

ALLEA Response to Plan S

December 2018

- » ALLEA supports open access as a major step towards realising the universality of science and welcomes the ambition of Plan S in this regard. Implementation will however require extensive consultation and dialogue with all parties, in particular the research performing communities represented through ALLEA and other scientific stakeholders.
- » ALLEA emphasises that, as recognised by Plan S, the move to full open access must be accompanied by concurrent reforms of the systems for research evaluation and career progression; it will thus require a fundamental re-evaluation of the responsibilities of all the different actors in the research system. Particular attention must be paid to the impact on early stage researchers, those from disadvantaged institutions and communities, and those working in specialist disciplines.
- » ALLEA welcomes the fact that Plan S envisages publishing models other than just green and gold open access, and recognises the growing importance of preprint archives and institutional repositories. It is essential that whatever model or models finally gain acceptance ensure the highest quality standards, incentivise and reward ethical behaviour, are economically viable, and support the integrity and trustworthiness of scholarly communication across the full range of academic disciplines.
- » ALLEA considers that further clarification is needed regarding the protection of intellectual rights of authors and the type of open licence to be used. Any prescription should ensure an appropriate degree of choice for researchers and allow for exceptional cases.

Preamble

ALLEA has, in 2013 and subsequently in 2015, stated its clear support for open access and made specific recommendations¹ regarding implementation. ALLEA thus broadly welcomes the bold ambition of Plan S, that scientific publications on the results from research funded by public grants provided by national and European research councils and funding bodies, be published in compliant open access journals or on compliant open access platforms and thereby realise “science as a global public good”.² We also recognise the frustrations with the slow progress in implementing open access that have prompted it. However, we caution that transforming the large and complex print-based academic publishing system to an electronic open-access system is a non-trivial undertaking where it is all too easy to introduce perverse incentives and produce unintended consequences. There are also significant interactions and dependencies with other important areas of policy for science. ALLEA presents this initial response in an attempt to identify some of these issues and stimulate debate. If Plan S is to gain general acceptance and to be made compulsory, there needs to be more consultation and discussion with all affected parties and a number of accompanying measures need to be taken.

As a general over-arching comment ALLEA welcomes the fact that Plan S interprets science in the sense of the German “Wissenschaft” to cover scholarly activities in not just the natural sciences, but also in the social sciences and the humanities. While much of the drive for open access comes from the natural sciences, it is important that whatever solutions are eventually agreed work for all areas of academic activity and are not just tailored to the specific circumstances of the natural sciences. For example, the problem of market dominance by a small number of commercial publishers is less acute in the humanities where small regional publishers and learned societies still play an important role. These should not become “collateral damage” of Plan S.

As a further general comment, trying to implement open access in what is basically still a paper and print based model of publishing is arguably over conservative. It would be better to take advantage of the new capabilities offered by digital media and reinvent scholarly publishing from the bottom up as a truly digital system embedded within an Open Science ecosystem. This should be guided by the FAIR principles of all data, including publications, being **F**indable, **A**ccessible, **I**nteroperable and **R**eusable as a global public good.

¹ ALLEA specified the preconditions and ramifications necessary for a successful implementation of Open Access in scientific publishing on its 2013 and 2015 statements:

Enhancement of Open Access to Scientific Publications in Europe (2013) https://www.allea.org/wp-content/uploads/2015/08/Statement_ALLEA_Open_Access_2013-11.pdf

ALLEA reiterates its support for Open Access to Scientific Publications in Europe (March 2015) https://www.allea.org/wp-content/uploads/2015/07/Follow-up-Statement_Open-Access.pdf

Supplementary Statement on Enhancement of Open Access to Scientific Publications in Europe (October 2015) https://www.allea.org/wp-content/uploads/2015/12/Supplementary-Statement_Open-Access_FINAL.pdf

Going Digital – Creating Change in the Humanities (2015)

https://www.allea.org/wp-content/uploads/2015/07/Going-Digital_digital-version.pdf

² See Coalition S: <https://www.coalition-s.org/>

Ethical issues and implications for trust in science

The over-riding ethical imperative³ must be that scholars publish in a responsible manner that respects the integrity of the research process, the trustworthiness of academic output, and promotes science as a global public good. In particular publishing in a manner that violates accepted disciplinary norms (as for example in so-called “predatory journals”⁴ with unacceptably low standards of peer review) must be considered unethical. There is certainly a duty to publish openly and fully (including negative results and failures) and also to publish promptly (this is a key issue in some fast-moving fields of the natural sciences where papers can be out of date within a few months, a major reason why embargo periods are so problematic in these disciplines). Academic freedom does imply some freedom to choose the mode of publication and the platform used,⁵ but this is not an absolute freedom.⁶ Restricting publication in hybrid journals,⁷ ⁸ as proposed in Plan S, is arguably a step too far, but one can certainly make an argument that supporting very expensive commercial publishers does not serve the cause of science when equally rigorously reviewed and cheaper publication options are available.

We note that there are cases where other public good considerations may require that some research not be published in full open access. Therefore, limited exemptions allowing for exceptional cases where sensitive issues such as security, environmental or commercial interests are concerned are needed.

Open access should facilitate trust in expert scholarly work through increased transparency, and play an important role in supporting research integrity by allowing full peer scrutiny. In this context it is very important to have reliable and comprehensible indicators of quality and trustworthiness attached to research outputs. At the moment we have only peer review and acceptance by “recognised” journals, a system that is flawed and has resulted in all the known problems of “impact factor” fetishisation. The problem is compounded by the fact that while

3 ALLEA Workshop Report: Ethical Aspects of Open Access: A Windy Road (2018): https://www.allea.org/wp-content/uploads/2018/12/Open_Access_Workshop_Report.pdf

4 The term ‘predatory journals’ refers to journals that exploit the gold open access by charging lower APCs in comparison to legitimate open access journals, yet they fail to provide typical publishing services such as peer review (or promise an expedited review process), quality control, licensing, indexing, and perpetual content preservation. Many of them may not even be fully open access. (Sources: (1) <https://bmcmecicine.biomedcentral.com/track/pdf/10.1186/s12916-017-0785-9>, (2) <https://bmcmecicine.biomedcentral.com/track/pdf/10.1186/s12916-015-0423-3>)

5 See e.g. the open letter <https://sites.google.com/view/plansopenletter/open-letter>

6 See for example Stephen Curry <http://occamstypewriter.org/scurry/2018/10/01/academic-freedom-and-responsibility-why-plan-s-is-not-unethical/>

7 The discussion around open access tends to use a lot of specialist terms (green, gold and diamond open access; hybrid and mirror journals; APCs, AAMs etc). Peter Suber, Director of the Harvard Office for Scholarly Communication, has written an excellent overview of Open Access and its many variants which provides more background and much useful analysis. <http://bit.ly/oa-overview>

8 Hybrid journals are traditional subscription journals that also support open access. Upon acceptance of the article by the journal, authors can choose to publish their research either with gold open access (provided the article processing charges are covered by authors or their institutions), or make it available only to journal subscribers. (Sources: (1) <http://libguides.ucd.ie/openaccess/greengold> (2) <https://www.tue.nl/en/university/library/education-research-support/scientific-publishing/open-access-coach/basic-concepts-and-background/green-hybrid-or-gold-open-access/#top>)

specialists in the field know which are the quality journals, researchers coming from other disciplines, and *a fortiori* interested members of the public, lack this knowledge and can easily mistake a predatory journal for a reliable source of trustworthy science. Maintaining black lists of deprecated journals, and white lists of recognised journals, goes some way to addressing this problem but is not a satisfactory solution.

Implications for research evaluation

It is very clear that a major reason for opposition to Plan S is the justified fear that it would seriously disadvantage the career prospects of researchers, and in particular those at the critical early stage of their careers, where currently a track record of publications in “high impact” journals is considered essential.⁹ Greater adoption of the DORA¹⁰ principles of evaluating the research itself and not using the publication platform or journal as a proxy for quality, as Plan S recommends, would greatly ease the move to open access and defuse much to the opposition to Plan S. As noted above we would urge that greater consideration be given to how markers of peer esteem could be attached to electronic publications in a more nuanced and flexible way than the binary accept-reject model derived from the days of the print journals. The move towards implementing next generation metrics, that measure, reward, and create incentives for open science should be guided and promoted as part of the greater culture change required to support open science.¹¹

Another legitimate ground for concern is that high publication costs in the form of gold open access¹² charges may effectively hand control of who can publish to finance officers rather than academics and will further exacerbate the gap in research outputs between well-endowed disciplines, institutions and countries and those less well off. The statement in Plan S that publication fees should be covered by institutions and funders, and not researchers, does not adequately address this. It is also not clear that the suggestion of standardising and capping publication fees would work; publication is a global business and even within Europe the principles of free trade underpinning the single market could make imposing price controls legally difficult.

A criticism that is often levelled at Plan S is that unless similar initiatives are implemented in China and the US European researchers will be disadvantaged. There is some truth in this if it is

⁹ See in particular the statement by the Young Academy of Europe <http://yacadeuro.org/2018/09/24/plan-s/>

¹⁰ See Declaration on Research Assessment (DORA), which calls for eliminating the use of journal-based metrics, such as Journal Impact Factors, in funding, appointment, and promotion considerations, among other issues <https://sfdora.org/>

¹¹ See Next generation metrics: Responsible metrics and evaluation for open science: <https://ec.europa.eu/research/openscience/pdf/report.pdf>

¹² Under gold open access, also known as ‘open access publishing’, the published content is freely accessible immediately and permanently upon publication. In this model, the payment of publication costs (known as article processing charge, APC) is shifted away from subscribers to the authors, the university or research institute to which the researcher is affiliated, or to the funding agency supporting the research through grants. (Sources: (1) http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/open-access_en.htm, (2) <https://www.triple-c.at/index.php/tripleC/article/view/502> (3) <https://preview.springernature.com/gp/open-research/about/what-is-open-access>)

simply seen as a series of arbitrary and negative rules (“you may not publish in hybrid journals” etc). However, if Europe can re-invent scholarly publication in a “born digital” fashion that is manifestly superior to the old print model, then the situation is inverted and it is inevitable that the rest of the world will follow. The recent announcement of support for Plan S by the Wellcome Trust and Bill & Melinda Gates Foundation¹³ is significant in this context and shows that this is not just a European initiative any more.

Intellectual Property Issues

A significant aspect of Plan S is that researchers will be required to retain copyright of their scientific publications under an open licence, preferably under a Creative Commons Attribution Licence CC-BY. While the principle is clearly correct, the current wording in Plan S is loose and rather contradictory on this important point and needs further clarification; it states that “authors retain copyright of their publications with no restrictions”, but it then requires them by granting an open licence to waive most of their rights apart from the moral right of attribution. Scholars and scientists who generate the intellectual content of a paper should be recognised as its creators, be cited appropriately and retain some intellectual property rights; the concept of science as a global public good requires that this be a CC-BY type recognition.

Plan S in addition states that the licence should fulfil the requirements defined by the Berlin Declaration. It is not clear what those requirements are. The Berlin Declaration refers to “community standards”, for instance when it says that “community standards will continue to provide the mechanism for enforcement of proper attribution and responsible use of the published work, as they do now”. Those standards remain vague and might be completely ignored by online predatory publishers. As stated in previous statements, further consultation with the research communities is needed before a licensing model is agreed upon and any prescription should leave some choice as to the type of open license to adopt.

By not transferring copyright to the publisher the authors of a paper are enabled to post it immediately to an archive server or institutional repository (in the case of astrophysics and particle physics this is already the case; nearly all papers are posted as preprints on arXiv at the same time as submission to traditional journals). This posting of an “Author Accepted Manuscript” to an open repository or archive is allowed as one route to Plan S compliance, but obviously undermines the current business model of most journals and publishers (including many professional associations and learned societies where journal subscriptions are a major revenue stream).

Another issue, as ALLEA has repeatedly noted, is the lack in European patent law of a “grace period” such as is allowed, for example, under American law.¹⁴ This creates a tension between the Plan S aim to publish research as soon as possible (and the associated ethical imperative to publish openly and promptly) and the aim to protect and exploit innovations resulting from research.

¹³ <https://sciencebusiness.net/framework-programmes/news/big-funders-back-plan-instant-free-access-journals-researchers-say-it>

¹⁴ ALLEA Statement Adopted on the Occasion of a Conference on “Grace Period” in Kiev, October 10, 2013 https://www.allea.org/wp-content/uploads/2015/08/Statement_Grace-Period_Kiev.pdf

Economic considerations

The true economic costs of academic publishing need to be properly allocated to avoid perverse incentives. In the days of print, typesetting, printing and distribution were the major costs and a subscriber-pays model was appropriate. Replacing this with an article processing charge (APC) model,¹⁵ as in gold open access, has had the unintended consequence of encouraging journals to accept as many papers as possible, leading in the limit to predatory publishing, or to charge disproportionately large amounts to compensate for high rejection rates. The real added value that an academic publisher brings to a scientific paper is the critical peer review process. If authors were to explicitly pay for this through a reviewing fee (which could even be refundable in the event of acceptance) and some part of the fee was used to reimburse the reviewers we would have a much more equitable system with fewer distortions (peer reviewing is not free - there is a significant opportunity cost to the research system).¹⁶ However, few journals can afford to make this move unilaterally despite the manifest unfairness that the authors and readers of good papers are currently paying for costs generated by the authors of bad papers.

Recognising these circumstances, in its previous statements, ALLEA favoured a pluralistic approach to open access models and noted that “both the Gold and the Green models may create problems”. In general ALLEA expressed a preference for green open access,¹⁷ particularly for the social science and humanities, and small research projects in other disciplines, but also made clear, that under certain circumstances, gold open access may be the more appropriate choice, e.g., when publications of big research projects are at hand. In this context, ALLEA emphasised that funding institutions should be encouraged “to outline clearly how they will support and fund meaningful” open access. A key element of this process “should be a commitment to resource open access as a specific item within research grants made by public research funders.” In other words, open access should be an allowable budget line in research grants. In the context of big science a further complication is that many consortia are global in scope with authors in multiple jurisdictions with different funding models, so some global coordination of the transition to full open access is needed.

Typesetting and distribution are negligible costs for online journals, and even long-term curation and archiving are not prohibitively expensive (and could be subvented by the state as in a national

¹⁵ Publication fees to cover for publishing costs such as editing, marketing, etc. (previously covered through subscription revenue) paid for by the authors or their institutions (universities or other research institutions) to make the article available free of charge for the readers. (Source: (1) http://libguides.ucd.ie/ld.php?content_id=31600607, (2) <https://openscience.com/article-processing-charges-funded-step-step-guide/>).

¹⁶ See e.g. <https://scholarlykitchen.sspnet.org/2018/09/20/plan-t-scrap-apcs-and-fund-open-access-with-submission-fees/>

¹⁷ Under green open access, also known as ‘self-archiving’, the authors publish their article in any pay-walled journal, but they also archive the published article or the final peer-reviewed manuscript in a freely accessible online archive (known as a repository), either before, at the same time as, or after its publication. In many cases, journals request that open access be granted only after an embargo period has elapsed, so that paying subscribers retain an added benefit. (Sources: (1) http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/open-access_en.htm, (2) <https://www.triple-c.at/index.php/tripleC/article/view/502> (3) <https://preview.springernature.com/gp/open-research/about/what-is-open-access> (4) <https://openscience.com/green-oa-vs-gold-oa-which-one-to-choose/>)

library), so paying for publication is no more appropriate than paying for access; what we do need, and should be prepared to pay for, is rigorous quality control. The concept of “overlay journals” on top of preprint archives is an interesting model in this regard; these only carry out the peer reviewing function of the traditional journal and leave the publication, archiving and distribution to the preprint archive.

As Plan S recognises, the case of monographs and other scholarly books (a major publication route in the humanities) is more complicated and needs careful consideration. Gold open access can be a good solution for both authors and publishers if there is a funding system prepared to support the production of monographs in a substantial way. Where this is not possible embargo periods should still be possible, on the grounds that delays to full open access are less critical than for short research papers in fast moving fields. Text books and semi-popular publications are even more complicated and should be excluded at this stage.

Conclusions and recommendations

The integrity, quality and trustworthiness of the academic publishing system underpin all academic work and must be vigorously defended. It follows that all stakeholders in open access publishing have to be committed to maintaining the core principles of scientific publishing, namely the critical, high quality and independent evaluation of scientific claims and secure archiving of validated research. It is important to note that there are many routes to meet the objectives of Plan S.¹⁸ Insufficient attention has been paid to the fact that open access publishing offers more scope in this regard than traditional print publication; retractions and corrections are much easier to implement, and a more nuanced form of peer review and community ranking is possible. This opens up interesting possibilities for academies and learned societies to regain their traditional role of gatekeepers and evaluators of research.

In summary, ALLEA broadly welcomes Plan S but with major caveats. The time scale envisaged for such a complex transformation is clearly unrealistic if the preconditions identified by ALLEA in its earlier statements are to be implemented prior to Plan S becoming operational; the funding agencies have to provide the necessary funds in their budgets for paying the publications fees, resolve the question of promotion of early career researchers, consider the special circumstances of minority disciplines, address the IP issues, and the like. To do this it will be essential to engage the full spectrum of affected parties and policy makers. Scholarly communication is the life-blood of research and it is in all our interest to make this as reliable, efficient, sustainable, trustworthy and open as possible. In particular critical peer review and community evaluation is crucial and must be properly incentivised, enabled and rewarded. ALLEA looks forward to working with the initiators of Plan S, endorsing organisations, as well as other stakeholders in facilitating this necessary transformation of not just academic publishing, but the whole system of research evaluation, accreditation and validation. We note also that the universality of science requires that this be a global transformation of the research ecosystem, but one which can be initiated and led by Europe.

¹⁸ See e.g. <https://101innovations.wordpress.com/2018/10/22/eight-routes-towards-plan-s-compliance/>

ALLEA, therefore, makes the following recommendations:

- » Coalition S should engage in a constructive dialogue with bodies representative of the academic and research performing communities both at European and global level. Particular attention should be given to the concerns of early stage researchers who will be most affected.
- » Implementation of Plan S should be situated within the broader context of the transition towards Open Science and FAIR open access. Endorsement of FAIR data and open access policies at national level should be encouraged.
- » Research programmes should be initiated to develop new methods and tools for attaching easily understood digital markers of peer esteem to individual research outputs and researchers in a granular fashion. This would largely eliminate the current tendency to use the reputation of the journal or publisher as a proxy for quality and make adoption of the DORA principles much easier. It would also substantially improve the trustworthiness of scientific and scholarly communication.
- » A detailed economic analysis of scholarly publishing should be undertaken to quantify the true costs and ensure the most efficient use of financial and human resources.

About ALLEA

ALLEA, the European Federation of Academies of Sciences and Humanities, was founded in 1994 and currently brings together almost 60 Academies in more than 40 countries from the Council of Europe region. Member Academies operate as learned societies, think tanks and research performing organisations. They are self-governing communities of leaders of scholarly enquiry across all fields of the natural sciences, the social sciences and the humanities. ALLEA therefore provides access to an unparalleled human resource of intellectual excellence, experience and expertise.

About this statement

This statement has been informed by contributions from various ALLEA Working Groups, including on Science & Ethics; Intellectual Property Rights; E Humanities; Truth, Trust and Expertise. The groups' memberships represent a wide range of expertise and experience from the European academies of sciences and humanities, across different scientific disciplines and from countries all over the Council of Europe region. ALLEA would like to thank all contributors and is especially grateful to the lead author of the statement, Professor Luke Drury, member of the ALLEA Board and past President of the Royal Irish Academy.