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Fake Archives: The Search for Openness in Scholarly Communication Platforms

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Doppelgängers exist in science too. While counterfeit or reappropriated brands have long been regular features of the commercial world, scholarship is increasingly dealing with a similar phenomenon. Appropriating a successful brand is indeed a way to tap into the value the original brand creates and the communities it fosters. This does not need to be illegal or deceptive though. viXra.org is a preprint repository that mimics the design, logo, structure, and functioning of arXiv.org, the open-access website that collects articles from physics, mathematics, and other quantitative sciences before or regardless of their submission and publication in a peer-reviewed journal. Launched in 2009 as an answer to the role of arXiv as the dominant platform for scholarly publishing in some areas, viXra is an ironic copycat version of the “official” website, of which it spells the name backwards (Brumfiel, 2009). At the same time though, one cannot help but notice that viXra contains thousands of articles. It has in fact grown to become an alternative platform for scholarly communication. While it would be easy to discard it as a container for “crackpot” and irrelevant science such as cold fusion or unorthodox astrophysical theories, it hardly represents a form of misconduct. Sure, viXra engages in spam-like practices (Brunton, this volume, chapter 18). For example, users who misspell arxiv.org’s URL and type “rxiv.org” instead will land on a website that mirrors viXra’s and presents its content.¹ But what is more important is that viXra could help shed light on how current forms of digital scholarly publishing run counter to rhetorics of openness, and how practices of brand appropriation and mimicry can allow criticism to be embodied by concrete, if ironic, alternatives.

Like the made-up scientist Ike Antkare (this volume, chapter 14), viXra seems indeed to aim at highlighting some of the critical issues at stake in a media ecology in which digital platforms for publishing and valorizing scholarly content are assuming an increasingly central role.

These platforms may be open for any reader to access their content free of charge, but can also entrench other forms of power. Indeed, viXra's website bears the motto "open e-print archive" as a remembrance of its critique of the "official" repository's publication standards. In many cases, when we think about ways of gaming metrics of scholarly output we refer to peer-reviewed journal articles and citations, which tend to be seen as the main factor underpinning academic rankings and evaluations. Yet there are other forms of publishing that have come to represent crucial places through which academic credit is built. Among these, online repositories and social media such as Academia.edu or Social Science Research Network (SSRN) are emerging as key spaces of both knowledge circulation and credit allocation. These platforms come with two relevant characteristics. First, they tend to become inter- or intra-disciplinary powerhouses and thus obstruct the emergence of competing actors such as new platforms but also, for example, predatory or irrelevant journals. Second, they come with their own sets of detailed metrics, such as download counts, internal citations, popularity, and other rating systems, allowing for individual forms of metrics microcontrol. This has been dubbed "gamification of research" (Wagman, 2016).

In physics and mathematics, arXiv.org presents both characteristics and thus represents a unique bottleneck. Founded by particle physicists in 1991 and now run by Cornell University, arXiv is the hegemonic space of circulation for scholarly articles in a number of scientific disciplines. After its launch in particle physics in 1991, arXiv has quickly expanded to cover a number of subfields. In particle physics, for example, it quickly plateaued to include more than ninety percent of all articles published in the field (Gunnarsdottir, 2005). In 2014, it passed the mark of one million deposited papers across the disciplines it serves. This repository grew out of traditional epistolary exchange practices that predate digital communication technologies and have been institutionalized in a "preprint culture" since the end of World War II, especially in physics. In some of the disciplines covered by arXiv, such as particle physics, publications in peer-reviewed journals are recognized for prestige and recognition outside the community, but arXiv provides quick and broad recognition within it. One could say that in the eyes of the community, a physicist does not exist if their work does not appear on arXiv. Physicists and mathematicians simply refer to it as "the archive." The website publishes preprint versions of scholarly articles and at the same time provides metadata for platforms that provide metrics of impact: for example, Google Scholar or inSPIRE, a particle physics service that uses arXiv data

to provide author pages and metrics such as citation counts. Citations allow inSPIRE to rank articles on a ladder that starts with “renowned,” moving to categories such as “famous” or “well known,” and ending with “unknown” papers.

Scholarly Brands

The backward-spelled viXra is the evil twin that appropriates arXiv’s name and image. Theories about brands have been developed for marketable products that are constructed, approached, accessed, and used very differently from a scholarly journal or publishing platform. Yet focusing on viXra as a copycat version of the brand arXiv might help understand their relationship. Brands are incredibly powerful. They make up a relevant chunk of many companies’ value. Also, far from being mere pieces of design, brands are underpinned by socially meaningful activities such as customer activity on social media or informal product re-elaboration, just to mention a couple of examples. Since their value is at the very least partially the product of customer activities, brands need to be flexible enough to modulate, incorporate, and valorize such activities (Arvidsson, 2006). Thus brands are able to incorporate innovation while at the same time being subject to hijacking. Brands are thus at the same time extremely powerful and extremely weak.

For example, brands can be re-elaborated and thus made more authentic by customers—think of the sticker that makes the illuminated apple on a Mac laptop look like as if it is being held by Snow White’s witch. These activities have a direct effect on a brand’s value. In other cases, this very flexibility can expose brands to appropriation by actors the company cannot control. Counterfeit brands can come to existence when an original product with a remarkable brand value worth copying already exists on the market. Its characteristics are copied into another product, which is at least partially indistinguishable from the original, and is sold at a lower price. Oftentimes consumers are well aware of the difference between the two products. Counterfeit products would be a clear example of partial appropriation of a brand’s value by external actors. You can buy copycat Nike shoes carrying a perfect “swoosh” logo and none of that money will go to Nike. Counterfeit journal websites routinely collect author fees from scholars deceived by doppelgänger versions of recognized journals. In many cases, these hijacked journals use slightly different names and graphics than the originals, masquerading as “legitimate” journals such as *Archives des Sciences* or *Wulfenia* (Butler, 2013).²

Scholarly journals continuously engage in battles over the identification and denunciation of these copycat scam operations. But this is not the main aspect of brand repurposing in viXra's case.

A different case of brand appropriation is represented by brands that purposely tweak, or subvert, the original brand. Through practices of *subvertising* (a portmanteau of *subvert* and *advertising*), political activists transform a logo and use it against the original, for political purposes. Oftentimes this means exposing issues of concern such as labor conditions or environmental problems caused by the company (Klein, 1999). Think of the golden arches of McDonald's logo reading "McDiabetes." Subverted brands are not only tools to be used in the public sphere to criticize something, they can also be used to organize new publics and thus create alternative spaces or entities that are based upon arrangements that contradict a brand's logics. This kind of reappropriation functions according to a sort of "the medium is the message" logic, whereas the very existence of the subverted brand may be more important than the content it carries. This could be the case for viXra, which is both a critique and an alternative to the "official" archive and is not meant to deceive its users. As stated on viXra.org: "The similarity of web design is a form of parody to highlight the endorsement and moderation policies of arXiv.org which we believe are a hindrance to scientific progress. We reverse the name and colours as a symbol of our opposing policies and to ensure that there is no confusion between the sites."³

The hindrance mentioned by viXra is created by the ways in which arXiv.org is made available to some scholars while fencing off others. What is at stake here is the meaning and role of "openness" in contemporary scholarly communication.

arXiv vs. viXra

Since arXiv.org is so central to the physics community, people have started asking how it shapes publishing and evaluation practices within the field. Indeed, arXiv is the place where credit is attributed and community boundaries are continuously created (or perhaps we should say enforced), especially within some subfields, such as particle physics, which put less emphasis on journal publications (Delfanti, 2016). Its backbones are its technological infrastructure and its moderators, chosen within the disciplinary communities it serves. Moderators control the quality of the submitted articles and thus guarantee the scientific relevance of arXiv's content. The archive is considered one of the flagship infrastructures of

the open-access movement. Indeed, arXiv.org is free of charge and open access. Anyone with a computer connected to the internet can access and download its content without any restrictions such as paywalls or registration. Nevertheless, what is not fully open is arXiv's submission and publishing system. ArXiv is open for readers, but not for authors. Unlike repositories such as Academia.edu or SSRN, which allow scholars to publish preprints or peer-reviewed articles and do not filter content, arXiv is not a self-publishing platform. It checks submissions for quality, enforcing rules that would be deemed inadequate for scholarly journals.

There are indeed three filters, all geared toward making sure that the content amounts to “physics” or “mathematics” and is original. First, in order to publish on arXiv, one needs to set up an account, which can only be done through a recognized institutional email account, such as utoronto.ca, or by receiving an endorsement from an active arXiv user. Second, a machine learning software performs automated textual analysis, scanning articles for plagiarism or technical issues, and sorting out papers that might be uninteresting. Third, articles “flagged” by this system are checked by human moderators. As a result of this process, articles can be outright rejected, although this seems to be rare; they can be redirected to categories such as PH-GEN (general physics), a “ghetto” subcategory that tends to include papers that are authored by physicists that are recognized as members of their disciplinary community, but do not live up to the standards of publication; or they can be accepted for the required specific category, such as HEP-TH (theoretical high-energy physics) (Reyes-Galindo, 2016). Arguably, arXiv does a great job of including recognized members of the specific research communities it hosts, and institutionally sanctioned physicists and mathematicians tend to agree that it is a fantastic platform for fast, reliable, and relevant communication. At the same time, criticism may be rare, but it strikes to the core of arXiv's functioning and role. Over time, individual members of the research community have criticized arXiv for its lack of transparency or for blacklisting scholars (a practice arXiv denies; Merali, 2016). The website *arXiv Freedom* lists cases of independent scientists who accuse arXiv of “abuse” for rejecting articles that are deemed uninteresting or fringe.

Out of the frustration with arXiv's dominant role and in response to its perceived abuses, in 2009, physicist Philip Gibbs created viXra. This is a doppelgänger of the “official” archive, a clone website that is identical to arXiv, including many of the same categories, such as astrophysics or condensed matter, the same logo (spelled backwards and in a different color), and the same organization and presentation of published papers.

While stressing that viXra is a parody, the founders aimed at building an alternative archive that could be open to “the *whole* scientific community” (emphasis added). The founders of viXra believe that, in contemporary scholarly communication, openness should not stop short of allowing all researchers to place their ideas in public view for scrutiny. Indeed, descriptions on the viXra.org website state it is “an experiment to see what kind of scientific work is being excluded by the arXiv. But most of all it is a serious and permanent e-print archive for scientific work. Unlike arXiv.org it is truly open to scientists from all walks of life.”⁴

While viXra’s success is based on its explicit mimicry of arXiv, its ability to create a community should not be overlooked. We know from marketing studies that preference for a counterfeit brand is greater when the brand attitude serves a social function. This means that alternative brands are accepted and embraced when they help people construct and maintain social bonds, and thus create new collectives. Counterfeit brands help people maintain relationships. For example, consumers are motivated to consume a copycat product to gain approval in social situations rather than communicate their central beliefs, attitudes, and values to others (Wilcox, 2009). The collective organized around viXra may indeed sound like a strange one. But while viXra’s main feature may be the way it uses parody to strike a critique at the core of the functioning of digital preprint archives, the fact that it is not just a boutade or media performance is crucial. As of June 2017, viXra had gathered more than eighteen thousand articles, the content of which is composed by lots of unorthodox or “crackpot” science. But this may be beyond the point: although most authors seem to be nonacademically trained, viXra also contains articles that have been published by institutionally recognized, peer-reviewed scholarly journals, as well as articles that are cross-posted on arXiv (Kelk and Devine, 2012). Indeed, aiming at gathering science “from all walks of life” leads viXra to attract a very diverse mix of content, arguably with a majority of ideas that would not be considered appropriate within institutionally sanctioned physics. In a sense, the repository recognizes that this is not what makes viXra relevant. Indeed, it explicitly states it is not interested in competing with scholarly journals or becoming a space for credit attribution and reputation building: “Acceptance into viXra does not constitute a publication of research in the academic sense since no quality review takes place.... ViXra does not aim to improve its reputation by filtering by quality. Our aim is to cultivate a reputation for openness by supporting free speech principles in science.”⁵

But does viXra not constitute a publication? Arguably that is exactly what the “official” archive does: while it can not claim to produce institutionally recognized publications, it uses community-based forms of recognition to attribute credit, at least within a specific community, to scholarly objects that have not been subject to formal expert peer review. Openness is a concern because the lack thereof in arXiv’s screening process is meant exactly to protect this system of community-based recognition. On the flip side of the coin, scholars working in institutional settings seem to be discouraged from publishing on viXra. This could indeed affect their credibility. But why? After all, it has become increasingly normal for scholars to publish their work on institutional repositories or academic social media such as ResearchGate or Academia.edu. Credibility issues are still present within some disciplines, but publication on other platforms does not seem to be as heavily moralized as it is with viXra. This may be because publishing on viXra is not a matter of irony but rather a way of joining another community that does recognize those papers as publications. Also, viXra struggles with making its content accepted by services that could use its metadata to provide metrics of impact. Neither Google Scholar nor inSPIRE provide information on viXra papers. Instead, viXra provides download statistics for individual articles, thus forging its own metrics system, albeit arguably an outcast one.

Conclusions

If the “official” arXiv is a central space for the attribution of individual credit and the emergence of metrics of impact such as citation counts, the alternative repository viXra tries to criticize and at the same time emulate this role. Poking fun at arXiv is common in physics. The *snarXiv* is a “random high-energy theory paper generator” that mimics arXiv while producing articles generated by randomly aggregating particle physics lingo. Its *arXiv vs. snarXiv* page is a web-based test that asks you to pick the “real” article when confronted with a title from arXiv and one randomly generated, for example, “An Entropic Resolution of the Confinement Problem Magnetic” vs. “Monopole Is Photon.”⁶ Yet while these forms of brand appropriation amount to jokes based on a shared subculture, viXra manages to highlight how the use of preprint archives should be analyzed in the light of their role as dominant keepers of the boundaries of a scholarly field. ArXiv’s systematic exclusion of nonrecognized scholarship is based on principled decisions that have to do with system efficiency and noise reduction, as well as with the maintaining of closed

community boundaries. Also, it has created its own measurements of impact, thus shaping publishing and evaluation practices.

Obviously, the history of digital cultures has shown us that projects that seemed weird and marginal at their birth, like Linux or Wikipedia, ended up reshaping their fields. They did so precisely by opening up to broad constituencies that were not part of incumbent institutions—think IBM or Encyclopedia Britannica. This analogy would be amiss though. Sure enough, the alternative repository viXra shows that the rhetoric that portrays digitally enabled communication as providing universal open access to the scholarly communication system may be misplaced. It also provides an alternative for noninstitutionally sanctioned scholars who need a preprint publishing system in order to become visible and gain access to a community. So on the one hand, viXra could be seen as an attempt—funny and goofy perhaps—at using a copycat platform to contribute to shaping the evolution of the original one (Jacob, this volume, chapter 19) or of scholarly publishing more in general. One could argue instead that viXra is just a weird space where bogus and crackpot physics and mathematics find their way through a fake system of publication that could not even aspire to misconduct. Yet its most important (or sole?) accomplishment may be the critique it embodies by parodying arXiv. As a subverted brand, viXra highlights the increasingly crucial role played by non-peer-reviewed, preprint-based spaces, with their own gatekeeping rules and metrics of impact. As these platforms are quickly establishing themselves as dominant actors within some disciplines (for example, SSRN for law, Academia.edu for many areas of the social sciences), critical practices such as brand appropriation may help expose the limits of these publishing venues as well as the new forms of power that they are entrenching. Perhaps viXra will help us imagine how to build the real alternatives we need so badly.

Notes

1. <http://www.rxiv.org/> (last accessed June 13, 2017).
2. For an updated list of hijacked journals, see <http://beallslist.weebly.com/hijacked-journals.html> (last accessed June 13, 2017).
3. <http://www.vixra.org/disclaimer/> (last accessed June 13, 2017).
4. <http://www.vixra.org/why> (last accessed June 13, 2017).
5. <http://www.vixra.org/info> (last accessed June 13, 2017).
6. <http://www.snarxiv.org> (last accessed June 13, 2017).

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This is a section of [doi:10.7551/mitpress/11087.001.0001](https://doi.org/10.7551/mitpress/11087.001.0001)

Gaming the Metrics

Misconduct and Manipulation in Academic Research

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Citation:

Gaming the Metrics: Misconduct and Manipulation in Academic Research

Edited by: Mario Biagioli, Alexandra Lippman

DOI: 10.7551/mitpress/11087.001.0001

ISBN (electronic): 9780262356565

Publisher: The MIT Press

Published: 2020

This title is freely available as an open access edition thanks to the TOME initiative and the generous support of the University of California, Davis. Learn more at openmonographs.org



The MIT Press

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This book was set in Sabon by Westchester Publishing Services.

Library of Congress Cataloging-in-Publication Data

Names: Biagioli, Mario, 1946- editor. | Lippman, Alexandra, editor.

Title: Gaming the metrics : misconduct and manipulation in academic research / edited by Mario Biagioli and Alexandra Lippman.

Description: Cambridge, MA : MIT Press, [2020] | Series: Infrastructures | Includes bibliographical references and index.

Identifiers: LCCN 2019010150 | ISBN 9780262537933 (pbk. : alk. paper)

Subjects: LCSH: Scholarly publishing—Corrupt practices. | Learning and scholarship—Corrupt practices. | Research—Corrupt practices. |

Communication in learning and scholarship—Moral and ethical aspects.

Classification: LCC Z286.S37 G36 2020 | DDC 070.5—dc23

LC record available at <https://lccn.loc.gov/2019010150>

10 9 8 7 6 5 4 3 2 1