy Versus Privacy: An Analysis of Values Encoded in the PirateBrowser." *International Journal of Communication* 9 (2015): 21.

———. "Pirates in the Library – An Inquiry into the Guerilla Open Access Movement." SSRN Scholarly Paper. Rochester, NY: Social Science Research Network, July 6, 2016. https://papers.ssrn.com/abstract=2816925.

Bohannon, John. "The Frustrated Science Student behind Sci-Hub." *Science* 352, no. 6285 (April 29, 2016): 511–511. doi:10.1126/science.352.6285.511.

———. "Who's Downloading Pirated Papers? Everyone." *Science* 352, no. 6285 (April 29, 2016): 508–12. doi:10.1126/science.352.6285.508.

Breckenridge, Keith. "The Politics of the Parallel Archive: Digital Imperialism and the Future of Record-Keeping in the Age of Digital Reproduction." *Journal of Southern African Studies* 40, no. 3 (May 4, 2014): 499–519. doi:10.1080/03057070.2014.913427.

Campbell, D. Grant, and Scott R. Cowan. "The Paradox of Privacy: Revisiting a Core Library Value in an Age of Big Data and Linked Data." *Library Trends* 64, no. 3 (April 4, 2016): 492–511. doi:10.1353/lib.2016.0006.

Carlsson, Bengt, and Rune Gustavsson. "The Rise and Fall of Napster-an Evolutionary Approach." In *International Computer Science Conference on Active Media Technology*, 347–54. Springer, 2001. http://link.springer.com/chapter/10.1007/3-540-45336-9_40.

Carroll, Mary, and Sue Reynolds. "'There and Back Again': Reimagining the Public Library for the Twenty-First Century." *Library Trends* 62, no. 3 (April 17, 2014): 581–95. doi:10.1353/lib.2014.0003.

Chen, Xiaotian. "A Middle-of-the-Road Proposal amid the Sci-Hub Controversy: Share 'Unofficial' Copies of Articles without Embargo, Legally." *Publications* 4, no. 4 (September 23, 2016): 29. doi:10.3390/publications4040029.

Dockray, Sean, and Lawrence Liang. "Sharing instinct: an annotation of the social contract through shadow libaries.." Accessed January 2, 2017.

Doctorow, Cory. "Lockdown: The Coming War on General-Purpose Computing." *Boing Boing*, January 10, 2012. http://boingboing.net/2012/01/10/lockdown.html.

Emmelhainz, Celia. "Interviews, Focus Groups, and Social Media: Lessons from Collaborative Library Ethnographies in America and Kazakhstan," 2016. http://library.ifla.org/1329/.

Fisk, Nathan W. *Understanding Online Piracy: The Truth About Illegal File Sharing*. 1st ed. Westport, CT, USA: Praeger Publishers, 2009.

Freiburger, Gary, and Sandra Kramer. "Embedded Librarians: One Library's Model for Decentralized Service." *Journal of the Medical Library Association* 97, no. 2 (2009): 139.

Gardner, Carolyn, and Gabriel Gardner. "Bypassing Interlibrary Loan Via Twitter: An Exploration of #icanhazpdf Requests," 2015. http://eprints.rclis.org/24847/.

Gardner, Gabriel. "The Guerilla Open Access Movement: What Do We Know?," 2016. http://eprints.rclis.org/30147/.

Gardner, Gabriel, and Carolyn C. Gardner. "The Motivations behind Crowdsourced Research Sharing: An Exploration Of# Icanhazpdf and Other Communities," 2015. http://eprints.rclis.org/28266/.

Hockenberry, Benjamin. "The Guerilla Open Access Manifesto: Aaron Swartz, Open Access and the Sharing Imperative." *Lavery Library Faculty/Staff Publications*, November 21, 2013, 1–7.

Imamoto, Becky, and Lisa Mackinder. "Neither Beg, Borrow, nor Steal: Purchasing Interlibrary Loan Requests at an Academic Library." *Technical Services Quarterly* 33, no. 4 (October 1, 2016): 371–85. doi:10.1080/07317131.2016.1203642.

Johns, Adrian. Piracy: The Intellectual Property Wars from Gutenberg to Gates. Chicago: Univ. of Chicago Press, 2009.

Karaganis, Joe, ed. *Media Piracy in Emerging Economies*. New York, NY: Social Science Research Council, 2011.

Liang, Lawrence. "Beyond Representation: The Figure of the Pirate." Accessed January 2, 2017. https://www.academia.edu/8430508/Beyond_Representation_The_figure_of_the_pirate.

———. "Shadow Libraries E Flux." Accessed January 2, 2017. https://www.academia.edu/28298445/Shadow_Libraries_e_flux.

Liang, Lawrence, and Siddharth Narrain. "Striving for Magic in the City of Words." Accessed January 2, 2017. https://www.academia.edu/9352249/Striving_for_Magic_in_the_City_of_Words.

Ma, Lai. "A Sign on a Tree: A Case for 'Public Knowledge.'" *Library Trends* 63, no. 3 (April 17, 2015): 528–39. doi:10.1353/lib.2015.0013.

McCabe, Mark J., and Christopher M. Snyder. "Open Access as a Crude Solution to a Hold-up Problem in the Two-Sided Market for Academic Journals." Working Paper. National Bureau of Economic Research, May 2016. http://www.nber.org/papers/w22220.

Peters, Justin. The Idealist: Aaron Swartz and the Rise of Free Culture on the Internet. Simon and Schuster, 2016.

Schultz, Mark F. "Copynorms: Copyright and Social Norms." *SSRN Electronic Journal*, 2006. doi:10.2139/ssrn.933656.

Scott, Gini. Internet Book Piracy: The Fight to Protect Authors, Publishers, and Our Culture. Skyhorse Publishing, Inc., 2016.

Stallman, Richard. "Gnu.org." Accessed December 27, 2016. http://www.gnu.org/philosophy/right-to-read.en.html.

Stanton, Domna C. "Working through the Crises: A Plan for Action." *Profession*, 2004, 32–41.

Stefanie. "Pirate Libraries." *So Many Books*, May 11, 2016. https://somanybooksblog.com/2016/05/11/pirate-libraries/.

Tarulli, Laurel, and Louise F. Spiteri. "Library Catalogues of the Future: A Social Space and Collaborative Tool?" *Library Trends* 61, no. 1 (September 12, 2012): 107–31. doi:10.1353/lib.2012.0032.

Tenen, Dennis, and Maxwell Henry Foxman. "Book Piracy As Peer Preservation." *Computational Culture*, no. 4 (November 9, 2014). https://academiccommons.columbia.edu/catalog/ac:179784.

"The Rise of Pirate Libraries." *Atlas Obscura*. http://www.atlasobscura.com/articles/the-rise-of-illegal-pirate-libraries.

Townsend, Robert B. "History and the Future of Scholarly Publishing." *Perspectives* 41, no. 3 (2003). https://www.historians.org/Documents/History%20and%20the%20Future%20of%20Scholarly%20Publishing.pdf.

Vallbé, Joan-Josep, Balázs Bodó, Christian Handke, and João Pedro Quintais. "Knocking on Heaven's Door - User Preferences on Digital Cultural Distribution." SSRN Scholarly Paper. Rochester, NY: Social Science Research Network, July 14, 2015. https://papers.ssrn.com/abstract=2630519.

Witt, Stephen. *How Music Got Free: A Story of Obsession and Invention*. Reprint edition. Penguin Books, 2016.

Witt, Steven. "Agents of Change: The Rise of International Librarianship and the Age of Globalization." *Library Trends* 62, no. 3 (April 17, 2014): 504–18. doi:10.1353/lib.2014.0006.

Worthington, Simon. "Book to the Future." Manifesto, March 13, 2015. https://research.consortium.io/docs/book_liberation_manifesto/Book_Liberation_Manifesto.html.

zacqary.adam.xeper. "The Pirate Bay Is The World's Most Efficient Public Library." *Falkvinge on Liberty*, December 7, 2012. //falkvinge.net/2012/12/07/the-pirate-bay-is-the-worlds-most-efficient-public-library/.

Zimerman, Martin. "E-books and Piracy: Implications/issues for Academic Libraries." *New Library World* 112, no. 1/2 (January 11, 2011): 67–75. doi:10.1108/03074801111100463.

Zuiderveen Borgesius, Frederik J., Damian Trilling, Judith Moeller, Balázs Bodó, Claes H. De Vreese, and Natali Helberger. "Should We Worry About Filter Bubbles?" *Internet Policy Review. Journal on Internet Regulation* 5, no. 1 (2016). http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2758126.