

OPPORTUNITIES AND CHALLENGES FOR IMPLEMENTING *PLAN S*

The View of Young Academies

15 October 2018

Preface

On 4 September 2018, *Plan S*¹ was launched by Robert-Jan Smits, Open Access Envoy of the European Commission, and Science Europe, an association of European Research Funding Organisations. The stated target of *Plan S*, to which already 13 European national science funders have committed, is:

“After 1 January 2020 scientific publications on the results from research funded by public grants provided by national and European research councils and funding bodies, must be published in compliant Open Access Journals or on compliant Open Access Platforms.”

We consider *Plan S* as a bold step that has the potential to be a game-changer in making European science open and setting an example globally on how publicly funded research is published, in particular its requirement that the copyright remains with the author and that licences adhere to the Berlin Declaration.²

The overarching target of *Plan S* is supported by ten principles. These, however, offer only guidelines; concrete policy proposals for the implementation of “Plan S” have yet to be developed. This vagueness can be seen as an invitation to contribute to shaping the research ecosystem and its impact on society as whole. At the same time, there is much concern that *Plan S* may not lead to the positive changes that we, as young scholars, think are necessary. To show what is at stake, we present two hypothetical future scenarios that are both compatible with *Plan S*: Scenario A is what we regard as one of the worst possible outcomes, representing a serious threat to the fundamental values of scientific *excellence*, *integrity* and *freedom*. Scenario B presents a much better outcome of *Plan S*, one that we would recommend as a realistic way forward while at the same time safeguarding the fundamental values of scholarship.

In our two scenarios we focus on journal articles, even though Principle 7 states that *Plan S* applies to all types of scholarly publications and explicitly mentions monographs. We believe, however, that monographs, data publishing and other forms of scholarly publishing may require very different measures than journal articles and it is premature to indiscriminately enforce one model of Open Access on all of them.³

A) A negative scenario

1 January 2021, one year after the implementation of *Plan S*: *Plan S* has led to mandatory *Gold Open Access*, with authors having to pay Article Processing Charges (APCs), capped for 3 years at around €2,000-2,500 (the rate that is currently being discussed). As a higher price seems to indicate better quality, and those researchers with the most research money can afford to pay, soon almost all credible journals reach this cap. While the APC per article is capped, the total cost of the publication system is not constrained and hard to predict.

As a result of the increased publishing costs, researchers and scholars from lower-resourced institutions within Europe, not to mention scholars from less-affluent countries, struggle to publish in the Open Access journals. The humanities and qualitative social sciences are particularly vulnerable, because (1) scholars in these fields have limited access to (and often no need of) external funding and, thereby, do not have access to funding towards publication, and (2) they publish largely through monographs, whose publishing model in an Open Access environment differs substantially from journals and remains unclear under *Plan S*³. Young scholars in all research

¹ *Plan S* and *cOAlition S*: <https://www.scienceurope.org/coalition-s/>

² Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities: <https://openaccess.mpg.de/Berlin-Declaration>

³ For monograph discussion, see e.g. British Academy statement (<https://tinyurl.com/britac-OA-report-2018>)



areas are especially disadvantaged in the fight for funding to publish. This leads to isolation of many researchers, to unfair access to publishing their findings and overall to centralisation of academic knowledge and power in few research centres. In short, researchers have traded their freedom to publish with freedom to access existing research.

Smaller academic disciplines die out because they cannot attract sufficient funding to keep publishing in the expensive Open Access journals that now serve as quality benchmarks. An initial lack of external funding inhibits publication in the major journals, which prevents these scholars from gaining the visibility needed to obtain external funding down the line. Consequently, specialised knowledge about many subjects disappears.

In the absence of an alternative to APC-based Open Access, society journals that had been built on subscriptions start to disappear, affecting not only scholarly communication but also the activities that had been funded by subscription income. After a while, the societies with the least access to alternative means of funding disappear completely, while others become marginalised. In contrast, predatory journals flourish because their business model is reinforced with the introduction of mandatory “author-pays” Gold Open Access.

Established research practices that have worked well for decades both for research and its wide dissemination, like depositing on preprints in repositories (e.g. arXiv⁴), disappear, leaving whole disciplines in search of new ways to interconnect and collaborate after their basic communication tools have been dismantled.

1 January 2023: A handful of publishers have an oligopoly, even more so than in 2018, and as soon as the cap on APC is lifted, they raise APCs to more than €5,000. More and more journals are launched to publish well-funded research, but quality control is lacking because there is a strong profit incentive for publishers to favour quantity over quality. Non-academic science takes advantage of the new pay-to-publish model to promote research outcomes favourable to their products. Private interests use the new publishing system as a way to brand new products and get a head start in attracting public research funding. The overall cost of the publishing system explodes.

In analogy to APC, book processing charges (BPC) are introduced for monographs, but without caps, as no agreement was reached due to monographs varying so widely in size, quality and cost. In particular, humanities scholars are negatively affected, as many now lack the funding to publish their specialist knowledge either in academic journals or in books.

European-wide regulatory bodies are set up to oversee journal quality, but such centralised quality control has an intrinsic time-lag. Despite the best efforts to regulate journal quality, predatory journals keep popping up before old ones can be sanctioned. This delivers profits to publishers, but confuses researchers and decreases trust in science.

Young people are dissuaded from pursuing a career in research, due to the increased difficulty in getting adequate funding for publishing and fulfilling a “publish or perish” mentality. We lose the innovation and potential of the next generation of researchers. In particular, the humanities and qualitative social sciences become marginalised and their important role in studying and engaging society is devalued.

The rest of the world does not follow *Plan S*. With the strict Open Access requirements imposed by European funders on European authors, collaboration with European researchers becomes too constraining and comes at too high a cost in APCs for publications in journals of increasingly doubtful quality. More and more divisions appear within the research community, increasing inequality and slowing societal progress. Research collaborations between Europe and global centres of excellence dwindle.

⁴ See <https://arxiv.org/>



B) A positive scenario

1 January 2021: National and transnational funding organisations in Europe together support journals directly, known as *Diamond Open Access*, and neither authors nor readers pay APCs or subscriptions.⁵ This proves to be essential towards achieving true Open Science because it leads to journals that are open to readers as well as to authors, independent of a scholar's own research funding and subject only to peer-review. Solutions towards the Open Access publication of books are being sought in an open dialogue with the key stakeholders, including researchers, relevant societies and not-for-profit publishers.

The money saved from APCs and journal subscriptions is spent to create Diamond Open Access journals that are funded under transparent funding calls to support journals that want to move to a Diamond Open Access model, perhaps by a procedure similar to research funders' current calls for research proposals. In this case, academic journal editors and editorial boards apply for this funding for a fixed funding period (set to balance the need for stability and quality control), after which evaluation and application for a renewal are due. Funding organisations occasionally perform audits (similar to audits of research project spending) and the overall cost of the publication system is capped. Another option is support for publication via repositories like arXiv⁴, which facilitates publication at zero cost to the author and reader. Such repositories could encompass a range of quality checks, thus guaranteeing robust peer review to safeguard quality.

This change in the publication funding structure would mean that *the decision of which journals to fund is made by the scientific community*. The scientific community agrees on the distribution of funding over different research areas (in a process similar to current distribution keys used for project funding). The scientific community evaluates and ensures the quality of the journals (e.g. ensuring that no predatory journals get funding) and the community decides which specialist journals get priority over others given a limited amount of money available overall. They also decide which journals are granted more funding than others (e.g. because they cover an expanding subfield).

This restructuring in funding also means that *no funding goes directly to publishers*. From now on, the *publishers provide a service* for a fee, and the editors will choose the publishers who provide the best quality and functionality for the lowest fee. This change creates competition between publishers, breaking up the oligopoly that has harmed science in the past. This approach also leads to an effective cap on publication cost, and excessive profits for publishers disappear.

Researchers and scholars are better placed to oversee how the funding is spent because, unlike for-profit publishers, they are not driven by publishing profits. The crucial role of scholarly reputation in the academic community assures the focus on quality publications. Furthermore, the importance of securing a renewal of the journal funding after a fixed time-period is an effective quality incentive for the editors. Now that quality is more important than quantity, predatory journals quickly disappear because their business model is no longer attractive.

1 January 2023: Diamond Open Access journals with a good reputation flourish. They have become the global publication outlet of choice because they publish new research at no cost to authors and they assure the highest quality standards. Further, because they are open, they have the widest possible readership, generating more societal and academic impact.

This model is setting an example for countries outside of Europe, which launch their own initiatives in promoting and funding Diamond Open Access journals, becoming a key stepping stone toward truly Open Science. The model is friendly toward existing Open Access practices such as arXiv and encourages innovation in the scientific publishing process, including journals that provide a fully transparent post-submission peer review and peer commenting. Open Access journals gain in reputation and the transition to Open Access is reflected in the much needed changes in evaluation criteria for scientific excellence; the focus shifts from misleading impact factors to real benefits to society.

⁵ This is implicit in principle 4 of Plan S: "Open Access publication fees are covered by the Funders or universities, not by individual researchers; it is acknowledged that all scientists should be able to publish their work Open Access even if their institutions have limited means".

Conclusion

These two future scenarios are part of a wide spectrum of possible outcomes that are compatible with *Plan S*. If *Plan S* is further developed and implemented along the directions illustrated by Scenario B, the scientific ecosystem and knowledge industry will flourish in our opinion. If implemented as described in Scenario A, however, *Plan S* could lead to what we would consider a scientific dystopia with a strong increase in inequalities and harm to Europe. The scenarios illustrate exciting new opportunities in Open Science, but also our concern that things may take a wrong turn. The success of *Plan S* and the value of achieving its target critically depend on its implementation and a good implementation would be a bold and crucial step towards truly Open Science.

We urge the scientific community and young researchers in particular, who will be most strongly affected by *Plan S*, to speak up and make their voice heard by policy makers and funding organisations. It is possible to see *Plan S* as an opportunity and welcome challenge to work together with all stakeholders towards shaping the Open Access system we would consider best for society, keeping in mind that this is an essential part in moving towards Open Science in general. To make our vision a reality we, as young scholars, need and want to engage with the decision processes to make sure that the concrete implementation of *Plan S* benefits research, creates a future for young scholars, and supports a vision of research that young scholars can aspire to.

We are willing to join Coalition S as one of the key stakeholders in the future of scholarly publications and to work with other stakeholders to ensure an implementation of “Plan S” that truly serves society in Europe and beyond. We suggest sustained collaboration between key stakeholders, including researchers at all levels of seniority, to work out further details on how *Plan S* can best be put into practice, starting with a series of meetings. Subsequently, we will work towards shaping and monitoring how well the implementation of *Plan S* supports our vision of Open Science, which includes Open Access monographs and other research components such as data. Together we can lead the changes that are necessary to ensure true equitable approaches to disseminating and producing knowledge.



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[Declaration of conflict of interest:](#)

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KV is Editor-in-Chief of a hybrid journal published by Wiley, director of a book collection with Brepols Publishers and he may be working as a consultant for F1000 in the future. SL is associate editor of a hybrid journal published by Springer and member of the editorial board of a hybrid journal published by SAGE.

