

# From coalition to commons: Plan S and the future of scholarly communication

The announcement of Plan S in September 2018 triggered a wide-ranging debate over how best to accelerate the shift to open access. The Plan's ten principles represent a call for the creation of an intellectual commons, to be brought into being through collective action by funders and managed through regulated market mechanisms. As it gathers both momentum and critics, the coalition must grapple with questions of equity, efficiency and sustainability. The work of Elinor Ostrom has shown that successful management of the commons frequently relies on *polycentricity* and *adaptive governance*. The Plan S principles must therefore function as an overarching framework within which local actors retain some autonomy, and should remain open to amendment as the scholarly communication landscape evolves.

## Keywords

Open access; publishing; scholarly communication; commons; market

## Introduction

The announcement in September 2018 by a coalition of European research funders ('cOAlition S')<sup>1</sup> that they will require immediate open access (OA) to all their scientific publications from 1 January 2020 has triggered a wide-ranging debate over how best to accelerate the shift to OA.

'Plan S' (which resulted from this initiative) sets out ten principles,<sup>2</sup> many of which have been foreshadowed in previous policy documents and developments.<sup>3</sup> Nevertheless, when taken together they represent a bold statement of intent from the founding group of European funders, which collectively support around 3% of the world's research articles.<sup>4</sup> Of particular note are the Plan's requirements that authors retain copyright in their works (while granting most or all copyright prerogatives to the general public, in the form of an open licence), that publication in subscription and hybrid journals be prohibited in the absence of transformative agreements, and that article publication charges (APCs) be 'standardized' or capped.

The Plan is the brainchild of Robert Jan-Smits, the Open Access Envoy of the European Commission, together with the Heads of the participating research funding organizations and the President of Science Europe. A key driver was the European Union's announcement in 2016 that it would pursue immediate open access by 2020<sup>5</sup> – a target which had looked highly unlikely to be met.<sup>6</sup> The Plan's supporters have emphasized the need for faster progress towards OA as the primary reason for its conception,<sup>7</sup> but concerns over the rising cost of the 'transition to open access' and the impasse in subscription negotiations within some European countries have also played a part.<sup>8</sup> The 11 European funders who were original signatories to the Plan have since been joined by several more from Europe and beyond. Other funders, including the European Commission itself, are expected to formally adopt the Plan S principles in time.



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'publication in subscription and hybrid journals ... prohibited in the absence of transformative agreements'

## A disruptive development

The principles are potentially disruptive to the current scholarly communication system as a result of both their 'radical' nature<sup>9</sup> and the sheer speed with which they are due to be implemented. Within the UK context, Plan S can also be seen as the 'end of the post-Finch consensus',<sup>10</sup> as the recently formed UK Research and Innovation (UKRI) elected to sign up to the Plan independently of the Universities UK Open Access Coordination Group, and prior to the completion of its ongoing review of its own OA policy.<sup>11</sup> With UKRI accounting for as much as half of the publications within the scope of the Plan,<sup>12</sup> and the UK home to a large number of scholarly publishers and learned societies, the response from stakeholders on these shores and beyond can tell us much about its wider prospects. The majority of these responses centre on three key assumptions that underpin the Plan, which are that:

- the research literature should be treated as an intellectual commons
- collective action by funders can be effective in creating such a commons
- scholarly publishing services should be delivered, at least in part, by a 'regulated market'.

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The basis for each of these assumptions is considered below, followed by the Plan's prospects for creating an equitable, efficient and sustainable scholarly communications system.

### Knowledge as a commons

There is a growing body of evidence to suggest that open access offers economic and societal benefits,<sup>13</sup> yet it is notable that the Preamble to the Plan presents open access as 'foundational' to the scientific enterprise itself, rather than an obligation placed on science by society at large.<sup>14</sup> By combining author retention of copyright with open licensing and no embargo periods, the Plan seeks to create what Suber has termed 'an intellectual commons', and Chan et al 'a global knowledge commons'.<sup>15</sup>

A commons is simply 'a resource shared by a group of people that is subject to social dilemmas',<sup>16</sup> and so is by no means incompatible with neo-liberal economic models.<sup>17</sup> Significant work has been undertaken by FORCE11 in recent years to articulate a set of principles and practices for the scholarly commons.<sup>18</sup> Yet determining where and how this commons meets the market remains a fraught question, since while ideas are public goods, scholarly journals are not.<sup>19</sup> In mandating open licensing in line with the Berlin Declaration,<sup>20</sup> cOAlition S asserts that the rights of authors, as copyright holders, to choose how their work is used are subordinate to the broader interests of the scientific community. Similarly, the role of publishers, to whom copyright in scholarly outputs is frequently assigned, is to be limited to the provision of 'services that help scientists to review, edit, disseminate and interlink their work.'<sup>21</sup>

'open licensing extends the scope of the commons, and limits the role of the market'

Open access has hitherto meant many different things to many different people,<sup>22</sup> with some arguing that openness should be considered as a spectrum, rather than a binary state.<sup>23</sup> In adopting the Berlin Declaration as a reference point, the coalition has sought to base its approach on a consensus definition.<sup>24</sup> Yet the extent to which the Berlin Declaration represents the will of the research community remains hotly disputed.<sup>25</sup> The insistence on open licensing extends the scope of the commons, and limits the role of the market. It is also one of a number of key elements that distinguishes Plan S from the 'public access' policies pursued to date by the United States.<sup>26</sup>

### The case for collective action by funders

The failure to capitalize on digital technologies to maximize the availability and usage of scientific knowledge has been described as a 'tragic stalemate',<sup>27</sup> and a 'tragedy of the

3 anticommons'.<sup>28</sup> As Wenzler has observed, 'Every librarian and scholar may clearly see that an OA system is preferable to the current system and may even see how their own actions could contribute to creating it but still fail to successfully co-ordinate their efforts to achieve it.'<sup>29</sup> Not every librarian and scholar may agree that an OA system is preferable,<sup>30</sup> but the cOAlition S funders have been explicit on this point, stating that 'no science should be locked behind paywalls' and that 'a decisive step' needs to be taken towards the realisation of full open access.<sup>31</sup>

Plan S therefore represents an attempt to address the type of a 'collective action dilemma' outlined in Mancur Olsen's *Logic of Collective Action: Public Goods and the Theory of Groups*.<sup>32</sup> A key finding of Olsen's work was that 'small groups will further their common interest better than large groups'.<sup>33</sup> This principle accounts for the difficulties faced by libraries globally in negotiating with a small group of well-funded, highly organized commercial publishers,<sup>34</sup> and for the difficulty of initiating methods of research publication different from the existing journal system.<sup>35</sup> Smits himself reached a similar conclusion: 'I thought about why the traditional system had been able to exist for such a long time: because the funders have not intervened', he is quoted as saying. 'The ministers made it quite clear that by 2020 we need full open access, but they left it to the universities and the libraries to negotiate with the big publishers.'<sup>36</sup>

The creation of a small but powerful group of research funders who can act in concert thus represents an attempt to break the impasse through the creation of what Ostrom has termed an 'institution for collective action'.<sup>37</sup> With the UK government and Research Councils UK having faced heavy criticism post-Finch for leading where the rest of the world did not follow,<sup>38</sup> the political value of a collective approach for the funders themselves should also not be underestimated. The addition of new members, including Wellcome and the Bill and Melinda Gates Foundation, suggests momentum is building.<sup>39</sup> Yet Germany's reluctance to join the coalition leaves a sizeable gap in the ranks of European funders,<sup>40</sup> while the level of appetite for the Plan amongst US Federal funders and the Chinese authorities remains unclear.

At issue is not only whether other funders, as well as libraries, will join, but also whether the coalition is seen to be acting in the collective interest of the research community, and science as a whole. Disciplinary communities display widely varying attitudes towards open access,<sup>41</sup> with researchers in the humanities and social sciences particularly vocal in their concerns about the Plan's implications.<sup>42</sup> The case for funders intervening in the OA marketplace has been boosted by a recent study by Larivière and Sugimoto, which notes: 'the rhetoric surrounding disciplinary barriers might be more a myth than a reality: when the proper structure and incentives are in place, researchers comply'.<sup>43</sup> Nevertheless, enforced compliance with mandates on journal articles should not obscure the need to recognize varying disciplinary cultures, and adapt requirements for other output types. The coalition appears to have acknowledged this, making a commitment to develop separate guidance on OA monographs and book chapters at a later date.<sup>44</sup>

### The case for market regulation

The system of scholarly publishing has been widely derided as 'broken', with the levels of profit generated by commercial publishers frequently cited as evidence of this.<sup>45</sup> There is indeed good evidence to show that the subscription market is not functioning effectively, due to non-substitutability, excessive concentration, lack of transparency and perverse incentives.<sup>46</sup> The development of funder platforms, such as Wellcome Open Research and the European Commission's own publishing platform, can be seen in part as an indictment of market-based mechanisms. Yet the work of Elinor Ostrom on common-pool resources has demonstrated that there is no single 'best way' of managing a commons, and that successful institutional arrangements are often rich mixtures of public and private instrumentalities.<sup>47</sup>

The need for commercial publishers to play an active role in implementing Plan S is clear, with the five largest publishers alone accounting for more than 50% of all published

4 papers.<sup>48</sup> Yet by removing support for subscription and hybrid journals ('a government mandated boycott', as one commentator puts it)<sup>49</sup> and proposing to cap the level of APCs it will fund, the coalition has indicated it wants to see a 'regulated market'. Analysis by consultants Delta Think suggests that Plan S will take revenue out of the scholarly publishing market,<sup>50</sup> so it is perhaps unsurprising that the wisdom of these measures has been called into question by scholarly publishers.<sup>51</sup> Nevertheless, there is undoubtedly a tendency in some quarters to undervalue, or simply overlook, the work undertaken by publishers.<sup>52</sup> Others, meanwhile, have emphasized the need to support OA initiatives that do not charge authors, which are especially important in the humanities and for researchers, institutions and countries unable to pay APCs.<sup>53</sup>

The *Guidance on the Implementation of Plan S* stresses that the coalition's intention is not to prescribe particular business models, and that there should be room for new innovative publishing models.<sup>54</sup> It also clarifies that deposit in a repository ('green OA') can represent a route to compliance, provided that certain criteria are met. The most contentious of these are the requirements for immediate availability at the time of publication, with open licensing. The World Bank found it 'almost impossible' to obtain publishers' agreement to a CC BY licence for author-accepted manuscripts (AAMs) when establishing its Open Knowledge Repository, for example.<sup>55</sup> Deposit in repositories may offer a back door to compliance for those able to fund hybrid APCs from other sources, but both the coalition and the publishing community appear in agreement that market-based solutions, based on APCs, will offer the surest way forward.

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Ultimately, the Plan's impact on the market will depend on whether authors are prepared to forego hybrid and subscription journals, which still account for 85% of the total,<sup>56</sup> and the coalition's willingness to make good on its threat of APC caps. Here, Ostrom's work should sound a note of caution. As she has shown, regulatory authorities often lack knowledge about the specific character of the assets to be managed and the nature of the incentives facing resource users, and therefore find it difficult to devise an effective set of rules.<sup>57</sup> The coalition's decision to commission an independent study on publication costs and fees (including APCs), and the circumspect language adopted in the Wellcome Trust's new, Plan S-compliant, policy,<sup>58</sup> point to a growing recognition that a poorly devised 'cure' for market failure risks being worse than the disease.

## Evaluating the Plan

Plan S therefore represents an attempt to use regulated market mechanisms and an institution of collective action to create and govern an intellectual commons. Recognizing this, we can assess the Plan's prospects by reference to the essential questions for any commons analysis, namely equity, efficiency and sustainability.<sup>59</sup> Equity in this context represents the ability of researchers both to read research outputs, and to publish them. Efficiency deals with optimal production, management and use of the scholarly literature, while sustainability looks at outcomes for scholarly communication, and the institution of science, over the long term.

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### Equity

In 2009 Shieber argued that the publishing system was inequitable, as publishers and authors perceived an 'unlevel playing field' in choosing between the subscription and APC-business models. He disavowed the hybrid approach as subject to a 'tragedy of the commons', and his proposals for achieving 'equity' for OA journal publishing have much in common with the Plan S principles, including a guarantee to underwrite the cost of APCs and the use of price caps.<sup>60</sup>

Proponents of Plan S further argue that it will make knowledge itself more equitable.<sup>61</sup> Yet equity is a subjective term, and many of the critiques of the Plan centre on the fact that it

5 could perpetuate or even exacerbate inequalities within science and scholarly publishing. A key bone of contention is the Plan's apparent preference for immediate, or 'gold', OA, which often involves the payment of APCs. Various commentators have expressed fears that this could lead to a two-tier publication system,<sup>62</sup> that it fails to commit to open infrastructure,<sup>63</sup> and that a large-scale shift to the APC model would create new barriers for participation in the system for many regions and researchers.<sup>64</sup> Still others have taken issue with the coalition's willingness to work with commercial publishers, arguing that academic-led publishing is 'inherently more equitable' than traditional journals.<sup>65</sup> Finally, the insistence on stringent quality criteria for publication venues risks disadvantaging journals and platforms in the developing world, which may lack the required technical infrastructure.<sup>66</sup>

While some researcher groups have commended the coalition on a 'bold and ambitious step' towards OA,<sup>67</sup> the decision to restrict the venues in which authors may publish has elsewhere been termed both 'unethical' and 'a violation of academic freedom'.<sup>68</sup> The debate on this point is not new,<sup>69</sup> and the charge of infringement of academic freedom has been disputed by other researchers,<sup>70</sup> but it could prove a lightning rod for dissent as awareness of the Plan's implications grows amongst the academic community. No publishing system can be perfectly equitable, but, as the coalition evolves, it will need to put in place participatory governance and conflict-resolution mechanisms to acknowledge and address these concerns.

### Efficiency

At a macro level, the existing system of scholarly publishing has proven remarkably efficient and resilient as a means of sharing knowledge, despite concerns over delays in publication and peer-review processes. As Stephan has observed, the reward system in science (though not necessarily in social science and humanities) is built on 'priority' – being the first to communicate a finding – which in turn encourages the production and sharing of knowledge.<sup>71</sup> Academic journals and other scholarly publications enable researchers to establish priority through their function of registration, while also disseminating findings to their intended audience, certifying their validity through peer review and preserving them in the form of an archival record.<sup>72</sup>

Open access is intended to maximize the impact, visibility and efficiency of the whole research process.<sup>73</sup> Yet the same reward system that has been so efficient in encouraging the historic sharing of knowledge now fails to recognize, value and reward efforts to open up the scientific process.<sup>74</sup> Accordingly, the coalition has stated its intention to fundamentally revise the incentive and reward system of science, using the San Francisco Declaration on Research Assessment (DORA) as a starting point.<sup>75</sup> While few would disagree with the need for reform, questions have been raised as to how it can be delivered in practice, given the global nature of the scientific reward system.<sup>76</sup> Wellen observed in 2013 that policymakers appeared to be interested in reforming the traditional publishing model 'without necessarily disrupting the academic commons which that model is meant to serve'.<sup>77</sup> Plan S signals a newfound willingness to disrupt the commons in the interests of reforming publishing. Delivering a more efficient scholarly publishing system will therefore require joined-up thinking that recognizes the inter-connected nature of research and publishing.

### Sustainability

The long-term future of Plan S depends on many factors, including its adoption by other funders, the response from institutions and libraries, the nature of transitional arrangements and the willingness of researchers themselves to comply with the Plan's provisions. Commentators have been quick to forecast a gloomy future, under which Plan S succeeds only in increasing costs,<sup>78</sup> damaging learned societies,<sup>79</sup> undermining

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6 the quality and reliability of the scholarly record<sup>80</sup> and eroding the scientific standing of those countries who participate.<sup>81</sup> The Plan's assumed preference for APC-based models lies behind much of this criticism, with commentators variously asserting that it should give greater credence to green (self-archiving in repositories),<sup>82</sup> diamond (journals with neither APCs nor subscriptions)<sup>83</sup> or hybrid (combined subscription and APCs)<sup>84</sup> models. Further questions abound, including how the Principles will be applied to monographs and to unhypothecated funding mechanisms like the UK's quality-related funding.

What is clear is that monitoring and feedback mechanisms will be essential to assess the Plan's effectiveness, to evaluate the continued sustainability of the scholarly communication system and to ensure the coalition remains accountable to the research community, national governments and the public, on whose behalf it ultimately seeks to act. The work done to date by the EC's Open Science Monitor<sup>85</sup> and the Universities UK Open Access Coordination Group,<sup>86</sup> among others, provides firm foundations for this. In light of Plan S, additional mechanisms should be established to consider:

- access to publishing, both within Europe and beyond, with a particular focus on researchers in the social sciences and humanities and in developing nations<sup>87</sup>
- the availability of compliant publication venues at disciplinary level
- the development of underpinning infrastructures, with a preference for these to be open wherever possible
- the evolution of incentive structures for researchers, including evidence of adverse impacts on researcher recruitment, retention and international collaboration for researchers and institutions falling within the scope of Plan S
- the continued development of a competitive OA market, with an emphasis on the potential for market distortion due to the proposed cap on APCs.

## Moving from principles to practice

The coming years will see the coalition faced with a myriad of implementation questions. In working out whether and how to respond, they may wish to keep two findings from Elinor Ostrom's work on governing the commons in mind.

The first is the value of *polycentricity*, which can be defined as the coexistence of many decision centres with autonomous and sometimes overlapping prerogatives, some of them organized at differing scales, and operating under an overarching set of rules.<sup>88</sup> Anyone who has sought to navigate the varying and potentially conflicting OA requirements of funders, institutions and publishers will recognize the 'overlapping prerogatives' of current actors in the OA landscape, and the 'mandate messiness' that results.<sup>89</sup> Harmonization is a desirable goal, but the intention should not be to impose a homogeneous approach which fails to take account of varying national and disciplinary cultures. Instead, the principles must operate as an overarching framework within which local actors – funders, institutions, publishers and learned societies – remain free to build trust and create a diverse environment favourable to discovering better solutions to problems.<sup>90</sup>

The second is the need for *adaptive governance*, meaning that the system of rules is able to evolve and adapt over time.<sup>91</sup> The doomsday scenarios envisaged by some commentators as a result of Plan S assume a blind adherence to a set of principles which, if followed to their logical conclusion, might indeed have a range of adverse consequences. It is all but inevitable that publishers will find innovative ways to protect their margins, learned societies will struggle to adapt their business models, and some researchers will find funder mandates to be at odds with career incentives. Yet this does not mean the Plan must fail. The establishment of an equitable, efficient and sustainable academic commons is an ambitious goal. Its successful governance will require that, as circumstances change, rules – and even principles – are adapted accordingly.

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## Abbreviations and Acronyms

A list of the abbreviations and acronyms used in this and other *Insights* articles can be accessed here – click on the URL below and then select the ‘full list of industry A&As’ link: <http://www.uksg.org/publications#aa>

## Competing interests

The author is founder and director of a consultancy company which provides advisory services to funders, universities, publishers and other stakeholders within research and scholarly communication. In some cases these services include the provision of advice on the topics discussed in this article.

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