The open turn:

Rethinking applied linguistics research through open scholarship[1]

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1 Introduction

Recent years have marked an *open turn* in the field of applied linguistics. While the earliest large-scale engagement with open scholarship across the field can be dated to the establishment of IRIS in 2011 (Instruments and Data for Research in Language Studies; Marsden et al., 2016), in the past few years there has been an explosion of interest in open scholarship. For instance, *Language Learning* recently published two sets of articles: one, a conceptual review of open research in the field (Marsden & Morgan-Short, 2023), accompanied by a series of peer commentaries and response; and the other, a special issue of registered reports of replications (Godfroid & Andringa, 2023). In addition to the forthcoming edited volume *Open Science in Applied Linguistics* (Plonsky, in press) by the newly established diamond open access Applied Linguistics Press, there are also special issues in the pipeline: one on replication by *Studies in Second Language Acquisition*, one on open science by *Language Testing*, one on questionable research practices by *Journal of Second Language Studies*. The increasing momentum is also evident in the organization of "open-themed" conferences, such as the two-day symposium by Open Applied Linguistics (Liu et al., 2023), a research network affiliated with the International Association of Applied Linguistics (AILA), and the 2023 annual conference of British Association for Applied Linguistics (BAAL). Awards and prizes also reflect the open turn, with the IRIS Replication Award, *Language Learning's* early career award for Registered Reports, and the latest winning entry to the Christopher Brumfit essay prize by *Language Teaching* (Liu, 2023). Journals are adopting submission guidelines that encourage or require OS practices (e.g.,

[1] Note that this is the draft for a book chapter in an upcoming edited volume on linguistics and open science. More details to be updated when available. Please contact Meng Liu mengliu@bfsu.edu.cn for any questions regarding this preprint.

Marsden et al., 2019; see also Applied Psycholinguistics and the Journal of Memory and Language for even stronger policies requiring all data and materials to be submitted and made openly available). These developments collectively signal a growing recognition of and commitment to open scholarship within the field.

But what does open scholarship really mean? Readers may have noticed that terms such as open science, open research, and open scholarship have been used by different researchers on various occasions. While there are nuanced differences in the connotation of these terms, often they are used interchangeably and, in this chapter, we adopt open scholarship for its inclusive scope: open scholarship (henceforth OS) encompasses various efforts and initiatives to enhance openness, inclusivity, and transparency in research and academic activities such as collaboration and education, for the benefit of academia and society at large (e.g., UNESCO, 2021).

Against the backdrop of the open turn, we argue that OS fundamentally serves as an opportunity for re-examining and questioning established norms and prevailing practices in the field. It prompts us to critically reconsider not just how we produce and disseminate knowledge from applied linguistics research, but also how we can sustain its growth and relevance over time. In the following sections, we raise 10 questions in relation to these topics, with the ultimate aim to open a dialogue about how the principles of OS can inspire a re-evaluation and reimagination of the methodologies, working practices, and ethos underpinning the field. Admittedly, each of the topics warrants an in-depth exploration on their own and therefore our chapter is not intended as a comprehensive treatment of these topics but rather points to lines of rethinking that we believe hold significance for the field's open future.

2 Rethinking knowledge dissemination: Democratizing knowledge access

2.1 Q1: Is open access really open? The many faces of open access

For many, the first concept that springs to mind when it comes to OS is open access (OA). Indeed, OS has been (mis-)considered as a synonym or equivalent of OA – a common myth regarding OS (Liu, 2023). But OS is much more than just OA. However, our aim is not to dwell on this common misconception. Instead, we invite readers to reconsider – is OA really open? This may seem counterintuitive, considering the word "open" is included in the term itself but this is precisely why we believe a rethinking is warranted.

At the genesis of the OA movement, the aim was to break the publisher paywalls that limit access to only subscribers who could afford the steep subscription fees (Suber, 2012). Over two decades after the Budapest Open Access Initiative (2002), which arguably marked the start of this movement, there are significantly more publications being openly accessible and more journals flipping to OA models (Rizor & Holley, 2014).

Nonetheless, not all OA publishing operates under the same model, ranging from the for-profit gold and hybrid OA to the non-profit green and diamond OA. Gold OA involves authors paying article processing charges (APCs) to make articles openly available. A related model is the hybrid OA model, with a mixture of both subscription-based publishing and gold OA publishing; Green OA relies on authors to archive a version of their article, be it accepted manuscript (postprint) or earlier versions (preprint) in an institutional or open repository (e.g., IRIS); Diamond (or platinum) OA operates without charging authors or readers, relying instead on institutional funding or scholarly communities to cover publishing costs.

Without doubt, the gold and hybrid OA models are highly successful from a business perspective, with APCs being increasingly inflated (Ellers et al., 2017; Khoo, 2019). Well-intended policies pushing for OA publishing, such as the mandates by National Institutes of Health in the US and the Horizon 2020 programme in Europe (European Commission, 2013), have certainly contributed to such growth.

While the push towards OA from funders to publishers mitigates issues of accessibility in the consumption of knowledge, it comes with inherent pitfalls that perpetuate or exacerbate the disparities between not only the Global North and the Global South (Demeter & Istratii, 2020) but also any researchers not in a jurisdictions or institutions that have negotiated expensive deals with publishers. These researchers face significant barriers to publishing in these journals due to high APCs. Additionally, high-impact journals, which are often deemed critical for career progression and so self-perpetuate their hegemony over the publishing landscape, are often dominated by the Northern publishers who often adopt these publishing models, leading to an underrepresentation of research from less wealthy regions (Ellers et al., 2017). This imbalance exacerbates challenges for researchers from zones that already struggle to participate fully in the knowledge economy, rendering it more difficult to publish as prolifically as their more privileged counterparts, further widening the gap in academic discourse. In other words, while for-profit OA models ostensibly contribute to greater equity

in knowledge consumption, in reality they lead to greater inequity in knowledge dissemination.

Given the above pitfalls, it is clear that both researchers and journals need to think about switching to more equitable OA models. A few routes are available to us, though none are straightforward. While researchers in precarious job positions may not be able to afford the luxury of publishing (only) in diamond OA journals, senior/tenured researchers can make a difference by submitting to diamond OA journals, thus potentially improving the impact of those journals. However, this in itself is far from simple, as senior researchers very often co-author with junior authors and/or mentor them, and encouraging them to publish in diamond OA journals (which often are not able to deliver the impact-related quality indicators that they need for their careers), is not straightforward, generating ethical and moral dilemmas. Joining initiatives such as the PostPrint Pledge (Al-Hoorie & Hiver, 2023) to make one's accepted manuscripts open may also help mitigate accessibility issues. However, again, this is not straightforward. First, some journals embargo the sharing of the accepted version, allowing only the preprint to be shared (though this can be circumnavigated by sharing the preprint that existed just prior to final acceptance). Second, and more importantly, this grassroots action lives in parallel with the existing lucrative models, and arguably it actually serves to strengthen and perpetuate them by further increasing citations of the publishers' version resulting from disseminating the postprint via researcher networks. Nevertheless, used consistently and comprehensively across the field, it may help, over a long period of time, to undermine the status quo, as distribution networks, such as libraries and archiving services, facilitate findability. As more articles become discoverable via the postprint route, libraries are actively seeking to abandon their subscriptions. Note, though, that for this to take hold in any sustained way, the community must tolerate the rawer format of postprints. And, more problematically, it seems unlikely that this action can counter the effect of the big deals publishers are striking with governments and large institutions (usually in Western countries); when content is made open via these deals, it reduces the impetus to share postprints, thus reinforcing the system of APCs that are prohibitive to many researchers, as discussed above.

To counter these challenges, established journals together with professional societies to support their financing, can consider switching to diamond OA. Despite common misconceptions of OA journals being low quality, journals such as *Language Learning and Technology* and *Studies in Second Language Learning and Teaching* are prime examples of

how such model can produce high-calibre journals. However, it is critical that they are properly and sustainably financed, to cover editorial and type-setting costs.

2.2 Q2: Is OA enough? Conceptual accessibility and linguistic inclusivity

The OA movement is primarily focused on opening up the *physical* accessibility of research but is making research physically accessible sufficient?

Language researchers (including sociolinguists, psycholinguists etc) often work on questions that are of interest and significance to those beyond academia, such as policy-makers, assessment developers, speech therapists, communication experts. For example, many applied linguists research language teaching, sharing some of the goals of teachers of improving and informing education. Despite these shared goals, gaps exist between research/researchers and practice/practitioners (Sato & Loewen, 2022). Language teachers report limited engagement with research findings, even though they tend to view research favourably (Marsden & Kasprowicz, 2017; Nassaji, 2012). The *conceptual* accessibility of research, in addition to the lack of time and physical access to research papers, is a main reason for practitioners' low engagement with research (Alferink & Marsden, 2023). Put simply, the value of language researchers work—across all domains of linguistics and sister disciplines—is vastly reduced if it is too technical to be understood by those beyond academia.

The significance of translating research studies—including, critically, their methods and limitations—into accessible summaries has been recognized by the field, as evidenced by the initiative Open Accessible Summaries in Language Studies (OASIS; Marsden, Alferink, et al., 2018). OASIS draws on journals' workflows to sustainably compile and make freely available one-page, non-technical summaries of peer-reviewed and accepted individual studies (see Alferink & Marsden, 2023 for a recent introduction).

Another equally important though frequently overlooked dimension of accessibility is that of linguistic inclusivity, a topic taken up by chapters in this volume. English has long been the lingua franca of scholarly communication, with the vast majority of journals indexed in Scopus, for example, published in English (van Weijen, 2012). While the presence of a common language does offer practical benefits in transmitting knowledge across nations and cultures, English also functions as a gatekeeper to scientific discourse (Tardy, 2004). We

know how language is more than a mere conduit for communication but can reflect ways of seeing that are specific to the culture(s) it carries. In this sense, the dominance of English as *the* language of publication is a form of hegemony and colonization that threatens not only linguistic diversity but also knowledge diversity, marginalizing the cultures and perspectives of non-English speaking communities (Alves & Pozzebon, 2013; Canagarajah, 2002; Flores & Rosa, 2023; Marsden & Morgan-Short, 2023b).

Recognizing the critical role of linguistic inclusivity in open scholarship, the UNESCO recommendation on open science (2021) explicitly defines one of the main goals of open science as making "*multilingual* scientific knowledge openly available". This recognition set the scene for initiatives aimed at mitigating the monolingual bias in academia. For instance, the Helsinki Initiative on Multilingualism in Scholarly Communication (2019) advocates for the dissemination of research in multiple languages to ensure societal benefits, protect national publishing infrastructures, and encourage language diversity in research evaluation. In our own field, we also have emerging initiatives dedicated to this – Multilingual Repository in Applied Linguistics (MuRAL) is an open repository of multilingual translations of abstracts of peer-reviewed articles. OASIS hosts summaries written in any language, and now has summary templates in thirteen languages other than English.

2.3 Q3: Is it time to open up peer review? An open question

A key tenet of the OS movement is to open up the entire cycle of the research process, not just its outputs. Peer review, at the intersection of research production and dissemination, is certainly a crucial component in this cycle.

The default peer review model in the field is the double-blind peer review system, where identities of both the author and the reviewer are kept confidential from each other, and the reviewers, known only to the editors, are kept confidential from the readership. This model aims to minimize the potential for nepotism and facilitate an objective assessment of a given research paper. While the theoretical argument for this model is compelling, the practical implementation has encountered increasing criticisms. To quote Richard Smith (2006), former editor of the British Medical Journal, peer review is "slow, expensive, profligate of academic time, highly subjective, something of a lottery, prone to bias, and easily abused" (p. 179). Indeed, one reason why the Registered Report publication route was established was to reduce biases that can occur during peer review.

Over the years, many approaches have been proposed to improve the peer review system, which have been broadly categorized by Waltman et al. (2023) as four distinct schools of thought. The "quality & reproducibility" school advocates for enhanced research integrity and rigour in the process through initiatives such as reviewer training and specialized statistical reviewers. The "democracy & transparency" school promotes open and community review, exemplified by PLOS ONE's soundness-only review (i.e., only considering the soundness or rigour of a manuscript, as opposed to novelty or significance, in the decision for publication; see Waltman et al. 2023 p. 337). The "equity & inclusion" school focuses on addressing biases in gender, geography, race, and ethnicity. The "efficiency & incentives" school aims to streamline the review process and motivate reviewer participation through initiatives such as transferrable reviews, the "Peer Community In" (a non-profit organization of researchers offering peer review, https://peercommunityin.org/), and publicly crediting reviewer contribution. As rightly pointed out by Waltman et al. (2023), there are tensions between these schools, with certain practices endorsed by each school conflicting with each other, making it all the more challenging to reform peer review. However, before trying to fix something, it is important to check whether it is indeed broken. Applied linguistics first needs rigorous metascience on our peer review system. Depending on its findings, feasible and desirable paths could then be identified and evaluated. Chapter X's (this book) investigation on the genre of open peer review is an excellent example of such efforts and we hope more researchers join this conversation (see also discussion in Marsden & Morgan-Short, 2023b and its Appendix).

2.4 Q4: Is AI our enemy or ally? AI-assisted summarization and translation

As of 2023, we have seen how mainstream, easily accessible, generative AI can summarize or translate large volumes of information within seconds or generate images and audios from simple text prompts, all of which represent exciting opportunities for empowering researchers and revolutionizing how research is conducted and disseminated. AI could offer an efficient solution to the challenges of conceptual accessibility of our research findings and the English language-bias of our published literature as discussed in Section 2.2. Indeed, AI is being envisioned by some to take on more agentive roles across the research pipeline from synthesizing and evaluating research to generating and analysing data (Messeri & Crockett, 2024).

Despite AI's appealing promises, there are also potential pitfalls that deserve empirical evaluation. Researchers studying the risks AI poses to the research community and society have identified several ethical concerns (Alvarez et al., 2024). These include gender, race, and ability biases in algorithms (e.g., Broussard, 2023), lay persons' misconceptions about what AI can do (Johnson & Verdicchio, 2017), and the risk of AI-generated errors and "hallucinations" (e.g., Mitchell & Krakauer, 2023), as well AI's lack of interpretability (e.g., Birhane et al., 2023) and reproducibility (e.g., Kapoor & Narayanan, 2023).

Clearly, more empirical work is needed to navigate how AI can be harnessed responsibly and ethically before it can be formally integrated to facilitate a more openly accessible knowledge generation pipeline. In terms of democratizing research access, however, we do see the potential of AI as an ally. For-profit publishers have long held competitive edges due to their substantial manpower and financial resources, which are essential for many steps in the publishing pipeline (e.g., handling submissions, typesetting papers, disseminating to multiple networks). The requirement for dedicated human resource to manage publications has limited the ability of researchers to work on these tasks on a voluntary, non-profit basis. With the help of generative AI, our capacity to process and manage submissions could potentially be enhanced at a low cost, making it possible for researchers to reclaim the control over the publishing process. In addition, AI could be harnessed to support the dissemination of publications to established networks of university libraries and beyond, tapping into a powerful marketing database that publishers have had hegemony over to date.

In terms of conceptual and linguistic accessibility, we can also leverage the power of AI to speed up and scale up our efforts in summarizing, and translating our research, again breaking the constraints of the researchers' human resource. Indeed, OASIS is currently experimenting with AI-assisted summary writing, with a few summaries being written with AI assistance, reducing the average human-author time needed from about 4-5 hours to 1-2 hours. The intention is to share example ChatGPT instructions and guidance on the OASIS website in the coming months. Such experimentation underscores the potential for AI to transform the accessibility of research, making it possible to share knowledge more broadly and efficiently.

3 Rethinking knowledge production: Decentralizing applied linguistics research

3.1 Q5: How reliable are our research findings? A metascience perspective

For decades, research has operated under a "trust me" model (Nosek et al., 2012 p. 625) and been assumed to be self-correcting. Since discourse about a "reproducibility crisis" emerged in our neighbouring field of psychology, with scandals of fraud and widely reported failures of replication (Open Science Collaboration, 2015; Świątkowski & Dompnier, 2017), such assumptions have been shaken and psychologists have since embarked on a "credibility revolution" (Parsons et al., 2022) that led to many of the OS initiatives known to our field being implemented, including preregistration (Huensch, in press; Nosek et al., 2018) and registered reports (Chambers & Tzavella, 2022; Marsden, Morgan-Short, Trofimovich, et al., 2018). However, the basic concept behind registered reports can be traced back to Rosenthal's (1976) argument that *"*What we may need is a system for evaluating research based only on the procedures employed. If the procedures are judged appropriate, sensible, and sufficiently rigorous to permit conclusions from the results, the research cannot then be judged inconclusive on the basis of the results and rejected by the referees or editors." (p. 36). Evaluations of the credibility status of various research fields such as biology and medicine suggest the problems are not unique to psychology (Ioannidis, 2012). This begs the question for us in applied linguistics – how reliable are our research findings?

To answer this question, the quality of our research findings had, until the last decade or so, largely escaped systematic critical scrutiny, leading to a gap in knowledge about the robustness and reliability of our collective knowledge production (e.g., Al-Hoorie & Hiver, in press; Plonsky & Derrick, 2016). However, there is now a growing number of meta-research studies scrutinizing the quality and reliability of applied linguistics research (e.g., Plonsky, 2014; Plonsky & Gass, 2011). Replication research is one key way of scrutinizing the validity and reliability of findings, yet evidence suggests a very low rate of replication research in our field and a relatively poor quality of self-labelled replication research (Marsden, Morgan-Short, Thompson, et al., 2018). Similarly concerning insight into reproducibility in the field is that a recent special issue featuring six replications and registered replication reports (see Godfroid & Andringa, 2023 for an introduction), with different populations of learners, found that none of the outcomes from the original studies were reproduced and only two were partially supported (though 'non-reproducibility was not straightforward as designs and methods had to adapt to the new populations and the new methodological apparatus the field now possess since the initial studies were conducted). A recent meta-research on the computational reproducibility of articles published in the *Journal of Memory and Language* revealed a 34% to 56% rate of reproducibility depending on different criteria

(Laurinavichyute et al., 2022). These findings, again, point to the urgent need for more systematic replication and meta-research efforts.

To facilitate the examination of the robustness of our knowledge base, OS practices are critical, such as the sharing of research instruments, analysis scripts, and data (Marsden, Morgan-Short, Thompson, et al., 2018; Marsden & Mackey, 2014; Marsden & Morgan-Short, 2023; Masden & King, 2013). Not only can they facilitate the examination of existing literature's reproducibility (e.g., whether the analysis as reported in the published article can be reproduced by a third party) but also potentially enhances the extent of reproducibility itself. For instance, the meta-research on the *Journal of Memory and Language* found that the presence of analysis code increases the reproducibility rate by almost 40% (Laurinavichyute et al., 2022).

OS practices are necessary for replicators to access the original materials to conduct replication and develop a more nuanced understanding of the field's empirical foundation (Markee, 2017; Marsden & King, 2013; Marsden, Morgan-Short, Thompson, et al., 2018; McManus, in press; Porte, 2012). At the moment, there is a lack of independence in replication with author overlap as a potential factor determining the extent to which the initial findings were replicated (i.e., those who work with initial authors are more likely to report findings that replicate the earlier work; Marsden, Morgan-Short, Thompson, et al., 2018). This finding could suggest potential biases at one or more points in the research processes. For example, enhancing the accessibility of the research methods could certainly help ensure independence from any (unconscious or conscious) influence from the initial author(s), whilst also minimizing the researcher 'degrees of freedom' in conducting the replication itself. Additionally, data from the original studies could also enhance the statistical power of the replication research and enable various meaningful comparisons to develop a more nuanced understanding of the replication results (Marsden, Morgan-Short, Thompson, et al., 2018). Nevertheless, the rate of successful data requests from previous research seems discouragingly low: 14% in Plonsky, Egbert & LaFlair (2015), 22% to Avery & Marsden (2019), and 29% to Nicklin & Plonsky (2020). Again, the shift towards open research could hopefully address these issues.

3.2 Q6: Who qualifies as a knowledge producer? Citizen and participatory science

The next question we pose concerns "the knower" in the knowledge production process – who qualifies as a knowledge producer? For quite some time, researchers have been perceived as *the* knowledge producer, but it is worth rethinking whether this role should remain exclusive to researchers.

In discussing biodiversity research, Turnhout et al. (2012) pointed out: "Simply generating and communicating scientific knowledge is not sufficient [to combat biodiversity loss]… Knowledge of traditional and 'ordinary' citizens [brings] possibilities for innovation" (p. 454). This quote highlights the value of citizen and participatory science, which is increasingly adopted across disciplines (Hecker et al., 2018). Citizen and participatory science are collaborative forms of research that actively involve the public in the scientific process, encompassing aspects from the development of research topics to the implementation of research practice and the exploitation of results. Such frameworks embrace a more inclusive and participatory approach to knowledge production and challenge a perceived hierarchy whereby researchers are considered the primary or sole authorities on knowledge.

Applied to the context of applied linguistics, this would suggest the insights and knowledge of teaching practitioners, language learners, and everyday language users are equally, if not more, valuable for a deeper understanding of any linguistic phenomena. The Lingscape project (Purschke, 2017), developed at the University of Luxembourg, exemplifies the integration of citizen and participatory science in linguistic landscaping. This initiative enables participants to upload and analyse photos of linguistic landscapes, thereby redistributing the roles in knowledge generation about global diversity of linguistic landscapes. Such steps arguably empower the public with more central and authoritative roles in the research lifecycle and make the research process (data collection) more "open to all".

Opening up research through citizen and participatory science brings up several major challenges, including the need to define research roles, ensure data quality, and maintain research rigour within a democratized framework (Purschke, 2017). Overcoming these challenges is crucial for tapping into and evaluating the potential of such approaches that remain largely underexplored in applied linguistics beyond linguistic landscaping research and see Paquot et al. (2022) for an example of crowdsourcing to inform language assessment. (See Marsden & Morgan-Short, 2023b for a brief review of other participatory OS activities such as co-writing of research).

3.3 Q7: Is what's good for research also good for researchers? Incentives and credits

The movement towards more open research foregrounds the intricate relationship between the benefits of OS practices for knowledge production and their impact on individual researchers in current academic and publishing cultures. We draw readers attention to two interesting phenomena observed in the field.

Notwithstanding the increasing efforts to replicate previous studies (Godfroid & Andringa, 2023; Morgan-Short et al., 2018), the prevalence of replication research remains low, as noted above. While for qualitative researchers, there may be ontological and epistemological hurdles making replication particularly complex (Markee, 2017; Porte & Richards, 2012) and indeed potentially not desirable or useful, many quantitative researchers who *have* conducted replication research chose not to explicitly label their studies as replication research despite recognizing its importance (McManus, 2022, and as noted by Marsden, Morgan-Short, Thompson, et al., 2018). This lack of transparency in labelling makes it hard to trace theoretical and methodological precedents, making it more difficult to test theoretical frameworks and examine previous findings.

This discrepancy between having positive attitudes and actually engaging in the behaviour is also reflected in surveys of applied linguists, which reveal a generally positive attitude to the value of OS despite the low uptake of such practices, for which the "lack of time" was cited as a common reason practices (Liu & De Cat, in press). This observed gap between researchers' attitudes and behaviours suggests a broader issue within the academic system, where practices that enhance research quality and integrity are not adequately incentivized nor prioritized. Granted, there are existing initiatives in the field aimed at addressing this misalignment and promoting the adoption of OS practices. For instance, IRIS has set up a biennial replication award (see Huensch & Nagle, 2021 for the most recent award winner). As described in Section 1, several special issues have been proposed to promote OS. Many journals in the field (e.g., *Language Learning, Modern Language Journal*) issue Open Science Badges to studies that adopt these practices, and *Language Learning* offer early career funding awards to Registered Reports that have received In Principle Acceptance.

Despite these efforts, however, the evaluation system for individual researchers in many institutions worldwide still relies predominantly on traditional metrics of academic performance. This can include the impact factor of the journals and the researcher's citation

counts. Such a "publish or perish" culture prioritizes the pursuit of publishing in top journals over a short period of time and arguably disincentivizes the often slow and under-appreciated efforts to make one's research open and transparent. While it takes time for such cultural shifts, funders, publishers, professional societies, and institutions could start the first step by joining initiatives such as the Declaration on Research Assessment (DORA, 2012) and the Helsinki Initiative on Multilingualism in Scholarly Communication (2019; e.g., Section 2.2) to improve how research outputs and researchers are evaluated. Furthermore, Higher Education institutions could start to reward their academics who engage in OS practices, by, for example, openly publishing datasets and research materials. To facilitate this greater recognition, IRIS now issues a DOI and a full reference for all datasets, instruments, code uploaded.

4 Rethinking sustainability: financial sustainability and beyond

In the sections above, we have explored how OS prompts us to rethink how we produce and share knowledge, to enhance the quality, rigour, and reach of applied linguistics research. Moving forward, however, we must consider the practical issue of sustainability. In the following sections, we explore how we can open up applied linguistics research in a sustainable manner, ensuring its long-term relevance and utility.

4.1 Q8: Is open free? The financial cost of OS

Commenting on the financial implications of open access, Leptin (2012) points out – "open access does not mean 'for free' – someone must foot the bill" (p. 1279). The same statement could equally well be applied to the whole gamut of OS practices.

The establishment and maintenance of OS infrastructures, ranging from open repositories such as IRIS, OASIS, and OSF (Open Science Framework) to diamond journals, entail financial investments to ensure proper functioning. Taking IRIS as an example, after its initial establishment with ESRC funding, now "long thin" funding from the British Academy funding provides just £5K per year. It has received just £2.5K sponsorship from two publishers (Wiley and John Benjamin), in its 13 years to date. Essentially, the University of York has provided major critical investment in the human resource needed (academic leadership, akin to an editorial role) and its technical maintenance and its developments, such as the recent necessary move to an entirely new digital architecture, and the addition of

features such as the DOI minting, instrument reliability fields, and forthcoming capacity to embargo of materials. To make research materials and data openly accessible, secure, durable, findable, and, most critically, searchable across publishers, time, geographical jurisdictions, and research domains, using nuanced, field-specific metadata necessitates non-trivial financial commitment in storage and management systems and services. These expenditures are often covered by institutional or government funding, thereby remaining largely invisible to most users who are not directly involved in leadership or administrative roles. Nonetheless, these founders and administrators must engage in regular efforts to acquire and renew funding to secure the sustainability of these services. We believe that professional associations must henceforth better bear the cost of these endeavours, which, after all, serve the social justice agendas (e.g., of better equity, diversity, and inclusivity) that the associations proclaim as driving their mission.

On an individual level, embracing OS also incurs financial costs. As discussed in Section 2.1, the APCs associated with OA publishing can pose significant burdens on researchers, especially those in less well-resourced institutions or regions. In this context, the diamond OA model offers a noteworthy contrast by eliminating fees for both authors and readers. But it is worth remembering that the operational costs of hosting diamond journals, including server fees, subscription fees to journal management systems, and payments to the editorial team still represent significant financial hurdles that must be considered at the outset of setting up any new diamond OA journal, so as to avoid the pitfalls described by Brysbaert (in press).

Additionally, transitioning to an OS framework requires investment in training and education (Azevedo et al., 2022). While grassroots efforts have been made to address this need via crowd-sourced resource building (Pownall et al., 2021), the reliance on voluntary author contributions (VACs) may not fully ensure sustainable and systematic solutions.

We do not mean to imply that all research-related ventures must be able to be open, as we acknowledge that some products of research may need to become commercial ventures in order to sustain, develop, and properly disseminate them among the intended audiences. For example, the online app Gaming Grammar, used in the study by Kasprowicz et al. (2019), and used by hundreds of teachers and thousands of learners in schools in the UK, was supported (after its initial research funding from EPSRC), for some time by a large grant from England's Department of Education. However, on the cessation of funding, it had to be

sold to a commercial company, for a tiny sum of money relative to the investment in it "LanguageNut" (see https://www.languagenut.com/en-gb/gaming-grammar/).

Addressing the false impression that OS is cost-free is important, which calls for the collective commitment from funding bodies, institutions, professional associations, and a wider pool of individuals, to take responsibility for the economic challenges and ensure the OS ecosystem is both sustainable and inclusive.

4.2 Q9: Is open sustainable? The invisible labour of OS

Our next question to stimulate rethinking concerns the sustainability of OS practices from a practical and pragmatic perspective. While it is widely recognized that practising OS can improve the transparency and quality of collaborative knowledge generation and accumulation, in practice doing research openly entails additional work by individual researchers (e.g., Allen & Mehler, 2019). Nonetheless, the practical implications of these undertakings have rarely been examined from the perspective of academic labour (Callard, 2022). Many OS practices require additional time and effort compared to conventional approaches that are not open, which not only involves documenting and sharing research materials and processes, but also requires learning new skills and knowledge necessary for carrying out these tasks (Hostler, 2023).

In Section 3.2 we highlighted the misalignment between structural incentives and OS practices but here we would like to instil a dose of caution into calls for and implementations of policy level changes. Top-down approaches, while much more effective than bottom-up grassroots efforts, also bear greater risks of unintended consequences that perpetuate or exacerbate existing exploitive working conditions and inequalities from local to global. At the moment, there is already multiple tensions between the time available for various academic, teaching, and administrative activities and the expectations of performance in terms of research outputs and funding acquisition, leading to burnout and decreased well-being (Beatson et al., 2022). Against this backdrop, promoting OS practices within the current academic system without adjusting workload models (i.e., making the time required by OS practices an explicit part of the workload and incentive systems) runs the risk of increased exploitation of academic labour, exacerbating issues such as stress, fatigue, and untenable workloads (Hostler, 2023). While it is challenging, if indeed even possible, to predict the implications of new OS policies on the workloads of researchers, rigorous meta-

research should be regularly conducted to monitor and evaluate the costs and benefits of these practices (Sarafoglou et al., 2022), in order to mitigate the risk of inadvertently exacerbating existing problems, as concluded by Marsden &Morgan-Short, 2023a and 2023b.

4.3 Q10: Is open always good? Ethical dilemmas and unintended consequences

Our last question aims to promote a nuanced understanding of the ethical dilemmas and unintended consequences of OS, which we touched upon in the preceding section. This question may be particularly relevant for advocates of OS to ponder – is open always good? Even among OS advocates, the intuitive answer to this question is probably no. Of greater significance is understanding *when* it is not beneficial. We draw readers attention to two cases related to open data to engender this rethinking.

The first case involves a nuanced dilemma in open data policies. A recent study (Liu & Wei, 2023) examining the effects of open data policies on participants' engagement with questions about socially disapproved behaviours revealed some interesting though preliminary findings. In the study, participants were randomly assigned to one of five conditions of open data policies varying on the level of publicness. It was found that participants in the public-access condition reported more privacy concerns than those in the private-access condition. Sharing data publicly also led to a decrease in how much participants were willing to share in response to sensitive questions, even though the risk of identification was not apparent. While participants cited privacy violation as their main concern, the level of privacy concerns between the "public-to-researchers only" condition and the "private-access" condition were nonsignificant. This suggests that uncontrolled public access may have unintended consequences on participants' response behaviour, and so data sharing within the research community only might be a solution to mitigate such effects for some types of research. Access rights to data for bona fide researchers have been addressed in some communities of research practice (e.g., Databrary, https://nyu.databrary.org).

Another case is the Peer Reviewers' Openness Initiative (Morey et al., 2016), which enlists reviewers to incentivize the sharing of materials, data, and code. Signatories of this initiative pledge to only provide a full review for manuscripts with open materials, data, and code or a justification of why sharing is not possible. This initiative was controversial and attracted criticisms of its potential negative ramifications, despite the positive attitude and largely positive experience of its supporters (Dahrendorf et al., 2019). Although clearly well intended

to promote OS practices from the grass-roots, concerns were raised regarding the initiative's coercive nature and the potential risk of authors feeling unjustly penalized due to reviewer assignment, which could lead to resistance than greater openness (Bishop, 2016).

The above examples suggest that a nuanced approach is important for most if not all OS practices. Any proposal for change, however well intended, could have unanticipated ramifications that perpetuate or introduce problems. Rather than pushing for all-or-nothing changes, incremental steps should be taken (Liu et al., 2023), with mechanisms in place to constantly monitor the impact of science policies and practices, thereby mitigating potential negative consequences (Liu, 2023; Marsden & Morgan-Short, 2023).

5 Conclusion

In this chapter, we set out to explore the transformative potential of OS for applied linguistics, inviting rethinking about knowledge dissemination, production, and the sustainability of open scholarship. Through our examination, it becomes evident that while the open turn brings a promising shift towards more transparent, rigorous, far-reaching, inclusive (of consumers and producers), and equitable research practices, it also presents complex challenges that require careful consideration and nuanced approaches. Challenges range from the pitfalls of for-profit OA models to the invisible labour and cost of OS, and give rise to ethical dilemmas that necessitate a balanced, thoughtful, and evidence-informed approach to OS. Many of our questions have no immediate or easy answers and require trial and error accompanied by—or ideally *driven* by—systematic meta-research. We hope our chapter will inspire dialogue and empirical investigation, to explore the possibilities of OS openly and critically. Ultimately, the open turn in applied linguistics (and beyond) is not about uncritically adopting new practices but about reconsidering our ethos to better serve both our research community and society at large.

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