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► **To cite this version:**

Françoise Rousseau-Hans, Christine Ollendorff. Publication and open access practices of French researchers in 2019. [0] Consortium Couperin. 2020. cea-02510332v1

HAL Id: cea-02510332

<https://cea.hal.science/cea-02510332v1>

Submitted on 17 Mar 2020 (v1), last revised 25 Jun 2020 (v2)

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Publication and open access practices of French researchers in 2019

Synthesis of the 2019 Couperin survey – January 2020

Survey conducted within the framework of the National Plan for Open Science (Plan National pour la Science Ouverte) and supported by the Committee for Open Science (CoSO).

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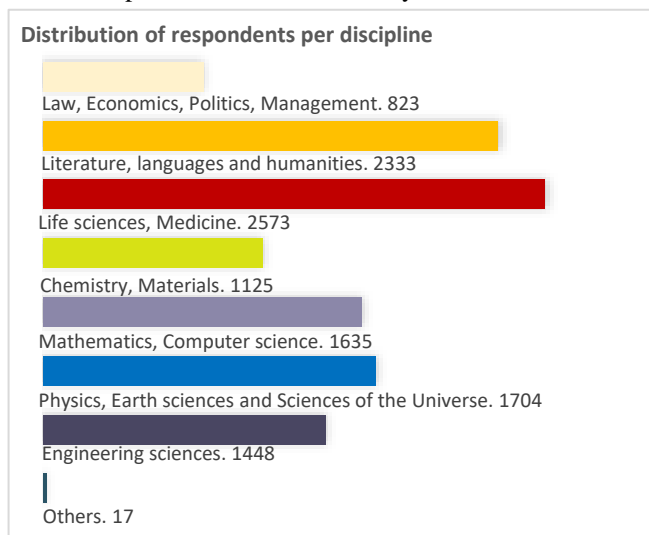
1. INTRODUCTION

After many years spent in raising the awareness of the French higher education and research academics and researchers, the Couperin consortium wanted to have their feedback on open access to scientific publications all the more so as negotiations with publishers involve more and more open access aspect.

Relying on previous surveys conducted by INSERM and INRA on the same topics, the consortium has adjusted them to the multidisciplinary context. The Couperin survey which totalled 11,658 responses was released in spring 2019 and relayed among the various institutions. This synthesis highlights the main results detailed in the full document and appendices.

2. SCOPE

The survey focuses on the analysis of the relationship of researchers with scientific publishers and on the open access practices to journals and platforms. The online questionnaire relayed via library and research units was answered by 11,658 respondents in the HER institutions, which accounts for about 10% of the public research community.

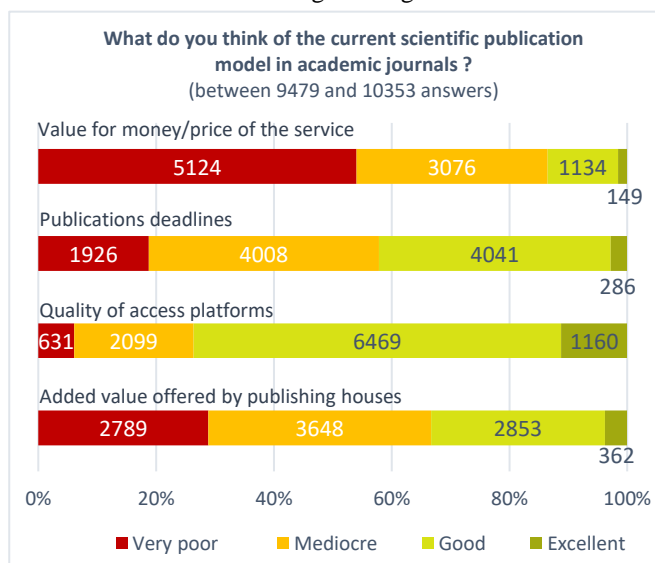


The survey included 36 closed questions. Its value/contribution, however, mainly relies on the verbatims (more than 11,500). In this respect, we are very grateful to the researchers who took the time to their express their detailed views in these comments.

3. RESEARCHERS AND PUBLISHING HOUSES

Dissatisfaction with the conventional scientific publication model

Overall, the respondents voice their clear dissatisfaction with the contribution of scientific publishers, especially when it comes to the value for money aspect (85% dissatisfied respondents). And yet, nearly 80% of the respondents give good ratings to the quality of platforms which is unanimously praised by the scientific community. Many respondents point out that it is crucial to make the distinction between leading international publishers and learned, academic societies ; the latter have a much better image among scientific communities.



Although the current global scientific process is criticized for being too « financiarized », this does not mean there is a strong will to radically change the system. The respondents acknowledge the quality of some leading journals in their discipline(s) as well as their international outreach. The weight of habits, joint international publications, assessment criteria still often based on high impact or ranked journals and the reluctance to opt for new models whose performance is still unknown, are major impediments to change. It is to be noted that some respondents think that the survey is too 'open-access focused' and that closed questions do not always allow them to express a different or opposite view.

Excessive costs: a major limitation to submitting publications in scientific journals

80% of respondents think that the excessive cost of the exclusive transfer of copyrights and that the «reading barrier» linked to the subscription system are major limitations in the current system. More than 50% respondents report that the peer review process is far too long although these results slightly vary according to the discipline. Yet, some researchers readily acknowledge that the time taken for peer review is necessary to ensure a quality process. Researchers in physics and chemistry are more prone to admitting that this is less of a problem since they often use arXiv to make their scientific output available more quickly.

Coping with tough negotiations

The steady rise of subscription fees, the emergence of new publishing models and the need for wider open access to enhance the visibility of research output make negotiations with publishers tougher when it comes to obtaining lower prices or more services at the same or even lesser costs. In this context, relations with publishers can be tense. Over 50% of the respondents (and 80% among mathematicians) are in favour of an interruption of access to journals by the scientific communities themselves; this firm stance could allow for a stronger bargaining power. Respondents also suggest stepping down from the editorial boards or refusing to perform peer assessment.

This protest, however, goes together with the request for alternative access. A concerted and collective action at European or international level is considered as indispensable. Researchers underline that such an action must be supported by leading researchers since it could be damaging to junior researchers' careers. Both the peer review issue and the need for an international circulation of their scientific output are limiting researchers' independence vis-à-vis leading journals in their field of study.

Assessing peer reviewing

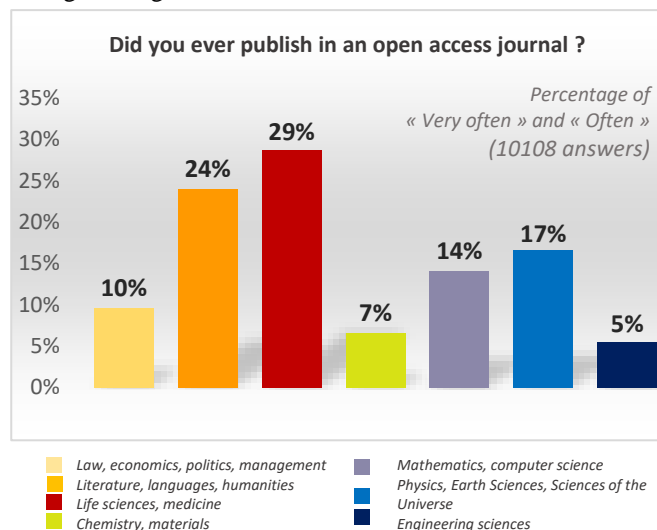
Conventional peer reviewing remains a widely recognized and valued means to ensure quality publications. It is organized by editorial boards and/or by proofreading committees composed of researchers of high reputation in their discipline and goes together with set deadlines to produce quality reports. In this respect, some respondents outline the pressure put by publishing companies in order to shorten these deadlines. The weakest point in the system is the poor recognition of the work carried out, which results both into a poor career path and low pay. The issue of transparency and anonymity on the authors and proofreaders side is still pending and highly controversial. Several comments specify the desirable avenues for achieving better peer reviewing, e.g. introducing a compensation system, anonymity or not for authors and proofreaders...

4. OPEN ACCESS PUBLISHING IN SCIENTIFIC JOURNAL

A patterned landscape

The practices of open access publication in journals vary according to the discipline. It largely depends on the availability of high standard journals in the scientific areas of interest. In life sciences/ medicine and literature/ humanities, 29 % and 24 % of the respondents respectively, have already often published a paper in an open access journal, as against

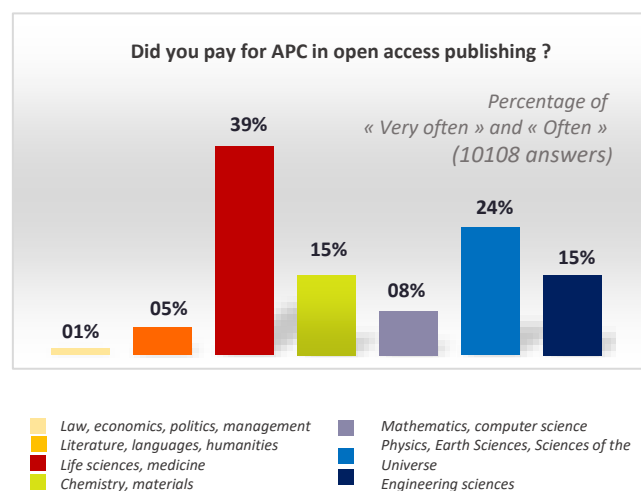
under 7% interviewed researchers in chemistry-materials and in engineering sciences.



A marked preference for publishing in « native » open access journals and not in hybrid journals has been observed across disciplines.

Article processing charges (APC)

Article processing charges (APC) for open access publishing is not at all systematic. Nearly 40% of the respondents in life sciences-medicine or 24% in physics state they have paid them in many occasions, as against only 5% in literature and humanities and less than 2% in law, economics, politics and management.



Why choose open access publishing?

Open access publishing in journals is on the increase but is not yet common since the dissemination of scientific knowledge is achieved mostly via subscriptions. The prior motivation for opting for open access is the provision of immediate access to peers and to the general public (80% respondents) followed by the permanent entitlement to distribution rights and the access to innovative journals (50%). Yet, comments are mixed: whereas some respondents highlight the strengths of open access publishing (improved circulation, quick publishing process), others, especially those who have paid APCs, point to the poor value for money.

Reluctance to opt for open access publication

The development of open access cannot be equal across disciplines since the latter do not have the same offer in terms of sufficiently recognized open access journals. The lack of budget and of acceptance to pay or the fear of having an increasing number of « predatory journals » are the main factors accounting for the reluctance to open access. Less than 10% of those who never submit any publication in open access confess they do not do it for lack of interest.

Quasi-unanimous refusal to pay for open access publishing

Despite diverging practices concerning the payment or non-payment of publication fees, 80% of the respondents think it is fair not to pay or to pay less than 500€ to have their paper circulated in open access. Most of them are convinced that the funding of open access should neither rely on authors nor on their research laboratory. The payment of open access must not be correlated with publishing: paper acceptance and its funding should be totally independent from each other. Moreover, many respondents think that the research laboratories budgets are not sufficient to pay for these expenses.

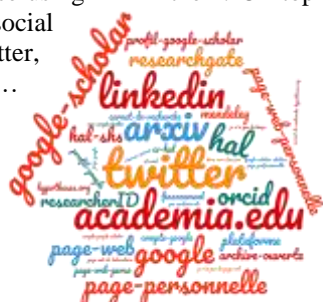
5. USE OF SCIENTIFIC JOURNALS AND PAPERS VISIBILITY

Accessing full text by all means

Access to information is essential to the research process and some scientific papers are not available for free but on subscription only. Yet, most researchers manage to access to the desired article. Half of the respondents and more than half among the older ones, use their scientific network: request to authors, request for a copy to libraries or subscribers. They also look for the wanted articles on legal platforms (open archives or social networks) as well as on illegal ones. All in all, over 90% of the respondents do not give up when access is not available and less than 5% choose to pay for the solution provided by the publisher.

Dissemination of scientific publications: new practices

On top of the conventional scientific communication vectors (journals, conferences, books...), some researchers also use diversified dissemination tools to enhance the visibility of their work : personal or research lab web pages (especially in maths or computer science) as well as research social networks. The latter are used by more than half of the respondents who highly criticize them for their invasiveness, as shown in their verbatims. The HAL advanced functionalities which allow for the uploading of resumes and lab pages are praised by those using them. On top of these dedicated tools, social networks such as Twitter, LinkedIn, Google Scholar... appear to be valuable means to increase the circulation of results.



Clouds of words with <https://www.nuagesdemots.fr>

Choosing a scientific journal

Choosing the journal for submitting a publication is central to the publication policy. The criteria of choice are quite revealing in terms of traditions in the various disciplines. 80% of respondents stress the importance of the journal notoriety and of the correlation between the journal and the paper content. Over 80% of the respondents in life sciences-medicine and chemistry-materials point out the importance of the impact factor which plays a lesser part for mathematicians, computer scientists and researchers in literature and humanities. Open access publication opportunities are essential only to 20 to 40% respondents according to disciplines.

Indicators: from qualitative to quantitative assessment

The way research work assessment is carried out appears to be an obstacle to the evolution of scientific publications practices. Quite reassuringly, the qualitative indicators based on the reading of the most significant works are unanimously praised by the respondents across disciplines. Yet, as illustrated by the respondents' verbatims, they can be complemented with quantitative indicators which help to appraise an ever-increasing volume of publications quite quickly. Some comments highlight the risk of bibliometrics which strengthens the « overpublication » trend, thus threatening research quality.

6. OPEN ARCHIVES AND PREPRINTS

Open archive submission: a longstanding practice in most scientific communities

Open archives make the publication content available once researchers have deposited their articles to a thematic archive like ArXiv, in institutional archives like the HAL repository or to a dedicated entity archive. 70% of our survey respondents have already deposited their articles in an open archive, « depositing » meaning here either indicating the article reference or submitting the full text. There are huge differences according to the discipline: 94% in mathematics-computer science as against 48% in medicine

Open archives are clearly identified as part of the trend to open access (87% of the responses) and yet less than 40% of the respondents think they actually meet the obligations of research funding bodies.

The obstacles to opting for deposits in open archives as mentioned by the respondents also show a poor knowledge of the legal aspects (publishers' policy, releases, co-authors agreement) and a lack of involvement of many researchers who think that the depositing process is not part of their job (lack of interest, delegation to co-authors or institutions). The assumed quality of the documents available in open archives also raises many questions among respondents.

Dealing with preprints: from enthusiasm to caution

The *preprints* sharing principle, first stage in the writing of an article prior to peer review is discussed among scientific communities. 32% of the panel respondents are involved in this practice which is more discipline-dependent than other scientific publications practices. It is closely related to the availability of recognized repositories with more or less extended thematic scopes.

Beyond arXiv, largely praised by its users, other well-established or new servers are quoted: REPEC, BioarXiv, PsyArXiv, ...

Approximately two thirds of the respondents in our panel have never submitted any preprint, most often for lack of information but also for fear of



6. CONCLUSION

Thanks to its unique scope, number of respondents (approx. 12, 000) and variety of disciplines, this survey helps to shed light on the way French researchers regard current scientific communication in journals and to grasp their views on open access.

Overall, researchers are in favour of open access and apprehend what is at stake, namely the free dissemination of scientific results. This objective, however, is to be fulfilled effortlessly, in a simple and legible way, without any direct funding by the research laboratories and without any disruption to the conventional journals landscape in their own discipline(s).

The scientific publishers contributions, particularly those of the « major publishers » are criticized and sometimes quite aggressively: their excessive costs are pinpointed by more than 85% of the respondents. The need for transformation is acknowledged but must not rely on an increased number of journals which could lead to overinformation and downgraded research standards. The research assessment criteria, among them those using the impact factors, are also considered as hurdles to the progress of scientific publication. In many disciplines, the peer review process remains a recognized means to ensure the quality of publications. Yet, it is considered as hardly transparent and not sufficiently valorized. So, it should change especially in today's globalized and more and more competitive context together with researchers' work appraisal. Researchers are willing to privilege sustainable publishing in collaboration with the ethical publishers who privilege a virtuous economic model. For all that, researchers are not ready to put additional effort in order to adjust to more and more complex publication processes. Supporting them in this move might prove highly beneficial.

plagiarism or for fear of not being able to later publish their results in other journals. Quite interestingly, the communities using arXiv consider submission as a protection against plagiarism by introducing the notion of anteriority of their work. The weight of peer reviewing process and the huge number of circulating scientific papers are additional reasons for the non-use of *preprints*.

7. ACCESSIBILITY TO RESEARCH DATA: « IT ALL DEPENDS »

Some journals demand the availability of the data linked to an article. Our survey intended to see how this demand was perceived. Many respondents think that this practice is indispensable although it is a constraint. 20% of the respondents think it is useless or a real obstacle to publication in these journals. There is very little difference across disciplines in this respect. In their comments, researchers make huge reservations on this type of obligation and insist on having a case per case approach and on adjusting the eligible data to the sharing process. Some of them underline how crucial it is for these data not to be captured or made available online by the publishers.

Depositing in institutional archives such as HAL is considered as simple and quick by a majority of respondents but many point out that they should not have to perform this purely administrative task which has nothing to do with the scientific publication process itself. The usefulness of open archives, both institutional and thematic, as vectors of dissemination of open science is well understood and their advanced functionalities, if any (resumes, researchers' pages) are valued.

The *preprints* archives are praised by the researchers who submit their research output especially in mathematics, computer science, physics and economics; they appreciate the chat functions on the articles. Many scientists, however, are still reluctant to use them for fear of finding articles that are not up to the expected standards and because *preprints* are not submitted to peer review. Yet, this opportunity is emerging in new fields of research such as chemistry and life sciences. The positive opinion on research data accessibility does not depend on disciplines and it remains moderate due to the risk of plagiarism, confidentiality issues and constraints linked to data submission. Some of the respondents express their concern on the potential capture of this new « treasure trove » by commercial publishing houses. All these data on publication, open archives *preprints* and research data show that the French researchers are aware of the biodiversity of the scientific publication landscape and are quite in favour of a move towards an open science, provided that it does not drastically change their habits.

The full report is available on:

<https://hal.archives-ouvertes.fr/cea-02450324>

French version is available on :

<https://hal.archives-ouvertes.fr/cea-02450327>