Critical open access literacy as a strategy to confront the challenges in scholarly communication

Šobota, Dijana

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Dijana Šobota

Department of Information and Communication Sciences,
Faculty of Humanities and Social Sciences, University of Zagreb, Zagreb, Croatia

Abstract

Purpose – The paper seeks to introduce the "critical open access literacy" construct as a holistic approach to confront the challenges in open access (OA) as a dimension of scholarly communication.

Design/methodology/approach – The paper first introduces the concepts of information literacy (IL) and OA in the context of transformations in the scholarly information environment. Via a theoretical-analytical exercise on the basis of a literature review of the intersections between the two concepts and of the criticisms of OA, the paper discusses the role of critical IL in addressing the challenges in OA and lays the theoretical-conceptual groundwork for the critical OA literacy construct.

Findings – The structural nature of the challenges and transformations in the scholarly information environment require new foci and pedagogical practices in library and information studies. A more holistic, critical and integrative approach to OA is warranted, which could effectively be achieved through the re-conceptualization of IL.

Practical implications – The paper specifies the avenues for putting the theoretical conceptualizations of critical OA literacy into practice by identifying possible foci for IL instruction alongside a transformed role for librarians.

Originality/value – The paper extends deliberations on the role of critical IL for scholarly communication and attempts to advance the research fields of the two domains by proposing a new construct situated at the junction of OA and IL.

Keywords Critical information literacy, Critical open access literacy, Information literacy, Open access, Scholarly communication

Paper type Conceptual paper

Introduction

After twenty years of open access (OA), there is growth in its uptake and some progress has been made in achieving its original goals; however, results have been far from satisfactory, with much research still behind paywalls ([1]; Piwowar *et al.*, 2018). Moreover, new concerns have arisen, such as the questionable quality and reliability of peer review; predatory publishing; threats to equity, including stratifications of publishing as a consequence of the exclusionary character of the author-pays model of OA; and new risks of bias and exclusion in the means of transparent evaluation (Ross-Hellauer *et al.*, 2022). It is argued that these are the result of uncritical narratives of openness and their narrow focus on *access* alone which fail to address inequitable power dynamics, systemic problems, and structural barriers in scholarly publishing and knowledge production (Perry, 2020; Ross-Hellauer *et al.*, 2022).

These challenges in the scholarly communication system, coupled with recent advances in technology and transformations in the information environment on the one hand, and broader information and epistemic crises on the other, require new (pedagogical) approaches and foci that would enable researchers and students to understand and navigate such a complex environment, and ultimately transform it; for this, a holistic and integrative approach to scholarly communication and information literacy (IL) is needed (ACRL, 2013; Špiranec, 2015).

Scholarly communication (including OA) is impossible without IL (Hebrang Grgić, 2016). Concerned as they both are with (access to) information, OA and IL, in particular *critical* IL (CIL), largely share the same goals, ethical dimensions, and values of (social and epistemic) justice, equity, and democratization. Indeed, they have been considered instrumental to achieving these, and even proclaimed a panacea, promise, and *deus ex machina* for the current scientific, social, and political challenges and crises (Guédon, 2006; Hebrang Grgić, 2016; Kapitzke, 2003; Mirowski, 2018). As such, both IL and OA have been thoroughly researched, as theoretical and pragmatic concepts, predominantly in the education and academic librarianship context. Literature on their intersections, however, has been scant (Gelfand and Palmer, 2013; Špiranec, 2015).

This paper seeks to intertwine these two concepts more strongly, for mutual exchange and benefit, by analyzing their correlative aspects and the role IL has in the context of the complexities of the scholarly communication system and in achieving OA. The paper builds on previous studies of the intersections between the two concepts, but goes beyond their functional/behavioral approach, and advocates a more holistic and critical approach to OA to help reinvent it and make more substantial progress in OA.

In what follows, the author will propose critical OA literacy as a strategy to confront the challenges and empower scholars and students to navigate, critically understand, and potentially transform OA/scholarly communication. While it is beyond the aim and scope of this paper to provide a definitive conceptualization of the critical OA literacy construct, the author hopes this sketch, done in broad strokes via a literature-based theoretical-analytical exercise, will provide a solid grounding and create necessary new research avenues that would help extend deliberations on the critical role of (C)IL for scholarly communication, thus contributing to a more precise delineation of the proposed construct.

In the remainder of the paper, the concepts of IL and OA are introduced, with the emphasis on an historical overview and on the features of the contexts and information environment in which they emerged, given their strong contextual determination. The next section discusses the intersections of IL and OA and the role of (C)IL in addressing the challenges and achieving the goals of OA. The final sections reflect critically on OA, offer some arguments for the introduction of the critical OA literacy construct, and provide concluding remarks.

Literature review
Information literacy (IL)
Scientific progress and advances in information and communication technologies (ICTs), together with economic progress and the turn towards neoliberalism in the 1970s, and the new "knowledge economy" wherein information becomes a key resource, have imposed the need for knowledge and skills that would enable people both to deal with information abundance and complexity, increase productivity and profit, and enable faster progress. It was in such an environment and with such purpose that IL emerged. While research has traced its existence and earlier work in the area, the "information literacy" term was coined in 1974 by Zurkowski, who defined it as the ability of an individual to use the wide range of information tools and sources to solve problems at work, understanding it as a response to information abundance, to the inability to evaluate information and to the perceived inadequacy of workers' skills in the light of economic development and market needs.

The conceptual development and numerous research into IL that followed moved away from the historical context of workplaces towards education and (academic) librarianship. In that regard, some authors even argued that IL was developed as librarians' professional response to threats to their traditional access-oriented role and jurisdiction (O'Connor, 2009) and to their loss of control over authority in the print era, as well as following the demands coming from the information industries and media about information overload and the increasing use of electronic sources (Pawley, 2003).

IL is typically defined as the ability to find, evaluate, and use information. Although forming the conceptual core of many IL definitions (Owusu-Ansah, 2003), this rather narrow (simplistic) view does not reflect the complexities and understandings of IL. Indeed, definitions and conceptualizations of IL abound, as do their categorizations. An influential categorization, relevant for this paper, is Lupton and Bruce's (2010) division of IL as generic (behavioral), situated (sociocultural), or transformative (critical).

In the generic perspective, IL is portrayed as a set of measurable skills and competences functional to workers' productivity and economic development, as in, for instance, Zurkowski's (1974) definition of IL; or as generic and transferrable competences and skills to be learned and included in curricula, as in, for example, the paradigmatic definition of the American Library Association (ALA, 1989).

With the sociocultural turn in the mid-1990s, IL is no longer reduced to a sum of generic skills and competences. Instead, the situated, sociocultural perspective conceives IL holistically, as a sociocultural/sociotechnical phenomenon and practice which cannot be detached from social and technological variables and the (physical and ideological) contexts and environments in which information is used (Tuominen *et al.*, 2005). For instance, Shapiro and Hughes (1996) emphasized the economic, cultural, and above all social dimensions of IL, as well as the importance of a critical reflection on the nature of information; while Lloyd (2010, p. 245) understood literacy as a social product of meaning-making in a particular setting, conceptualizing IL as sociocultural practice that builds "people's capacity to negotiate increasingly complex social and technological environments".

In this perspective, there are multiple literacies. Namely, the emergence of Web 2.0 and multimodal and socially mediated information landscapes has led to a conceptual distortion and attempts to redefine IL, even to proposals to replace or supplement it with concepts such as *transliteracy, metaliteracy, participative literacy, data literacy* and *academic literacy* (Špiranec, 2014, 2015). As a response to and resolution of anomalies in the IL paradigm, caused by the radical transformations in information landscapes, Špiranec and Banek Zorica (2010) suggest the introduction of information literacy 2.0 as a sub-concept of IL. Such a re-conceptualization of IL incorporates sociotechnical and communicative dimensions, as a reflection of new social relationships and an environment characterized by the "erosion of information context" (Tuominen, 2007), the consequent blurring of authority, and problems such as threats to privacy, dubious credibility and authenticity, freedom of expression, and participation (Špiranec and Banek Zorica, 2010).

In today's post-digital context, where humans and digital technologies are inextricably intertwined, proposals emerge, drawing upon the above "practice turn", to conceptualize literacy as a sociomaterial practice enacted by humans and technology together (see, e.g. Mård and Hallin, 2023).

In a recent IL definition, and as a response to "fake news" as a phenomenon in the contemporary digital information and social environment, CILIP, the UK library and information association, considers IL as empowering citizens for full participation in society and defines it as the "ability to think critically and make balanced judgements about any information we find and use" (2018, p. 1).

Empowerment and critical thinking are the basis of a transformative (critical) perspective of IL and the tenets of critical IL, a focus of this paper. As noted in Šobota (2023, p. 141), a

"proto-definition" of CIL, although he did not explicitly use the term, was offered by Hamelink (1976) in his call for a "new" IL which highlighted the significance of the "situational context" and awareness that the context and conditions can be changed, considering IL necessary for "liberation from oppressive effects of the institutionalized public media" (1976, p. 120).

CIL deplores the utilitarian-economistic focus on (decontextualized) skills and the dominant technomanagerial pedagogical practices of the entrepreneurial university, as well as enclosed, ideologized, and commodified information and knowledge. Instead, informed by critical theory and pedagogy, CIL insists on the imperative of openness.

As a "theoretical stronghold for the denunciation of social reality and a practical instrument of empowerment for social justice" (Šobota, 2023, p. 139), CIL shifts the emphasis on power relationships and the analysis of information in relation to the sociopolitical context, relating knowledge to empowerment and the emancipation of individuals, the democratization of society, and the achievement of social justice (Cope, 2010). CIL asks students to analyze "the social and political ideologies embedded within the economies of ideas and information" (Kapitzke, 2003, p. 49); and to problematize and engage with "[t]he power structures underpinning information's production and dissemination" (Tewell, 2015, p. 24). Information is considered a social construct produced with a specific purpose (Swanson, 2004), inseparable from the context in which it was produced, which is why it is critical to understand the context and the content and how information "works" (Pawley, 2003, p. 448). CIL is, therefore, focused on raising people's critical consciousness to empower them to take part in the decisions and events that affect them and to take control of their lives and learning (Elmborg, 2006; Whitworth, 2009). Thus, CIL represents "a state of eternal alertness" and a "political stance" (Brisola and Doyle, 2019, p. 283), whose purpose is to give voice to the silenced (Doherty, 2007); therefore, not only to describe and analyze but to bring about social justice and equ(al)ity through social activism (Šobota, 2023).

Open access (OA)
While the OA idea has been present ever since the appearance of the first scholarly journals, and inherits the long tradition and readiness of scientists to make their scholarly work publicly and freely available, OA as defined and understood today is a relatively new concept, almost thirty years younger than IL. Although the context and circumstances in which the two concepts emerged are seemingly substantially different, OA – just like IL – is a result of and a response to similar paradigmatic changes in the information and socioeconomic environment. The above-mentioned ICT advances, the exponential growth of information, and the demands and paradigms of information society and the (neoliberal) knowledge economy that gave rise to IL have also led to a sudden growth of science. In the new paradigm, knowledge has been transformed into a commodity and a driver of (economic) growth; such ideology spilled over into science and scholarly publication which focused on increasing productivity (and the number of scholarly journals and scientists in general) and instrumentalizing (i.e. monetizing) knowledge; as a consequence, the costs of subscription to scholarly journals increased (Willinsky, 2006).

This increase in cost, however, was not accompanied by an increase in library budgets which led to a serials crisis (Suber, 2012; Willinsky, 2006); that is, a crisis in the availability of scientific information. This culminated in the late 1980s and early 1990s, when high prices forced libraries to start canceling subscriptions; the model became unsustainable for the scientific community, especially in less developed and scientifically peripheral countries (Hebrang Grgić, 2011). Thus, paradoxically, economic progress led to a crisis of knowledge and of the principle of access to research of fundamental importance for science and scientific production (Willinsky, 2006). OA emerged as a possible solution – a *deus ex machina* (Guédon, 2006; Hebrang Grgić, 2016; Mirowski, 2018) and an alternative to the existing model, as well as an attempt to give control over scientific production back to scientists.

As noted, the OA idea goes much further back in history than the recent information and communication explosion, but it was new technology that made it really possible. This relates in particular to the Internet, the open source software movement, and digital publishing, which enabled greater access to and the availability of all information, including scholarly, as well as to Web 2.0 which led to the fundamental turn in scholarly communication, changed perceptions on the nature of information and enabled new types of information interaction and dissemination (Špiranec, 2015).

These synergistic effects of the old tradition and new technology in the creation of OA were highlighted in the Budapest Open Access Initiative declaration (BOAI, 2002) which introduced the "open access" term and defined it as the free and unfettered online availability of scientific journal literature. The declaration recommended two complementary strategies to achieve OA: self-archiving in an OA repository and publishing in an OA journal. Harnad et al. (2004) referred to the former strategy as the "green route" (authors publish in a subscription-based journal with no fee paid to the publisher and with delays in the public release of works due to publisher embargoes; therefore, they self-archive in a repository); and the latter the "gold route" (authors are often required to pay an article processing charge (APC) to have their articles freely and immediately available online in an OA journal).

There are other routes and shades of OA classification, including the "diamond" (also known as the "sponsored" or "platinum") route (articles are made freely available without barrier or cost to authors and readers) and the "bronze" route (articles are made freely available on a journal's website; however, free access might be removed at any moment and there is no indication of options to reuse articles). Harnad et al. (2004) considered the gold route the ideal version of OA, but commercial publishers have adapted to the regime of openness and continue to make huge profits, while the green route has become the preferred strategy of the proponents of OA.

Although contentious, OA has been widely accepted and has entered the mainstream of scholarly communication (Pinfield, 2015). Numerous research provides evidence in support of the advantages of OA, in terms of, for instance, ensuring greater visibility and scientific impact (Bernius, 2010; Brody and Harnad, 2004; Evans and Reimer, 2009; Harnad, 2003; Shin, 2003) and citation advantage (for reviews/bibliographies see Hitchcock, 2013; Piwowar et al., 2018; Swan, 2010). Research has also confirmed the economic benefits of OA, not only within the realm of science (Harnad, 2010; Houghton, 2009a, b, 2011; Houghton and Swan, 2013; Swan and Houghton, 2012).

Furthermore, OA has been discussed in the context of its benefits for citizens and society (e.g. Zuccala, 2010), through ensuring fair dissemination and access to knowledge, in order to prevent social inequalities and the concentration of political and economic power in the hands of the few (Kelly and Autry, 2013). Along those lines, OA proponents also emphasize its democratic and social effect in terms of opening science up to voices beyond the privileged scientific community to the marginalized who have neither power nor money (Perry, 2020; Willinsky, 2006). Research has highlighted its positive effects for equal conditions in scientific research and education (Guédon, 2006), by enabling access to all those who want and who would benefit from it, and by ceasing to treat knowledge as a commodity (Suber, 2012). Knowledge as a commons and the aspiration to make information and knowledge a public good (Benkler, 2007; Courant, 2006; Hess and Ostrom, 2007) are the values promoted by the OA movement, together with the ethics of sharing, participation, and cooperation (Peters and Roberts, 2012; Torres, 2012). It is argued that these features and values enable the active participation of a larger number of individuals in knowledge society, the greater use of information resources, and the achievement of a truly collaborative community (Torres, 2012). In general, OA is considered a way to achieve the fundamental human right to information and education (Peters and Roberts, 2012; Willinsky, 2006), which could improve

scientific innovation in increasing knowledge and solving problems as well as potentially transforming human lives (SPARC, 2019).

Intersections of information literacy (IL) and open access (OA)

Scholarly work, information and communication (therefore also OA), and IL are closely intertwined. Both IL and OA focus on access to information; indeed, IL is instrumental to *enabling* the right to access to information (Britz and Lor, 2010). Also, since science is a result of a cumulative discourse which attaches to and depends upon that which preceded it (Norris and Phillips, 2003), both IL and OA – that is, access to past and future scientific production, its understanding and critical re-examination – are crucial for scholarly work, for preserving and transferring knowledge, and for the development of science. In fact, IL is considered an integral part of the research and scientific process (Eisenberg and Berkowitz, 1990; Klucevsek, 2017; Kuhlthau, 2004) and vital for scholarly communication (Hebrang Grgić, 2016) while OA is regarded as a means to the equity, quality, usability, and sustainability of research (BOAI 20, 2022).

Yet, although both domains have been the subject of great scholarly as well as political interest for a number of years, the discourse on their intersections and synergies has started to develop only recently, and mostly within the confines of the academic library community (Gelfand and Palmer, 2013; Hall, 2015; Špiranec, 2015; Warren and Duckett, 2010). The Association of College and Research Libraries (ACRL) has been a forerunner of attempts to relate OA to IL via two documents it published in 2013, which give an overview of their intersections and discuss the ways in which they could and should be intertwined and integrated in IL instruction.

Intersections of Scholarly Communication and Information Literacy: Creating Strategic Collaborations for a Changing Academic Environment (ACRL, 2013) emphasizes that fragmentation and the changing scholarly communication environment brought about by digital technologies require new IL foci and approaches directed at understanding this new environment. In that regard, *Intersections* makes the case for the stronger integration of scholarly communication and IL, and the need to change current education practices towards experiential and active learning methods, including strengthening the education role of academic libraries. It identifies and analyzes three major intersections of scholarly communication and IL: the economics of the distribution of scholarship; digital literacies; and the changing roles of libraries.

The economics of the distribution of scholarship requires the education of students to be knowledgeable consumers and content creators, able to understand, for instance, who owns and controls information, who can access it, and how the new information ecosystem (and the economic system that governs it) enables/disables access to and the dissemination of information. These questions in essence pertain to questions of power relationships, authority, and economies of information and knowledge, which belong to the central foci of CIL.

Digital literacies places emphasis in critical IL/education on new technologies and issues related to work with various types of media, as well as the emergence of multiple types of non-textual content and understanding of the impact of external factors and power, including the questions of who should have access, how this should be enabled, and how the availability of data collections should be ensured over time.

Lastly, the third intersection relates to the new roles for librarians emerging from current organizational models, implying the imperative to build new infrastructures for scholarly communication and adaptation to the new educational paradigm.

Intersections lists a number of recommendations for librarians, faculties, and other organizations, which range from "information fluency", a concept that encompasses

scholarly communication and IL skills and relates to the integration of pedagogy and scholarly communication in the training of librarians, to the development of a new IL model that would include issues such as authorship, ownership and use of content, and new organizational approaches.

Common Ground at the Nexus of Information Literacy and Scholarly Communication (Davis-Kahl and Hensley, 2013) is a companion of sorts to *Intersections* and contains more specific recommendations for the stronger integration of OA and IL. In one of the papers in this collection, Ogburn (2013) emphasizes the importance of critical thinking; that is, of IL in the context of scholarly communication and of academic libraries both educating scientists in making decisions on where to publish their works and advising library users on the use of new publishing models, due to the contradictions and complexities of the contemporary information environment, the abundance of information, and increasing ethical dilemmas and legal uncertainties.

Gelfand and Palmer (2013) note that scholarly communication and IL emerged as an attempt by academic libraries to establish legitimacy and provide a response to the transformations, trends and challenges of higher education and the production of information and publishing, and that these offer a conceptual and theoretical framework which can assist libraries in planning IL instruction and the creation of knowledge. They define an information literate individual as "one who understands both the issues *and* processes of scholarly communication"; that is, the ways in which subject knowledge is created, evaluated, shared, and preserved (Gelfand and Palmer, 2013, p. 10). By using the term "individual" rather than "student", the authors emphasize the importance of scholarly communication and IL for *all* members of society and suggest extending the focus beyond the economic to societal and cultural issues in the context of scholarship and academic publishing.

Drawing on CIL, Duckett and Warren (2013) point to the transformative role of IL and OA, and to the need for advocacy and a non-neutral position which does not hesitate to criticize market-oriented approaches to the dissemination of scholarly information. The authors build on Elmborg's definition of academic IL (2006, p. 196) as the "ability to read, interpret, and produce information valued in academia". Moreover, they point to the crucial role of librarians in merging IL and scholarly information through the dichotomy of the *sociocultural* perspective, focusing on power dynamics in the creation of scholarship, and the *economic* perspective, emphasizing the economic aspect of scholarly information. In their view, the merging of the two concepts is justified by the need to understand the "social world of academic communication, discourse, and publication practices [that] go hand-in-hand with students developing the skills to discover, evaluate, and use scholarly information in their academic research projects" (Duckett and Warren, 2013, p. 31). Exposing the economic dimension of scholarly communication and interrelationship with the role of libraries, and the distinction between the *discovery* of and *access* to information, justifies the incorporation of scholarly communication issues into IL programs.

Apart from ACRL, a few other theoretical deliberations and empirical studies have begun to articulate the relationship between IL and scholarly communication. Špiranec (2015) interrogated the interconnectedness of the two concepts and phenomena from the perspective of information processes and the interactions of scholars, explaining their conceptual relationship with information as "a basic instrument of research processes, a fundamental building block of scholarly production" and positing that IL was both a precondition for and a factor in the efficiency of scholarly communication (Špiranec, 2015, p. 148). With regard to the transformations in information environments and the scholarly communication system, including the transformation in the authority model and the problematic establishing of credibility and authorship, Špiranec identified new content foci of IL, among which is OA. Moreover, Špiranec (2015) argued that OA is the "original principle of information literacy" since both concepts share the same ethical dimensions and value principles – social

awareness, responsibility, justice, equality, and democratization – which is why it is possible to speak of the interconnectedness of IL and OA. To make those original principles reality, and to enable scientists critically to understand the contemporary information environment in which they work, it is necessary to integrate the societal component among the new program foci of IL (Špiranec, 2015).

The first empirical study overtly to explore the intersection of IL and OA was undertaken by Hebrang Grgić (2016) in the context of Croatian academic libraries. Seeking to understand if and how librarians consider OA as an aspect of IL and their role in OA instruction, Hebrang Grgić analyzed changes in the scholarly communication paradigm and the problems that arise from OA, such as predatory journals, threats to quality, and dilemmas with regard to authorship and copyright, in the context of the self-archiving of works in repositories. Based on research findings which revealed the importance of IL and its correlation with OA, and as a response to continuous changes in the OA model, Hebrang Grgić introduced a new subtype of IL: OA literacy. In line with the functional/behavioral approach to IL adopted in the study, OA literacy is conceived as a suite of the following skills: finding and evaluating OA information; understanding ways of achieving OA; proper self-archiving; understanding persistent digital identifiers; identifying different versions of OA papers; detecting and avoiding questionable journals and publishers; and understanding alternative metrics (Hebrang Grgić, 2016, p. 263).

While acknowledging the importance of this first exploration of the intersections of IL and OA and the articulation of OA literacy, this paper argues the need to go beyond its functional/ behavioral approach while advocating a more holistic and critical approach.

Before delving deeper into the arguments for such an approach and for the introduction of the critical OA literacy construct, a brief overview of the challenges and criticisms of OA is warranted.

The challenges and criticisms of open access

Despite the many benefits and advantages, there are also a number of concerns, challenges, and threats associated with OA. These include issues related to quality and the reliability of scholarly information and of peer review (in connection with the APC model and the publish-or-perish culture), especially predatory publishing (affecting in particular early career and developing-world researchers); copyright issues and concerns of ethics and the efficiency of paywall publishing (particularly with regard to websites offering pirate access, such as Sci-Hub); author self-archiving on academic social networks; inequalities in terms of OA adoption; over-representation of dominant authors/knowledge; new risks of bias; and exclusion in the means of transparent evaluation and of societal voices (Beall, 2012; Björk, 2016; Chang, 2017; Frederick, 2020; Greshake, 2017; Hebrang Grgić, 2016; Osborne, 2015; Ross-Hellauer *et al.*, 2022).

Most recently, AI-driven disruptive technologies such as ChatGPT, a natural language processing tool, pose new threats in terms of ethical issues (e.g. copyright, citation practices, ownership of the generated content); bias; the reproducibility and transparency of research; and threats to public trust in science (Lund *et al.*, 2023).

OA has been controversial from the outset; nevertheless, critical discourse has started to be developed only recently, when skepticism and disinterest in OA became noticeable (Pinfield, 2015; Poynder, 2020). Criticisms range from rejecting the idea for its idealistic and unrealistic nature and damaging consequences in terms of fostering research misconduct, corruption and pseudo-science (Beall, 2013) to questioning whether its original goals have been achieved, such as cheaper publishing on the Internet and solving the problems of affordability, availability, and equity, and its long-term sustainability (Chan, n.d.; Poynder, 2020; Rizor and Holley, 2014). Indeed, although the uptake of OA is increasing, the objective of making it the default dissemination method in every area and country by 2022 (BOAI 10,

2012) was not achieved while the impact of Plan S [2] – requiring public-funded research to be published in OA repositories or journals – remains to be seen.

Criticisms are evident also at the level of terminology: the "openness" attribute has been criticized as trivial since openness is a feature that is immanent and implicit to science (Watson, 2015). Furthermore, the term "open access" has been considered a misnomer since it does not encompass the essence of the concept which, at its core, pertains to improving the *dissemination* of scholarly information and not primarily *access* to it (Swan, 2006, p. 67). These criticisms are not trivial exercises in semantics; they reflect the substantive (ideological) controversies around OA.

The issue of access, or more precisely, too great an emphasis on access to information, is one of the key criticisms of the "conservative" version of OA: access *is* necessary but it is insufficient to navigate the information environment efficiently if it is not accompanied and supported by the development of critical capabilities. These concern education and literacy instruction, geared at delivering acute awareness of power structures and dynamics, the control of quality and credibility, and a questioning of the whole research process, not just one dimension of it (Britz *et al.*, 2013; Chan, n.d.; Perry, 2020; Saunders, 2013). A conviction that access to scholarly information alone is sufficient to empower scholars and reach the potential of OA is naïve; insisting on it, as well as on mandatory OA, has enabled publishers (and rich donors and multilateral agencies), who already have a monopoly over scholarly information, to co-opt the movement and further strengthen their power and control over scientific production (Chan, n.d.). Put differently, it has paved the way for the neoliberal takeover of the idea (Poynder, 2020), turning science into a commercial endeavor, subjugating it to the neoliberal agenda and platform capitalism, under the guise of opening science to the masses (Mirowski, 2018). According to Poynder (2020), unjustified emphasis on the problem of commercial exploitation as an excuse for introducing OA has undermined the aspirations of the idea; such a narrow focus cannot solve the equity problem since the crux of the problem is not in the scholarly publication system *per se*; the problem is of a structural nature and it is an economic and political one.

In a similar vein, OA has been criticized for being "aristocratic" (Lana, 2019); that is, for its exclusiveness and focus only on academics, not just in terms of ensuring *access* to scholarly information and the use of existing knowledge but also in terms of the *production* of knowledge, which was reserved to scientists and which did not allow new voices, for instance those of students (Hicks, 2017; Lana, 2019; Zuccala, 2010). Miller (2013) therefore rightly warns that OA, by focusing only on making research accessible, instead of questioning what constitutes legitimate knowledge and who has a right to contribute, is no less harmful than the system it attempts to dismantle, thereby undermining the goals and promises of the OA idea.

Dissident voices are emerging that call for a "radical alternative" to the conservative versions of OA currently promoted by commercial publishers, funders, and decision-makers. The Radical Open Access collective, formed in 2015 to promote "a progressive vision for open publishing in the humanities and social sciences" [3], maintains that OA "has the potential to offer a radical challenge to free market capitalism and its forces of co-option" [4]. Therefore, the collective insists on the culture and ecosystem of publishing based on cooperation rather than competition. Members of the collective define OA flexibly, leaving room for different forms of openness that reflect heterogeneous political, ethical, and disciplinary values and for the voices of new and underrepresented publics, outside academia and in developed countries.

Similarly, a collective of intersectional feminist and social justice journal editors published After Open Access [5], a statement advocating "a just alternative to the existing exploitative and predatory model". They reject the dominant commercial "narrow values" of efficiency, transparency, and compliance, and align with the values of equality, diversity, solidarity,

care, and inclusion. They are committed to knowledge as a commons and to a sustainable and just economy of scholarly publishing in keeping with social and environmental justice, acknowledging that the choice is not between open and closed access but between practices that either promote or threaten justice.

In what follows, the author argues that IL, in particular CIL, could help respond both to these challenges and to related ones.

Making the case for critical open access literacy

These challenges and the new scholarly information environment require a new approach to OA, a more holistic, critical, and transformative one, helping to reinvent it and assist it make more substantial progress in uptake and the implementation of its original goals and values. Moreover, they point to new problematic and content foci in scholarly communication and IL instruction, and, therefore also, to a requisite re-conceptualization of IL.

Scholars, both early career and established ones, regardless of discipline, and others who participate in research (e.g. students and librarians) require a suite of skills and competences to help them navigate the complex environment and practice of publishing, find the necessary information, evaluate and understand it, and use it ethically and effectively for their academic needs.

However, these basic skills and competences that constitute the IL core are not sufficient. Specific skills and knowledge in relation to scholarship, scholarly communication, and OA itself are also needed. These include managing scientific data and publishing in OA sources; for instance, knowing which OA model to select, *where* and *what* to publish, and understanding that these are political issues and choices. Researchers also need to know how to make their research more accessible and visible, properly published and used, and of better quality and with higher impact. Indeed, they need to understand research impact and metrics policy in general, especially as utilized in research and information commodification, and how it gives rise to research misconduct, malpractice, and scholarly eco-chambers (Ma, 2024; Mirowski, 2012). Here, OA literacy (Hebrang Grgić, 2016) is helpful.

However, to transform OA to help address the challenges of the scholarly communication system and their structural – economic and social – causes, an approach that goes beyond the perimeters of individual research(er) and research process alone (thus, beyond OA literacy) is needed. While it is important that researchers understand all the phases and aspects of the research process, it is above all essential that they develop critical consciousness, higher-order skills, and understanding of issues such as context, power relationships, and dynamics; privileged positions in knowledge production, publishing, and dissemination; and the existence of the competing as well as vested interests of stakeholders opposing OA or wishing to maintain the status quo. This includes also an ability critically to evaluate the quality and reliability of information, including of peer review – in particular the growing problems of privatization/commercialization and the circumvention of peer review gatekeeping as well as the unrecognized/unpaid labor of reviewers. It is at this point that OA (literacy) meets critical IL.

This author is proposing critical OA literacy as a holistic strategy to confront the challenges and facilitate a critical understanding of the scholarly information environment. In keeping with CIL, and agreeing with Duckett and Warren's (2013) discussion on the sociocultural/economic perspectives dichotomy, critical OA literacy is directed at empowering and encouraging scholars to engage in problem-posing about OA to understand what OA is, who benefits from it, the nature of OA work and its content, methodological, epistemological, and conceptual features and specificities, as well as the academic conventions and "workings" of academe in general. Perhaps more importantly, aiming at broadening the focus from (achieving) OA *per se* to ensuring full participation in

knowledge creation and in scholarly communication (Czerniewicz, 2015), critical OA literacy should empower scholars to understand, analyze, critique, and challenge the economic, social, political, legal, and technological conditions, aspects, and implications of OA and its underlying ideologies and narratives, the economic models that drive it, and its financial publishing models – the scholarly communication system overall, as well as its power dynamics, tensions, and flaws.

In the context of (digital) humanities, for instance, where the uptake of OA has been particularly slow, aspects and problems that could usefully be brought into the discussion (and instruction) are the business models for research monographs, the disproportionate funding research allocations between disciplines, or the analysis of the role of digital and social media technologies in opening access to information, including the interconnected issue of their neutrality and transparency (or lack thereof). Similar questions are posed by Baer (2013) and are worth quoting at length:

> What within the digital environment counts as scholarly activity? Should peer review be an open process to which anyone can contribute or does such openness compromise the authority of academic writing? Should venues like Wikipedia and Twitter have a part in academic discussions or do such tools trivialize or "dumb down" scholarly discourse? In what ways might digital technologies serve as openings and/or barriers to democratic systems that support open information and free expression? Are there dangers in viewing technology and digital tools as neutral, and if so, how can we make more transparent the ways that digital tools and structures are shaped by cultural bias or philosophical perspective? (p. 105).

The role of technology in shaping OA/producing knowledge, the digital versus human dichotomy, and sociomaterial configurations should be addressed as highly relevant questions for OA development, especially in a post-digital era.

Within the context of today's neoliberal academe, CIL "offers a proactive, reflexive, and hopeful strategy to challenge hegemonic assumptions about information-as-commodity, its associated efficacy, and the behavior of information users as opposed to 'information consumers'" (Lawson *et al.*, 2015, p. 20). In that regard, some of the issues on information and scholarship that warrant discussion, as posed by Simmons (2005, p. 300), are "Who owns and sells knowledge?"; "Who has access to information?"; "What counts as information (or knowledge)?"; and "Whose voices get published?" and "Whose voices do not get published?".

Understanding these issues leads to understanding "scholarly communication as a dialogic, political, and contested process" and that "information is not neutral but that it reflects social, political, and economic ideologies that are situated within an historical context" (Simmons, 2005, p. 300). Moreover, understanding them in power-strategic, and not purely ethical, terms is of key systemic importance as this has the potential to empower students and researchers to – in Freirean terms – "read the world" of OA and the scholarly information environment overall. It can also potentially empower them to reflect critically on their own behavior around information and knowledge production and sharing to reclaim (their own) scholarship (Fister, 2010) and become champions of the OA transformation, making it more meaningful, reliable, equitable, and democratic.

Constant changes in the scholarly information environment require equally constant vigilance on the part of scholars and the continuous upgrading of their understanding of scholarly communication and information, its production and dissemination; that is, the continuous development of their literacy. Library and information science (LIS) education and (C)IL programs too need to be upgraded and updated, to integrate more strongly these issues as new foci, with teaching methods drawing on critical pedagogy which treats scholars-students as generative social subject creators through horizontal, democratic problem-posing and reflexive dialogic approaches, in a non-neutral, critical-transformative way, approaching OA/scholarly communication as a regime to be critiqued and challenged so as to transform/improve it.

For transformation to happen, critical-theoretical reflexivity needs to be converted into critical action – what critical theorists and pedagogues have captured in the concept of *praxis*. Critical action is especially called for in the context of the radical transformations in the scholarly information environment, of political and social struggles and in a university context grappling with "social division, multiple discourse and an impaired democracy" (Barnett, 2019). Scholars-authors, with their decisions whether to publish/deposit in an OA journal/repository and whether to transfer copyright, are the ones who can ultimately deliver OA (Suber, 2007). CIL charges them with a mission not to remain passive/complicit with the current order but to become scholar-activists and take critical action. The "trialectic of postdigital collective intelligence" between "we-think", "we-learn" and "we-act" is needed in their scholarly endeavors (Jandrić, 2019).

Academic librarians, whose work sits at the intersection of IL and scholarly communication, especially those practicing critical librarianship, are well placed to take the proactive role in this process. The changing environment requires that librarians are not "only" stewards of information goods and content but also stewards and agents of advocating and implementing change, in collaboration with faculty. Thus, IL – re-conceptualized as critical OA literacy – could once again afford librarians an opportunity to reclaim their professional legitimacy and democratic mission and become transformative agents of the system which has disintermediated them, removed from them the realm of scholarly communication (Beall, 2013), and positioned them as powerless, deficient, and peripheral to knowledge production (Hicks and Lloyd, 2022). For that to happen, the real task for libraries today, maybe even more than in 2006 when Elmborg laid the groundwork for CIL and critical librarianship, lies in "developing a critical practice of librarianship – a theoretically informed praxis" and in "aligning the values of critical literacy with the day-to-day work of librarians" (Elmborg, 2006, p. 198). A critical practice of librarianship includes moving beyond professional navel gazing and reconceptualizing librarianship and librarians as agents who take on greater social responsibilities and engage in an exercise of an interventionist, transformative politics and practice.

However, a caveat is in order: while librarians certainly have a role to play, this is not to claim that this role and task is theirs only, and certainly not that they are *uniquely* placed to do so, i.e. that it is only librarians who are qualified to engage in and with the transformation of OA/scholarly communication (and of IL). For this transformation to happen, and for critical OA literacy to come to life to be able to help address multifaceted, structural problems in scholarly communication, a more ambitious, normative stance and agenda is needed, which calls for a cohesive cross-disciplinary/multi-institutional approach, i.e. alliances and collective efforts of educators, scientists and scholars in all disciplines, as well as of those outside academia, such as publishers, policy-makers, non-profit organizations and others.

In that regard, critical OA literacy as a new construct or a subset of CIL – while (its crux) may not be entirely new – constitutes a potentially important contribution and tool of achieving this transformation. This in particular pertains to the potential of critical OA literacy as a holistic construct to allow both tying CIL and OA more tightly and engaging more with not only epistemological issues of pedagogy, but also with ontological issues of scholarship and scholarly communication, drawing primarily from critical theory. Multidisciplinary approach and perspectives offered by critical theory as a form of scholar-activism enable a critical sociology of scholarship (see, e.g. Gamsby, 2023), and an interrogation and critique of structural, political dimensions of scholarly communication, for instance techno-capitalist expansion and commodification of information (Pyati, 2007) or coloniality of scholarly impact (Shahjahan and Wagner, 2019). Such approach is requisite for transformative effects in relation to scholarly communication system but also for how we understand and explain – thus also further theorize and transform – (C)IL itself.

Conclusion

Despite many benefits and a growth in uptake, OA is in a crisis of sorts, still far from achieving its goals and grappling with challenges. This paper argued positively for the role of critical IL in that regard and therefore proposed a re-conceptualization of IL alongside an integration of new foci in LIS and IL education. Its proposed critical OA literacy construct offers a holistic approach and strategy to confront the challenges and enable a nuanced and critical understanding of the reality of the scholarly information environment so as to empower those who navigate it for its transformation.

It was beyond the paper's aim and scope to provide a conclusive answer to the question of how critical OA literacy can address the challenges and thus help improve OA and scholarly communication. While theorizing points to a potentially positive role, clear empirical evidence is needed. Therefore, this question warrants further theoretical-conceptual and particularly empirical consideration through a broad multidisciplinary approach. It is hoped that the sketch of the construct and the theoretical deliberations in this paper will create the necessary new research avenues which go beyond treating OA and IL as separate endeavors and which fill the discursive/research gap on the role of CIL in scholarly communication, thus strengthening it as a theory and practice able to respond to real-world problems. It is also hoped that this will encourage the necessary practical considerations, including the development of models, of how to achieve a critical OA environment and make genuine progress in it. Here, to provide a solid grounding, a critical OA literacy pedagogical framework also needs to be developed and embedded in curricula. The issues raised in this paper and proposed for integration as new pedagogical foci (including a transformed role for libraries), together with future empirical research exploring, for instance, the current application of critical approaches to OA literacy instruction, might provide a useful initial contribution.

It is perfectly clear, however, that critical OA literacy is not a panacea for all the problems, especially given the competing and vested interests in preserving the status quo. What is also clear is that the problems cannot be resolved by one profession only. To solve what are in essence structural, political problems, systemic, political responses as well as powerful coalitions and collective action are needed. This implies that the construct needs to be set as a normative goal and an agenda also at political level. While setting this agenda may have already been done, implementing it is more difficult. Empowering people to understand critically the reality (of the scholarly information environment) brings us a step closer to meeting that goal.

Notes

1. https://open.coki.ac/open/

2. https://www.coalition-s.org/

3. https://radicaloa.disruptivemedia.org.uk/about/

4. https://radicaloa.disruptivemedia.org.uk/philosophy/

5. https://thesociologicalreview.org/the-sociological-review/the-journal/after-open-access/

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Corresponding author

Dijana Sobota can be contacted at: dijanasobota@gmail.com