Coalition S and Plan S: Implications for the Knowledge Ecosystems in Latin America

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> Last year I was named Ambassador of cOAlition S. I believe that this task is aligned with my commitment to many different initiatives to promote Open Access. A significant part of the community does not have information about this initiative and its implications to the knowledge ecosystems of scientific production and communication in the region, and this is why I decided to write this editorial.

> Plan S is an initiative that, in the words of Schiltz (2018), President of *Science Europe*, emerges on the foundation of the initiatives of Berlin 2003 and of the statement of 2016, in which all the ministers of science of the European Union (EU), united in the Council of Competitiveness, made a commitment to make all European scientific publications openly accessible by the year 2020.

> It is clear that researchers have the right to publish wherever they want, and it is just as evident that journal paywalls prevent various communities from having access to the contents. This creates an ethical rupture: people who pay taxes that in part are destined to finance science, have the right to know the results of their investment. Preventing open access to information financed with public resources contributes to widening the breaches created by inequality. If governments, via the institutions responsible for science and education, promote or tolerate paywalls, they contribute to inequality. This choice implies a political cost since it directly affects the principles of liberal democracies, which are supposed to guarantee the access to information, as pointed out by UNESCO in various statements (UNESCO, 2011).

> By contrast, the way Plan S principles are formulated provide evidence for how the systems of assessment and incentives for researchers are completely controlled by the commercial stakeholders that manage the editorial industry of knowledge. Thus, companies like Elsevier not only control thousands of paywalled journals, but also own systems like Scopus, which are used as criteria of assessment to assign

How to cite: López-López, W. (2019). cOAlition S and Plan S: Implications for the Knowledge Ecosystems in Latin America. Universitas Psychologica, 19. https://doi.org/10.11144/Javeriana.upsy19-1.csps

incentives in a good part of Latin America. A company like Clarivate owns Web of Science (WoS) and its assessment system Journal of Citations Report (JCR), that it is also used as an assessment resource. These two companies claim that they are not responsible for the use that the institutions make of their scientometric information. Both companies have written about the limitations of their indicators, and they have even stated that it is not adequate to use them as instruments for the assessment and generation of incentives (Flórez-Carranza, 2018; López-López, 2019a). Nonetheless, we should question the way in which these systems of information are put to use in government agencies and universities, making sure that procedures based on them are transparent and fair, and we have to critically examine the discussion and decision making processes that lead to the adoption of criteria for the evaluation of scientific production by the decision makers on the governmental and institutional systems of assessment, incentive assignation and accreditation.

It is clear that many decision makers lack appropriate knowledge and perspective on the functioning of the knowledge ecosystems. The interests and tensions between stakeholders, the decision processes and appropriations produce distortions that affect governance, and frequently have ethical implications for managing the knowledge ecosystems (López-López, 2019b).

Because of this, Plan S has adopted the DORA declaration of 2012 as one of its 10 principles. This declaration promotes processes of assessment that are not centered on global and biased journal indicators, which take the article as the unit of knowledge that should be the central core of the assessment. Instead, DORA pleads in favor of the use of a variety of qualitybased assessment criteria.

Plan S is squarely opposed to hybrid journals (subscription journals that also contain some open access articles). At the same time, it recognizes that editorial companies have cost structures, and therefore endorses "transformational agreements" in which subscription fees are replaced by 'publish and read' fees. cOAlition S views such transformational agreements as part of a brief transition process to full open access (cOAlition S, 2019).

In Latin America this has two major consequences. On the one hand, most latin American journals are completely open access and our region is the pioneer of a long tradition of repositories that are integrated with this publication model. First of all, , initiatives such as Latindex in the Universidad Nacional Autónoma de México (UNAM), an open access directory, and the databases Periódica and Clase since the end of the 70's, were already on this path. In 1998, the San José Declaration led to the creation of the Latin-American and Caribbean system of information in health sciences that would give way to the Virtual health libraries known as BVS, that would sprout branches sponsored by the consortium Regional Library of Medicine, the Pan-American Health Organization and the World Health Organization (BIREME/PAHO/WHO).

It was clear from the start that Latin America considered it to be of critical importance that a field such as health had access to knowledge of epidemiology, and that developments in biomedicine were available for free. Later on, the initiatives Scielo and Redalyc were developed, the first originating from Brazil and the second from Mexico. Scielo had an emphasis on biomedicine, while Redalyc focused on social sciences. Finally the initiative Dialnet was developed in Spain. These projects expanded in different ways across Latin America. Scielo aims at decentralizing its operation, delegating on each country the creation of the infrastructure necessary to its function, while Redalyc grew with a model centered on a single country and a single institution. Both systems ended up multiplying the visibility of a part of knowledge produced for and by the region. However, Scielo focused on broadening the international visibility. Scielo's commitment to the metrics derived from WoS led to them giving part of their platforms to the company Clarivate, an operation that was not clear to all the stakeholders involved and that has raised a lot of questions about the transparency of the its governance. Redalyc, for its part, has made an effort to move away from the traditional metrics, and has not only criticized them, but has also tried to generate alternative metrics. Redalyc's principal weakness lies in its concentration in one actor: the Universidad Autónoma del Estado de México (UAEM), which finances the entire infrastructure of the operation. This situation makes Redalyc vulnerable to unfortunate economic and political crises of the institutions, and the general ignorance about the irreplaceable value of an initiative such as this one for the region does not help. As I have said in multiple contexts, Redalyc is a cultural patrimony of Mexico and Latin America, which had entrusted its contents and scientific results to the platform, a Latin American digital Library of Alexandria. Redalyc has contributed in a unique way to make visible the contents produced for and by the region, with a special focus on research results that represents Latin America's cultural DNA: its journals of human and social sciences.

In spite of the above, the position of Redalyc in the last few years has evolved towards the idea that the models that accept transformational agreements such as the ones endorsed by the Plan S are not admissible, and that any payment in the scientific communication circuit is not admissible: no part of academic publishing can be commercial. It is however important to take into account that Latin America it is not uniform in its ecosystem of production and formation of knowledge. As shown by the most recent diagnostic of higher education in Ibero America published by OEI (2019), a rising number of countries of the region have private higher education rather than public education. This unfortunate reality has as a consequence that the publication processes in the region have costs that are not always transferable to the ones that pay for education. Sadly, they opt for not producing journals or eliminating the ones they have, and instead send their papers to paywalled journals or journals that request payments from the researchers (APC). Besides, it is clear that countries with diverse ecosystems and with less resources are highly vulnerable

to multiple interests and pressures, as has been mentioned before (López-López, 2019a).

Furthermore, researchers are also caught in this complex dynamic since they will have to take into account that publication of papers that are (partly) financed by Plan S Funders will demand that these publications are in open access. In the case of Latin America this will increase the difficulty since the system of incentives is linked to the already criticized metrics that, in general, are associated with the journals of the big editorial companies with paywalls or APCs that can simply not be afforded by the countries of the region with fragile economies. Therefore, it is the responsibility of the scientific governance in the region, editors and researchers, to prepare for this new conditions.

In this regard, Latin America should incentivize publication in quality open access journals. At the same time Plan S can finance researchers and pressure journals with APC to regulate their costs, to make them transparent and for the payments of APC to be in line with the payment capacity of the countries (Purchasing Power Parity (PPP)). It is evident that the ideal is the Diamond model of open access. However, Gold open access, which requires the payment of an APC by the authors or their institutions/ funders, could be made more fair and transparent, and it would allow to publish. In addition, there is the Green model, in which the authors can upload their articles and share them in post-print without the need for paying the APC, in the case of the ones that are covered by subscriptions. These business models are part of our ecosystem of scientific communication and as they will not be unified in the short term, it is urgent to find solutions leading to sustainable and reasonable models of scientific communication for the different stakeholders in the system.

Clearly, Plan S plays a central role in open science around the world since it is looking to develop multiple solutions for some of these problems in a context where it is clear that the big editorial houses will not suddenly give up their interests in this multimillion business. In this sense, the cOAlition S needs to keep adding

members: today it has 24 members, including the World Health Organization, the European Commission, the European Research Council, the United Kingdom Research and Innovation (UKRI), the Bill and Melinda Gates Foundation, the Program for research and training in tropical diseases (TDR), program to which UNICEF and the World Bank are associated, and the United Nations Development Program (UNDP), among others. There is a clear bias towards organizations linked to world health that it is explained by existing global threats to health, for which it is even more urgent to find viable formulas to develop open access, I hope that my new role as Plan S ambassador will allow me to contribute on this direction.

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