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COMMENTARY

Who really owns science? The Sci-Hub ban and the battle for scientific equity

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Abstract

On August 19, 2025, the Delhi High Court ordered the blocking of Sci-Hub, a landmark ruling affecting access to scientific knowledge. Founded by Alexandra Elbakyan, Sci-Hub provided free access to millions of pay-walled research articles. While publishers framed this as copyright infringement, many researchers — particularly those in resource-constrained countries like India — viewed it as a democratising force. The judgment foregrounds a fundamental conflict in contemporary scientific publishing: the privileging of intellectual property enforcement over the ethical principle that publicly funded research should be freely and equitably accessible. Current publishing models often require authors to transfer copyright, pay article processing charges, and leave readers facing costly subscriptions, perpetuating inequity. Although Sci-Hub facilitated research and challenged publisher dominance, it also raised concerns about copyright violations and sustainability. In India, limited R&D funding makes subscriptions unaffordable, underscoring the need for policy solutions such as national subscriptions and mandatory open access. The debate calls for treating knowledge as a public good.

Keywords: *Sci-Hub, scientific publishing, copyright, open access, publicly funded research, knowledge equity, intellectual property, research accessibility, publishing monopoly*

Introduction

On August 19, 2025, in *Elsevier Ltd. & Others. v. Alexandra Elbakyan & Others* [1] and connected applications, the Delhi High Court ordered the blocking of Sci-Hub and its mirror site Sci-Net, marking a turning point in the global debate over access to scientific research. Sci-Hub, founded by Alexandra Elbakyan, a young computer programmer from Kazakhstan, has since its inception provided free access to millions of research articles locked behind the paywalls of international publishing giants like Elsevier, Wiley, and the American Chemical Society. For many, Sci-Hub was a revolutionary force that democratised knowledge; but for publishers, it was an unambiguous case of piracy [2]. The legal framing of Sci-Hub as equivalent to piracy of books or films misses the deeper ethical question: who truly owns scientific knowledge, and how should it be shared? For resource-scarce nations like India, with R&D expenditure at just ~0.7% of GDP compared to the Organisation for Economic Co-operation and Development (OECD) countries' average of 2.4%, [3] this ruling has far-reaching implications for equity, innovation, and access to science; while it lays bare the uneasy faultline between legality and justice in the global circulation of scientific knowledge.

This commentary does not seek to adjudicate the legality of copyright enforcement per se, but rather to examine how existing legal frameworks interact with structural inequities in scientific publishing, particularly in resource-constrained settings.

Sci-Hub and the radical vision of its founder

Sci-Hub was created in 2011 by Alexandra Elbakyan as a response to the prohibitive costs of accessing scientific literature. Frustrated by the pay-walls that restricted her own research, she designed a platform that bypassed publisher restrictions to provide free and easy to use access to millions of scholarly articles, and was hailed as the *"Robin Hood of Science"* [4]. Sci-Hub was framed not merely as a tool of convenience, but as a radical challenge to entrenched structures of academic publishing, asserting that scientific knowledge should be treated as a global public good rather than a commodity. By March 2017, Sci-Hub provided access to 68.9% of all 81.6 million scholarly articles in Crossref (https://www.crossref.org/) and 85.1% of toll-access publications — surpassing even the holdings of the University of Pennsylvania, a leading US research university, with stronger representation of widely accessed, pay-walled content [5]. Moreover, it was being used worldwide, including in developed countries [6]. Over time, Sci-Hub became both a lifeline for researchers in resource-constrained settings and a lightning rod in the global debate on the ethics of access, intellectual property, and the future of scholarly communication. Last but not least, despite being taken down numerous times, Sci-Hub continues to reappear under new addresses, maintaining a vast library of research papers.

The business model of scientific publishing

Unlike books or films, where authors profit from sales, researchers rarely receive royalties for published work. Most scientific research is taxpayer-funded or institution-supported, yet journals demand copyright transfer as a condition of publication. The irony is that while publishers invest relatively little in generating the research itself, they gain exclusive ownership of the output. Reviewers and editors contribute their expertise without any monetary or non-monetary incentives [7], while authors not only forfeit copyright but often pay hefty article processing charges

(APCs) for open access. Publishers profit at both ends — charging authors and readers — while reporting profit margins as high as 37% (Elsevier) [8]. This system creates a monopoly that restricts access and undermines equity. It was foreseen way back in 1988, when Robert Maxwell predicted that, in the future, there would only be a handful of immensely powerful publishing companies left, operating in an electronic age with very low printing costs, leading to almost "pure profit" [9]. As access to knowledge becomes increasingly restricted, researchers and students — particularly those at less privileged institutions — are confronted by prohibitive paywalls, placing both the progress and equity of research at risk [10].

The controversy about Sci-Hub

The controversy surrounding Sci-Hub is often presented as a balance between benefit and harm; however, such framing obscures the deeper structural inequities in scientific publishing that gave rise to its widespread use. Proponents argue that Sci-Hub has democratised access to knowledge by dismantling costly pay-walls, particularly benefitting students and researchers in low-and middle-income countries. It has facilitated research by providing essential literature where institutional subscriptions are unaffordable, exposed monopolistic and exploitative practices of dominant publishers, and accelerated reforms by exposing inequities [4]. Ethically, supporters contend that since much research is publicly funded, Sci-Hub aligns with the public's right to access taxpayer-financed knowledge.

Critics correctly note that Sci-Hub violates existing copyright law; however, these legal objections operate within a publishing framework whose legitimacy and equity are themselves increasingly contested. Concerns also include financial risks to journal sustainability, as subscription revenues support editorial and publishing infrastructure, and potential security threats such as malware or data breaches. Some argue that Sci-Hub may delay systemic reforms like open-access mandates by acting as a temporary workaround, while others warn that defiance of court orders sets problematic legal precedents. Last but not the least, accessing pirated repositories may expose users to malware or data breaches [11].

The Indian context

India's researchers face acute challenges. It has thousands of universities and research institutions, while R&D spending remains below 1% of GDP [5], and subscription costs are prohibitive. The proposed "One Nation, One Subscription" (ONOS) policy seeks to provide nationwide access to scholarly journals through centrally negotiated subscriptions, potentially benefitting public universities and medical colleges, which lack comprehensive access [12]. However, concerns remain that ONOS may be costly, perpetuate dependence on commercial publishers, and offer limited coverage, excluding private institutions, independent researchers, and the public [13]. A more sustainable solution is mandatory open access for publicly funded research as proposed in India's National Science, Technology, and Innovation Policy (STIP) 2020; though this remains unimplemented. Other viable solutions include no-cost solutions such as "diamond" open access journals (which charge neither authors nor readers) and "green" Open Access (self-archiving research papers in institutional repositories and preprint servers). France's secondary publication rights, Latin America's Scientific Electronic Library Online initiative (SciELO; www.scielo.org/en/), and the European Plan S (www.coalition-s.org/) movement offer models worth adapting [14]. Meanwhile, Indian researchers rely on institutional libraries, open access platforms (CORE Discovery, Unpaywall, Open Access Button), and author sharing. India has the opportunity to turn this controversy into a catalyst for equitable access to scientific knowledge for every student, teacher, and citizen.

Copyright law: a mixed bag for science

Copyright law protects against plagiarism and unauthorised reproduction, but, in practice, disadvantages authors. Researchers lose control through copyright transfers, often sign contracts without full awareness, and face inequity through high APCs. Public access mandates, such as those of the US National Institutes of Health and the Howard Hughes Medical Institute, are positive steps but inconsistently enforced [15].

Conclusion

The Sci-Hub debate highlights the tension between knowledge as a public good and as a commercial commodity. While the Delhi High Court's decision aligns with copyright law, it is socially and scientifically detrimental in resource-scarce contexts like India. The Sci-Hub controversy cannot be simplistically equated with music or film piracy, where piracy entails deliberate commercial exploitation, with unauthorised copies sold for profit at prices below those of authorised distributors. For India and other resource-constrained nations, the stakes are particularly high, as equitable access to research is essential for innovation. Reforms like mandatory open access for publicly funded research, secondary publication rights (permission granted by the copyright holder, usually the publisher, that allows a work — most often a research article — to be published again after its first publication, under specific conditions), and affordable national licences are imperative. Sci-Hub may have been silenced, but its widespread adoption exposed the moral and structural failures of the current scientific publishing ecosystem and its legacy lies in igniting a necessary global debate. The Delhi High Court's judgment is not just an Indian issue; it is a litmus test for how nations will balance copyright enforcement with equitable access to knowledge in the 21st century. The future lies in rethinking scientific publishing after Sci-Hub, developing sustainable, legal, and equitable

models of scientific publishing that prioritise knowledge advancement over profit.

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