

First, I am a supporter of Open Access and believe that the 'double dipping' carried out by publishers using a hybrid model is unfair and should be stopped. However, Plan S has a number of problems, most notably its potential impact on researchers who do not have grants. The speed with which the changes are being introduced is also unreasonable – it will not give academics and publishers enough time to adjust and could have dangerous consequences for both. Below, as well as constructively criticising Plan S, please note that I also propose some ways in which it could be improved.

Speed of change – the only reason given by UKRI and Wellcome Trust representatives for the need for such haste is that we've had Open Access for ~15 years and the publishing model has not shifted sufficiently far in that time. However, there is no logical link between past failure and the speed of required reforms. Past failure may be legitimately cited to justify that change is required, but does not dictate that change be achieved at break-neck speed. No pilot studies have been carried out on the effects of Plan S changes – this is poor science and it is ironic that research funders (who champion rigour and end-user engagement) seem hell bent on going down this untested path so precipitately. If you have any doubts that the speed of implementation is too fast, just consider the fact that we are being consulted about the impact of Plan S at a time when we are submitting papers that could come out after Plan S has come into force. There are slower approaches that would increase the pressures on publishers and researchers more gradually and give them more time to adapt. For example, a hybrid journal could qualify as OA compliant under Plan S if there is no embargo imposed on X% of its papers, with X increasing steadily across several years. We could also look at a model in which hybrid journals must have a Rapid Communication category, and that all such Rapid Communications should be published without embargoes, in order to qualify as OA compliant – this would mean that the morally imperative papers relating to human health and well-being etc. (where a result is vitally important), could come out sooner.

The focus on embargos is a bit of a red herring and has not been thought through properly. I agree that embargos of a year or more are unreasonable and should be eliminated. However, if the moral argument for OA rests on issues such as getting important results out as quickly as possible, then there is more to this than just embargo length. For example, we know that journals take different amounts of time to process papers. Suppose Journal A receives a paper in January, publishes it in April, but has an embargo that means it does not become fully accessible until July. In contrast, Journal B receives the paper in January and then publishes it in September with no embargo. Journal B would be OA compliant under Plan S, whereas journal A would not, yet the latter has got the results out and accessible to all earlier than B.

There is a danger that Plan S will create a two-tier academic system in which those with grants have a huge advantage over those who do not. This will adversely affect some areas more than others – e.g. biomedical research over the rest of STEM research, STEM research over history and other humanities subjects where grant funding is in shorter supply, academics in countries that do not sign up to Plan S over those in countries that do, etc. Early Career and retired researchers will be disadvantaged. Moreover, one of the driving forces behind Plan S is that cases where, for example, a PhD student in India is unable to access papers because they are behind a paywall. But, if that Indian student's institution

can't afford the subscription for the required journals, then it is also very unlikely to be able to pay for that Indian PhD student to publish the result of their own work under a full OA system.

The moral case for OA is being oversold. Yes, we can cite examples of where vitally important medical research lies behind pay walls. However, for the vast majority of research outputs, their impact on the everyday lives of people is much subtler and often takes years before it is fully felt. If there is a moral imperative to make all research outputs globally accessible, then the research funders should consider making funds available for high quality translations of papers into the main languages (I would suggest English, French, German, Spanish, Portuguese, Russian and Chinese as a minimum) – for example, there is a huge body of research from China that I cannot access because it is in Chinese.

It is also nonsensical and, indeed hypocritical for UKRI to sign up to Plan S during a year in which research Council funding to universities for OA has decreased. If Plan S is to work, then research funders must fund the system adequately and not merely hound academics and publishers while reducing funding.

As Plan S starts to bite, universities should start to save money on OA subscriptions. As this happens, these funds should be hypothecated to support the publication of OA research by those academics who do not currently have grants.

I would therefore propose the following changes to Plan S

1. Pilot studies should be Carried out to assess its effects.
2. The research funders backing Plan S should assess the costs of Plan S and ensure that they pay for it.
3. Plan S should be introduced in a slow and more phased way - e.g. by gradually reducing embargo times (e.g. and initial ban on embargos of more than six months), and by gradually increasing the percentage of papers published without embargos.