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Mission report on open science and copyright

PRESENTED TO THE HIGH COUNCIL FOR LITERARY AND ARTISTIC PROPERTY

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Table of contents

SYNTHESIS

1. The **scientist-author** appeared at the same time as modern science. However, this author is **not like any other author**: more than a property right, scientific authorship[1] is related to the acknowledgement of its author's work; this acknowledgement stems from the act of publishing itself, following peer-reviewing.

2. In light of this, scientific writing has gradually asserted itself in the specific form of an article published in a periodical journal by a **specialized publisher**, with scientific authority. Publishing in journals was initially perceived as a **tool for disseminating and for qualitative filtering** (peer-reviewing) to guarantee the integrity of the results of the science. As such, **as well as protecting the property** of the researcher and their assignee, copyright[2] could be seen as a **tool for preserving the originality** of the research work and for **ensuring the scientist is identified**.

3. **The challenge of opening up science** appeared against a **twofold backdrop**: a rise in the subscription costs for digitalized journals and, at the same time, the opportunity to disseminate writing on a global scale through internet. Open access to publications, which is the more specific subject of the report hereof, therefore developed with a **twofold goal**:

- To ensure science and knowledge could be disseminated by taking advantage of new technology providing access on any medium, at any time, on a global scale;
- To spare the State, which funds research and researchers upfront, from subsequently having to pay a second time to ensure that universities have access to scientific articles.

4. This momentum has shaken up the publishing agreement, which is intended for the author's assignment of their economic right to a publisher, whilst retaining their moral rights. France made a choice: current Article L. 533-4 of the French Research Code, taken from French **Act** No. 2016-1321 of 7 October **2016 for a Digital Republic**. This first **compromise** of depositing in an open archive at the end of an embargo period (6 or 12 months depending on the discipline) benefitting traditional journals is a compromise that can be classified as **green open access**. It has not resolved the tensions that can arise in France between those in favour of a greater move towards open access, with the support of the French Ministry for Higher Education and Research, and the rich fabric of French publishers, attached to copyright. Since then, international recommendations have gone much further. For instance, the UNESCO recommendation for open science, published in November 2021. This text is not binding but does steer a course towards widespread open access. The same applies at European Union level, where the latest Council conclusions (23 May 2023) called for "*immediate and unrestricted free access in research publishing involving public funds, with transparent pricing commensurate with publishing services and in which costs are not covered by individual authors or readers*".

5. In light of this, the mission was to focus on two issues:

> *1° To examine how the current legislative and regulatory framework should be implemented given the goal of striking a fair balance between widespread dissemination of works in the field of science and the vitality of scientific publishing.*

[1] The term authorship is rarely found outside specialist literature.
[2] The term copyright is used in the sense of the French copyright system

2° To analyse the proposals for changes to this framework that are currently being put forward in France and at EU level and to assess their implications in terms of literary and artistic property, namely with regard to the possibility for researcher-authors to control the form in which their publications are made available.

6. In its first part, the report hereof questions the viability of the various open science models. Although copyright has a constitutional foundation (Decision No. 2006-540 DC of 27 July 2006 based on Articles 2 and 17 of the French Declaration of the Rights of Man and of the Citizen) and a strong Community framework (Directive 2001/29/EC of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, completed by Directive 2019/790 of 17 April 2019), these frameworks do not impose a specific model. Each model must, however, respect the author's freedom and their moral rights, meaning that some models have not proved to be viable enough to justify a more specific or more binding legal framework.

7. This applies for instance to a return to the *status quo* prior to the Act for a Digital Republic, with no open access and no bibliodiversity except for a few mobile barrier initiatives, at odds with the challenges of disseminating knowledge and, at a time, when the percentage of articles published by French authors in open access was already between 40.15% (according to a Clarivate Report) and 69% (according to the Open Science Barometer) in 2022.

8. At the other end of the scale, the widespread use of **diamond open access**, if it were to become the only model, enabling free, open access to all scientific articles without funding by subscriptions (readers) or by APC (*Article processing charges*) and, as such, based on academic and/or partnership grants, does not, in the mission's view, provide adequate guarantees in terms of independence for the author, who will be subject to a single external funder and disseminator, often state-owned, for the dissemination of their writing.

9. On the contrary, **green open access** (publication in a journal then, after an embargo period, deposited in an open archive) and **golden open access** (native open access through the author funding the publication), which continue to involve the intermediary of a third-party publisher (filtering and disseminating) and which are found in the major research countries, appear to be **viable**, subject however to precise monitoring of changes in publishers' turnover (*Proposal No.1*). In this respect, it seemed useful to harness the real potential of green open access by ensuring the publications concerned could be explored and metadata access facilitated in order to develop efficient research tools (*Proposal No.5*). The mission deemed that **transformative and general agreements**, which organize the move towards the native open access on a conventional basis, represented an approach **to promote provided there was detailed monitoring of related costs**.

10. **In its second part, the report, which focuses on scientific writing, proposes a more specific legal framework for those models that appear realistic**; this framework has to be based on copyright fundamentals, in a framework that takes into account, given the frameworks dedicated to science, the systemic challenges of copyright (*Proposals No.2 and No.3*), and any new exception must comply with the 3-step test of the Berne Convention (*Proposal No.7*).

11. It is, in this respect, particularly under the terms of the Act for a Digital Republic, which only provides for the possibility to submit in an open archive, vital to provide a framework for policies encouraging scientific authors to adopt strategies of rights retention vis-à-vis a publisher; such policies cannot be compulsory (*Proposal No.4*) unless they directly break the law.

12. Likewise, licences play **a crucial role as regards the open science perspective**. It therefore seems necessary to reflect on the real compatibility between the licences used and the interests of science, by taking issues related to commercial considerations into account (*Proposal No.6*).

13. More generally-speaking, **the French strategy** must be **inter-ministerial** since copyright may be at issue in this movement, to avoid any "schizophrenia" on the part of the State on this topic of tension (*Proposal No.8*). And, in this definition of French positions, taking French platforms (such as OpenEdition, Cairn.info) into account must be included (*Proposal No.9*) and, through this, the specific challenges of French publishing houses.

14. To ensure authors' protection, the State could also encourage **transformative agreements** by approving **protective standard clauses** (*Proposal No.10*). Authors themselves must be provided with **comprehensive information as regards publishing** their articles, including copyright-specific issues (*Proposal No.11*) and the principle of a **systematic contractual agreement** between the publisher and the author should be reiterated (*Proposal No.12*). **Initiatives to curb piracy** should also be ramped up (*Proposal No.13*). Furthermore, discussions could also be initiated on **creating a collective protection tool** for scientists' copyright (*Proposal No.14*). Copyright must retain its heritage aspect **by integrating the role of documentation services**, including their heritage and preservation aspects (*Proposal No.15*).

15. Last, but not least, the mission felt it was essential for **France to support a position in European and international bodies in line with its interests** and those of its players that is not necessarily the reaffirmation, far removed from business reality and bibliodiversity needs, of the widespread native use of diamond open access (*Proposal No.16*).

16. Without addressing the topic directly, which could no doubt be the subject of another CSPLA mission, it is obvious that without this sufficient, clear and firm legal framework, there is a great risk that **all scientific writing will be improperly exploited** by the major platforms funded by their advertising revenue, which will develop **artificial intelligence** models without any guarantee of the scientific quality of the source data or of fair remuneration for scientist-authors.

INTRODUCTION

The **scientist-author**, perceived as an individual and as a member of a research community, appeared at the same time as **modern science**. Understanding the emergence of this figure means tracing a complex path between issues of very different kinds (scientific, political, economic and social, national and international, individual and collective) and, in this respect, **authorship**, which is hardly to be found anywhere other than in specialist literature[3], is at the crossroads of two particularly notable movements[4] in scientific matters.

The first is the **institutionalization of science**, namely through the development of universities and learned societies: scientific credit plays an increasingly important role, where peer recognition – or conversely peer discrediting – is a central issue. Hence, as Michel Foucault highlighted in 1969, "*a chiasmus took place in the 17th or 18th century; scientific discourse began to be accepted for its own sake, in the anonymity of an established truth or one that could always be newly demonstrated; it is their belonging to a systematic whole that provides this assurance*", in such a way that mentioning the author "*is not simply a way of mentioning the source, but of providing a certain level of 'reliability'*"[5]. Even though scientific writing is not based on a link between the author and their work to the extent it is in literature in so far as it is the result of work undertaken and not the expression of a personality, this development is reflected through two key considerations, which define modern scientific writing[6] and are at the heart of contemporary principles of scientific integrity: the originality of its content and the responsibility of its author - who must therefore be identified.

The second movement is that of the **concurrent development of intellectual property**, in terms of copyright and patent: it led to the emergence of scientific property, whose economic challenges have often been emphasized, namely by Max Weber *(Economy and Society: An Outline of Interpretive Sociology),* but which also answer to the epistemic and moral challenges of scientific research[7]. To simply sum up the underlying economic challenges of intellectual property, they are twofold and contradictory. On the one hand, the desire to ensure that the author of an invention has legitimate exclusivity over the result (product) of their creation, without which research would be discouraged. On the other hand, the awareness of every community to the fact that "*knowledge that remains in a laboratory is useless*", as the saying goes. Intellectual property law as such plays out a balancing act.

We can illustrate the economic balance underlying intellectual property law to be found as follows. For example, an **invention I**. Its cost for the researcher to complete it was 20, but its interest stands at 100 for the community. Let's imagine that the researcher may, if ever there

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[3] Agnès Robin defines authorship as both the formal expression of one's status as an author through the production of a written work associated with one or more names and the authority it implies with regard to third parties through the content it offers for reading (*Droit des données de la recherche. Science ouverte, innovation, données publiques*, Brussels, Larcier, 2022, p. 315).

[4] Gabriel Galvez-Behar, *Posséder la science., La propriété scientifique au temps du capitalisme industriel*, Paris, EHESS Publications, 2020, not. p. 31 and f.

[5] "What is an author?", Conference given at the State University of New York at Buffalo (USA), *in Dits et écrits*, III, text No.258.

[6] Alexis Csiszar, *The Scientific Journal. Authorship and the Politics of Knowledge in the Nineteenth Century*, Chicago, Chicago University Press, 2018.

[7] Gabriel Galvez-Behar, *Histoire de la propriété intellectuelle*, Paris, La Découverte, 2022, and *Posséder la science*, afore., p. 282.

are guaranteed exclusive use, make their invention profitable at a rate of 5 per year. To cover their costs and make a profit, they need to be ensured of exclusivity for 5 years (amortization of 25). It would, therefore, be in the State's interest to guarantee the researcher exclusivity for 5 years to encourage them to pursue their work and reward their research. Secondly, it would be in the State's interest to disseminate the aforesaid invention throughout the community, where interest stands at 100. As we can see, social gain is greater than private gain.

Nonetheless, given these challenges and the institutional framework in which scientific authors work, **the scientist-author is not like any other author**: scientific authorship is as much about the recognition of the author's work as it is about property rights, and this recognition results from the publication itself, following peer review[8]. As such, it is **not only the production of the work** that constitutes **scientific writing**, it is also its **approval** and its **publication**. Two other characteristics stem from this: the assertion of the researcher's freedom of expression, illustrating their academic freedom; the non-existence of low level of remuneration granted in return for the publication, which is partly related to the challenge of "independence" of the researcher, who cannot be a professional author and whose research is funded by other sources[9].

Identifying an author with a work is a key symbolic issue, which, for the scientist-author starting out, seeking visibility, may relegate other aspects of the author's rights to second place; the scientist exists as an author by virtue of publication, as the outcome of a process that confers its value on the writing in question, and this is why it has been said that "*the only way to be credited with an academic production is to be partially dispossessed of it*[10]". The scientist-author, therefore, seeks to disseminate the fruits of their work, which ensures they are acknowledged by their peer community. Although scientists' copyright is not specifically defined in positive law, it is nonetheless redefined in practice in the light of specific features such that questioning the author's rights over their work may appear to be a somewhat disturbing matter[11].

In light of this, scientific writing has gradually asserted itself in the specific form of an article published in a periodical journal by a specialized publisher, with scientific authority[12]. Publishing in journals was initially perceived as a **tool for disseminating** knowledge for learned academies. This was followed by the development of a specialist press, which itself reported on the meetings of academies and learned societies at lower cost and at a more sustained pace. In both instances, the dissemination of knowledge was a means for tackling obscurantism, allowing greater freedom and ensuring economic progress. It was against this backdrop that, what are considered to be the first two scientific journals in France and England, appeared in 1665, just a few months apart: *Journal des Sçavans*, under the aegis of the French Académie des sciences, and *Philosophical Transactions*, under the aegis of the Royal Society of London.

These new forms of publication relied on the role of **printer-publishers**, whose growth over the previous decades had shown their great dissemination power and which, even though the first journals were published under State control, played an eminent role in circumventing this

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[8] Mario Biagioli, "Rights or Rewards? Changing Frameworks of Scientific Authorship", *in* Mario Biagioli, Peter Galison (pub.), *Scientific Authorship: Credit and Intellectual Property in Science*, New York, Routledge, 2003, p. 253-279.
[9] On this point, see Alexis Csiszar, *op. cit.*, p. 52-53.
[10] David Pontille, "Qu'est-ce qu'un auteur scientifique ?", *Sciences de la société : Les cahiers du LERASS*, 2006, 67, p.77-93
[11] Patrick Fridenson, Preface to the work of Gabriel Galvez-Behar, *Posséder la science*, afore., p. 8-9.
[12] For more details, please refer to the aforementioned works by G. Galvez-Behar and A. Csiszar.

control, ensuring freedom of expression[13]. Amongst other things, these printer-publishers shared, with the learned world, the goal of ensuring the reputation of the published journal, by publishing original, reliable contributions. To do this, in accordance with universities, they sought to protect scientific property; in this respect, the periodical form of these publications[14] provided them with a major tool: the dating of the publication defined the priority, a prerequisite for acknowledging the researcher's merits – the mid-19th century controversy of the discovery of Neptune comes to mind. At the same time as scientific publishing developed in line with the development of science and addressed its needs[15], **the publisher ensured that the scientific work** was **original** and that its **author** was **acknowledged** and **accepted** by the **scientific community**.

The **scientific publisher** is **not like any other publisher**; they are an integral part of the system for producing science and identifying researchers through its roles of producing, legitimizing and disseminating scientific content[16]. The mission wishes to pay great tribute to François Gèze here, who passed away on 28 August 2023, and who introduced the mission to the history and wealth of the publishing role.

In light of this, **copyright, just as much as protecting the researcher's property**, appears as a **tool for preserving the originality** of the research work and **ensuring the scientist is identified**: whilst the researcher relinquishes their production by publishing it and is essentially only seeking symbolic consideration, the publisher, who offers them the quality of scientific writing which itself is the instrument that acknowledges the former as a scientist-author, needs the rights associated with it to protect its specific nature and ensure remuneration for their own activity.

The scientific publication economy can, as such, be defined in very simple terms based on an initial subject, research, funded by public or private bodies, undertaken by a scientist-author, remunerated by these funders and who, to ensure that their work is acknowledged, publishes their work by assigning their copyright, thanks to which, the publisher protects the originality of the work and funds its selection, approval and dissemination, as this funding is secured by subscriptions, resulting from the periodicity of the publication, mainly subscribed to by libraries and various institutional players. This has been described as a "*multi- faceted market based on reputation*", far removed from the usual model of a market[17] where determining value is complicated, even for economists[18]. Notwithstanding, and even though it is regulated, the production of scientific articles has been growing exponentially: it has been estimated that the number of publications has increased by a factor of 10 every 50 years since the appearance of the scientific journal in the 17th century[19], and more recent studies point to an annual growth

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[13] See nam. Yann Sordet, *Histoire du livre et de l'édition*, Paris, Albin Michel, 2021.

[14] Jean-Pierre Vittu, "Périodiques", *in* Michel Blay and Robert Halleux, *La Science classique, XVIe-XVIIIe siècle, Dictionnaire critique*, Paris, Flammarion, 1998, p. 140-148; Jean-Pierre Vittu, "Du Journal des savants aux Mémoires pour l'histoire des sciences et des beaux-arts : l'esquisse d'un système européen des périodiques savants", *Dix-septième siècle*, vol. 228, No. 3, 2005, p. 527-545.

[15] As regards the *Journal des Savants*, Jean-Pierre Vittu, "Trois cent cinquante ans au service des sciences : le *Journal des Savants*", *La Revue des revues*, 2019/2, No. 62, p. 56-69.

[16] In this respect see Benoît Epron, Marcello Vitali-Rosati, *L'édition à l'ère numérique*, Paris, La Découverte, 2018.

[17] Joëlle Farchy and Pascal Froissart "Le marché de l'édition scientifique, entre accès « propriétaire » et accès « libre »", *Hermès, La Revue*, vol. 57, No. 2, 2010, p. 137-150.

[18] Theodore C. Bergstrom, "Free labor for costly journals", *Journal of Economic Perspectives*, No. 15, 2001, p. 183-198.

[19] Derek J. De Solla Price, *Little science, big science*, Columbia University Press, New York, 1961.

rate of 4.10% over the same length of time, even rising to over 5% since the second half of the 20th century[20].

This broad outline masks very different models for different publishers and different disciplines, yet it is faced with profound changes in the way science is communicated. The "*the tacit reading agreement that has bound the reader to the information medium for over a century*" has been called into question by the emergence of the digital era and open science[21].

As Jean-Yves Mérindol states in an article[22], "*Three factors, involving fairly different spheres, were combined to initiate Open Access (or, more generally, Open Science). The first is economic: the uninterrupted rise in documentation costs (subscriptions + APC); the second is more ideological, driven by those who see research publications as an essential "public good" that should be immediately and freely accessible to all; the third is support for disruptive technical innovations and competition: young startups should have free access to all the scientific literature that may be useful to them, as the current system creates a barrier that favours major companies that are suspected of wanting to rely too heavily on their economic rent*". In addition to the challenges that digital poses for the publishing sector as a whole[23], scientific publishing has to face its own challenges, related to the development of scientific writing, which can have the effect of delegitimizing the process of approving and disseminating results. In this development, the capital-intensive transactions that marked the sector since the 1980s[24] crystallized some criticism and open science is a catalyst for all matters relating to scientific publishing and, behind it, the scientist-author. The movement for open science, in particular through its open access to publications aspect, which is the subject of the report hereof[25], has therefore developed with a **twofold goal**:

- To ensure science and knowledge could be disseminated by taking advantage of new technology providing access on any medium, at any time, on a global scale;
- To spare the State, which funds research and researchers upfront, from subsequently having to pay a second time to ensure that universities have access to scientific articles.

The movement has developed first and foremost to ensure that scientific articles could be disseminated on a large scale electronically. "*Knowledge that remains in a laboratory is useless*", as the aforementioned saying goes. Endogenous growth theorists have illustrated the importance of public spending on research and development, as well as on innovation, because of their positive externalities[26] once they are disseminated throughout an economy. Intellectual

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[20] Lutz Bornmann, Robin Haunschild and Rüdiger Mutz, "Growth rates of modern science: a latent piecewise growth curve approach to model publication numbers from established and new literature databases", *Humanities and Social Sciences Communications*, 2021, vol. 8, art. No. 224.

[21] Michel Vajou, Ruth Martinez and Stéphane Chaudiron. "Les enjeux économiques de l'édition scientifique, technique et médicale. Analyses et questions clés", *Les Cahiers du numérique*, vol. 5, No. 2, 2009, p. 143-172.

[22] *Open Access: à quel prix? Qualité de la science française*, published on 9 November 2021.

[23] See Marin Dacos, Pierre Mounier, *L'édition électronique*, Paris, La Découverte, 2010; Benoît Epron, Marcello Vitali-Rosati, *op. cit.*

[24] With respect to this development and its effects, see Vincent Larivière, Stefanie Haustein and Philippe Mongeon, "The Oligopoly of Academic Publishers in the Digital Era", *PLoS ONE*, 2015, 10(6): e0127502.

[25] In principle, we should distinguish between open science, which is a more wide-ranging movement that includes in particular the data aspect itself, from the issue of access alone. The latter is, in principle, also distinguished by whether it is free or open, as the notion of free access comprises open dissemination as well as the freedom to reuse the work (see Carine Bernault, *Open access et droit d'auteur*, Brussels, Larcier, 2016, p. 27). Without making a distinction between the two in the rest of the report in favour of the more common notion of Open Access, this actually relates to the conditions of this access, which will be addressed.

[26] Romer, "Endogenous Technical Change", Journal of Political Economy, 98(5) pt2, S71-S102.

property and its law have always been formulated based on a sequential principle, making it possible to balance a compromise between **encouraging research** and creation and **widely disseminating** research results for the aforementioned reasons.

Notwithstanding, in economic theory, according to **Arrow's impossibility theorem**, intellectual works produce information and, as such, are endowed with the two characteristics, as regards allocating resources, of a **public good as per Samuleson's theory**[27]. Firstly, **non-excludability**: it is impossible to exclude use by a user even if they do not contribute to financing the good. This carries the risk that the production of this type of good will be discouraged, because there is no prospect of being able to charge for it. States will therefore intervene to provide temporary protection for the creator (through intellectual property law) and to fund research. And, the very purpose of the report hereof is to take into account the need for supporting, undertaking editorial work and checking research results, which the publishing industry provides. Secondly, **non-rivalry**: the use of a given product by an individual does not reduce the quantity available for others. The additional cost of supplying an extra reader is zero. It is therefore to States' interest to disseminate knowledge. As a result, as soon as the producer charges for their service, consumption of the good is unnecessarily rationed.

In the report hereof, the **economic player** is not the researcher-author but the **publisher**, the one who ensures the influence and dissemination of the research result. As we have seen, economic rationality argues in favour of the existence of embargo. However, as of 1990, the opportunities provided by computerization, in contrast, led to access issues and became the basis of the open science movement. Robert Darnton, American cultural historian and academic librarian, Director of the Harvard University Library from 2007 to 2016, called for research results to be disseminated more widely[28] on several occasions. In 2008, he pointed out[29] that Yale University had only 73,900 journals whereas Harvard had 98,900. The best Indian library, 10,600. There were as such **huge inequalities in access**. The number of periodicals worldwide was estimated at between 50,000 and 100,000.

The **first-ever open archive** probably dates from **1991** when physicians started using ArXiv. They considered the **publishing system to be too slow**. The first large-scale petition was filed in 2000 by Harold Valmus, winner of the Nobel Prize for Medicine, Patrick O. Brown and M. Eisen. The Budapest Declaration of 14 February 2002 was the first to formalize this politically.

In its 2007 report, "*Principles and Guidelines for Access to Research Data from Public Funding*", the **OECD** firmly took a stance in favour of open science: "*Innovative scientific research has a crucial role in addressing global challenges - ranging from health care and climate change to renewable energy and natural resources management. The speed and depth of this research depends on* ***fostering collaborative exchanges between different communities and assuring its widest dissemination****. The exchange of ideas, knowledge and data emerging is fundamental for human progress and is part of the core of OECD values*"."*Besides, access to research data increases the* ***returns from public investment in this area****; reinforces open scientific inquiry; encourages diversity of studies and opinion; promotes new areas of work and enables the exploration of topics not envisioned by the initial investigators". "Moreover, research data, in digital form, is being used increasingly in research endeavours beyond the*

[27] "The Pure Theory of Public Expenditure", The Review of Economics and Statistics, vol. 36, No. 4, 1954, pp. 387-389.
[28] *The case for Open access*, 12 February 2008, the Harvard Crimson.
[29] *Qu'est-ce que l'accès ouvert ?* Peter Suber,

original project for which it was gathered, in other research fields and in industry". "*To promote improved scientific and social return on the public investments in research data*".

At the very beginning of the 2000s, to fund journals that wished to use OA, some scientists thought about **breaking away from subscription**, i.e. with the historic principle of reader-pays. As such, in 2001, a group of biologists (including Harold Varmus, Nobel Prize winner and former Director of the National Institutes of Health) sought to remove financial barriers from reading: the journal was freely available online, free of charge. To replace resources resulting from subscriptions, they suggested that **authors pay for their article to be published**. This APC (*Article Processing Charges*) system was rolled out massively to disciplines that accepted it. It was used for natively open journals (like PLoS founded by biologists in 2003) and by new publishers (Hindawi, MDPI, etc.). The journal's economic balance hence depended on its ability to attract authors, ready to accept author-pays. Data transmitted by the French Ministry for Higher Education and Research (MESR) showed that platforms were used for academic purposes, of which 50% by students, whilst the remaining 25% was used by the general public (1/3) and professionals (2/3).

And, there was **rationality in the movement**. €10bn was the total cost of not having access to FAIR data (**F**indable, **A**ccessible, **I**nteroperable, **Re**usable) (2019, Marin Dacos) and some studies sought to assess the economic effect of open access, which it believed to be positive[30]. On the other hand, **the intention to open up science could in no way be to make all French research free from rights** or to encourage its **indiscriminate appropriation by major platforms** that would go on to develop **artificial intelligence services** feeding off this data and that would, without any doubt, make the **service profitable** through subscriptions or advertising revenue, something that was totally at odds with the founding idea of open science.

As the French State had already funded research work, subsequent subscription fees for universities were criticized as a double cost. *"Sharing and open access to publicly funded research data not only helps to maximise the research potential of new digital technologies and networks, but provides greater returns from the public investment in research",* states the OECD in its aforementioned report from 2007. Since research is a public good and States intervened by subsidizing it, it was difficult to see subscription costs for universities increasing (€32M for Elsevier licences in France), even if this increase should be seen in light of the sharp rise in the number of accessible publications. On the contrary, the movement wanted to ensure that publicly-funded science was returned to the public, to all members of the public, as Marin Dacos put it[31].

Given this momentum, France made the choice of limited legislative change: current Article L. 533-4 of the French Research Code, taken from French Act No. 2016-1321 of 7 October 2016 for a Digital Republic.

Given this state of positive national law and the dynamic challenges that have been described, the Higher Council of Literary and Artistic Property (CSPLA) wanted the mission to focus on **two issues**:

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[30] John Houghton and Peter Sheehan, "The Economic Impact of Enhanced Access to Research Findings", Centre for Strategic Economic Studies, Victoria University Working Paper, No. 23, July 2006; *Heading for the Open Road: Costs and Benefits of Transitions in Scholarly Communications*, Research Information Network, 7 April 2011.

[31] *Des nains sur les épaules de géants*, French Parliamentary Journal, 2019.

1° To examine how the current legislative and regulatory framework should be implemented given the goal of striking a fair balance between widespread dissemination of works in the field of science and the vitality of scientific publishing.
2° To analyse the proposals for changes to this framework that are currently being put forward in France and at EU level and to assess their implications in terms of literary and artistic property, namely with regard to the possibility for researcher-authors to control the form in which their publications are made available.

Since the French Act for a Digital Republic, international recommendations have gone much further. For instance, the UNESCO recommendation[32] for open science, published in November 2021. This text is not binding but does steer a course towards widespread open access. The same applies at European Union level, where the latest Council conclusions (23 May 2023)[33] called for "*immediate and unrestricted free access in research publishing involving public funds, with transparent pricing commensurate with publishing services and in which costs are not covered by individual authors or readers"*, though no regulatory text has ever been adopted. Latest to date, the final G7 report from September 2023 sets the same timeframe.

Against this changing situation, which is a source of tension, the report hereof, which focuses on scientific writing, wishes, in its first part, to **question the viability of the various models**, before going on, in its second part, to **propose a more specific legal framework** for those models that appear realistic.

I. Given the framework that surrounds the scientist-author, only some open science models seem to sufficiently respect the author's interests and can be deemed viable enough to make a legal framework relevant

Discussions on open science are usually based on a **palette of colours**, used to identify standard models. Although the older ones (in green and gold) are relatively well identified, and tried and tested to some extent, other more recent ones, whose shade is somewhat more uncertain (in particular diamond or platinum open access), spark more doubt and even concern, as they are occasionally used to refer to an objective (more or less distant) to be reached, or to a counter-model.

	OA version	Open where?	Timing	Restrictions	Who pays?
	Green	Institutional/discipl ine/funder repository	Embargoed (approx. 6-12 months)	AM	Reader (when embargoed)
	Gold	Publisher	Upon publication	VoR	Author, institution or funder
	Platinum	Publisher	Upon publication	VoR	Institution or funder

[32] https://unesdoc.unesco.org/ark:/48223/pf0000379949
[33] https://data.consilium.europa.eu/doc/document/ST-9616-2023-INIT/en/pdf

	Diamond	Publisher	Upon publication	VoR	Professional society
	Bronze	Publisher	Embargoed or upon publication	VoR; no reuse licence	Author, institution or funder

Table taken from the ACS Guide to Scholarly Communication, American Chemical Society (Chapter: "What Are Your Open Access Options?" by Ye Li)[34]

These **models**, whose principles and limits will be specified in this first part, are intended to **define the balance** between authors, readers and publishers with the aim of ensuring that scientific production is open. However, the very fact of referring to models implies a methodological reservation: a standard ideal cannot, by definition, be applied in its purity; it represents a point of reference intended to guide reflection. Boundary issues between the definitions of the different models may come into play, in particular between gold and diamond open access. Moreover, discussing the application of one or other of these models in other States cannot be taken as a patent of viability: scientific publishing, even if it leaves a lot of room for major international groups, is part of national situations which grant different roles to public and private publishing, host some major groups or have different traditions of research and use of the scientific writing. As such, even if it is possible – and useful – to draw on international experiences, we should **not neglect the national backdrop** in which they are found. In this respect, the French Book Ombudsman[35] underscored the particularity of French humanities and social science (HSS) publishing, which ensures it remains diversified. In any event, **bibliodiversity**, which was emphasized by all the mission's contributors, also implies that **a single model does not exist**, as is the case currently and, as the French Book Ombudsman stated in its final opinion[36], a **consensus** on the need to **uphold this diversity** is emerging, where the challenge is to find a balance between this objective and that of opening up science, which implies finding suitable business models.

However, during interviews, the mission noted that the **discussions focused on these models**, sometimes heralded as objectives in their own right, whereas they can only be considered as tools and frameworks for consideration that should not lead to overlooking the principles that structure and protect scientific writing, in particular for its author, the institution to which it belongs and the publisher: even if, in the scientific realm, the author and the publisher do not fit into the usual scope of intellectual property, and even if the rules of law are, to some extent, flexible, it is in light of these principles and in compliance with them that the political goal of opening up science must be assessed and developed in order to continue to protect everyone's rights. On the other hand, this goal of opening up science is hardly challenged in itself: a large majority of those spoken to, sometimes for different reasons, recognized the importance of open access to scientific writing and, in this respect, the spontaneous opening up of research work at the start of the Covid-19 epidemic not only showed the importance of sharing the results quickly, given the situation that was highly unusual, but also the interest that everyone had in the dissemination of work[37] which, as mentioned in the introduction, is fundamentally at the

[34] This table illustrates diamond and platinum open access separately. Other authors consider the two to be a single model. For the mission, the main aim here is to show how the models are structured.

[35] Draft opinion of the French Book Ombudsman on scientific publishing as regards policies promoting open science, 11 March 2022.

[36] Opinion of the French Book Ombudsman on scientific publishing as regards policies promoting open science, 12 April 2023.

[37] This question of opening up intellectual property rights at the time of the health crisis has already been the subject of many studies (mainly centred, admittedly, on patent law with regard to the issues related to vaccines) and has been addressed by international organizations WTO, WHO and WIPO (in this respect, see the "An Integrated Health, Trade and IP Approach to Respond to the COVID-19 Pandemic" briefing note published by

very heart of scientific publishing and may lead to changes in intellectual property rights. A study *Confidence in Research*, undertaken by Elsevier and published by the journal *Economist Impact*[38], also tends to emphasize that, although the pandemic impacted the way researchers perceive their role in society, it confirmed the relevance of the methodological requirements for publications in order to tackle disinformation.

In light of this objective, the framework for scientists' copyright makes it unlikely that there will be polar or highly-dominant and opposing models which, in reality, disregard these principles and, as such, cannot be generalized or really balanced and are even likely to be counterproductive for scientific research (**1.1**). At the end of its work, the mission noted however that green and gold open access, even though they are based on different balances, have managed to find their place in some States and may provide serious leads for defining a French model tailored to the economy of its scientific publishing (**1.2**).

1.1 Some highly-dominant models did not seem sufficiently viable to the mission to make it useful to propose a legal system that could protect the rights of scientist-authors

French scientific publishing is based on public and private, specialist and generalist **publisher diversity**. This **bibliodiversity**, for which the French Book Ombudsman highlighted the importance of maintaining the momentum of scientific publications, is a French speciality, even if many publishers have gradually gone on to join major national and international groups. The acquisition of EDP Sciences by Chinese publisher CSPM, announced in June 2019, illustrates this. French scientific publishing, is still however highly-shaped by a diversity of players, namely in humanities and social sciences (HSS) which, by offering researchers a host of opportunities, may have lost sight of the extent of its role beyond that of simply filtering out publications worthy of interest, to the point where it is sometimes perceived as nothing more than an instrument, blocking the dissemination of knowledge, and not as a player in its own right of scientific publishing.

It is worth remembering, as such, that the role of publisher, *a fortiori* as regards scientific topics and, at a time when the ease with which we can access information makes it all the more vital to identify knowledge that has a serious scientific basis[39], is no longer that of printer. Although content production and dissemination still play major roles, which are directly challenged by open access to scientific output, the scientific publisher plays a full part in the system for **legitimizing scientific writing**: the decision to publish is not purely a matter of editorial choice, as may be the case in other areas of publishing, but comes at the end of a **process for reviewing the scientific quality** of the writing. It goes without saying that, behind the scene, scientists themselves are involved in this expertise assessment. Peer-reviewing could cost researchers up to 1 billion dollars per year[40] in contributions and a number of researchers questioned by the mission moreover emphasized the lack of acknowledgement of this essential activity.

WTO, WHO and WIPO, along with its updates). On this topic, see, recently published by Frédérique Coulée (pub.), *Sciences et pandémies : quelle éthique pour demain ?*, Paris, Érès, 2023.

[38] https://impact.economist.com/projects/confidence-in-research/

[39] In this respect see Jean Lesne's view "Réviser le système de recherche pour ranimer la confiance sociale dans la science", *Environnement, risques et santé*, vol. 20, No. 1, 2021, p. 53.

[40] Cf. Allana G. LeBlanc, Joel D. Barnes, Travis J. Saunders, Mark S. Tremblay and Jean-Philippe Chaput, "Scientific Sinkhole: Estimating the Cost of Peer Review Based on Survey Data with Snowball Sampling",

Elsevier told the mission that 75% of scientific articles submitted were rejected (2.7 million articles submitted and 600,000 published) either because their quality was inadequate or because they may be plagiarised. Such data shows the filtering role played by the publisher.

This **legitimization** mechanism, specific to science in that it relies to a great extent on the **close collaboration of peers** (peer-reviewing) and imparts its scientific quality to the written word and remains essential for the sustainability of scientific writing in an open science setting. Admittedly, it is a restrictive mechanism for all the players concerned (the author, subjected to review; the peer reviewer, whose task is rarely acknowledged; the publisher, whose independence and responsibility are at stake) and, even if other mechanisms (which are, actually, complementary rather than alternative) were mentioned, all the players interviewed by the mission agree in acknowledging the **crucial role of publishers** in this respect – and the resulting responsibility.

This system is based on copyright, as an *instrumentum*: after having accompanied the researcher through the drafting of their article in its various versions and up to the approved-published version (version of reference, VoR), in the classical model, publishing only acts for the benefit of an **assignment of economic rights** from the author to the publisher who, through this assignment, will be granted all the attributes of the scientific writing and its promotion. This historic balance was, however, shaken up in recent decades and, as such, in 2016, the French Act for a Digital Republic sought to draw the consequences of this (**1.1.1**). Notwithstanding, as a framework for consideration, copyright leaves room for future developments that comply with the principles on which it is based (**1.1.2**), although an extreme vision of open science, on which the generalization of diamond open access would be based, would, if imposed, run counter not only to these principles but also to the goal pursued (**1.1.3**).

1.1.1 The status quo prior to the Lemaire Act, with no open access and no bibliodiversity, no longer seems realistic given the challenges facing knowledge.

The interviews carried out by the mission revealed that, if the Act for a Digital Republic (French Act No. 2016-1321 of 7 October 2016[41]), known as the Lemaire Act, is now accepted, it nonetheless led to strong opposition as regards the implications of open science, in particular on such a goal and the path to be carved out to achieve it. Until the legislator's intervention in 2016, from a legislative aspect, such a perspective was something un-thought of that led to the development of a host of hardly-coordinated, isolated initiatives, to the extent of letting direct opposition emerge between two groups of players and the risk of making copyright, rather than being the *instrumentum* of an accepted political objective, a pretext that distracted from the main challenges at stake in research. Moreover, open access advocates deemed the debate on copyright to be a false debate, that distracted from the heart of the matter[42]: while this is not unfounded, it was however overlooking the economic reality of some of the players.

Yet, Jean-Manuel Bourgois, then CEO of Editions Bordas and, prior to becoming Chairman of the SNE (French Publishers Association), had already stressed, in 1980, that discussion on the change in scientific publishing could only be initiated if the foreseeable consequences of new technology were assessed "*with great composure and without biased passions*". The calling

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Research Integrity and Peer Review 8, No. 1 (24 April 2023): 3. https://doi.org/10.1186/s41073-023-00128-2; Anna Severin and Joanna Chataway. "Overburdening of Peer Reviewers: A Multi-Stakeholder Perspective on Causes and Effects". *Learned Publishing*, vol. 34, No. 4, October 2021. https://doi.org/10.1002/leap.1392.

[41] Article 30.

[42] Peter Suber, *Open Access*, Cambridge-London, MIT Press, 2012, p. 125.

into question of the old model of scientific publishing, which was justified by numerous arguments (***a***), is not, however, complete: the Lemaire Act represents a commitment to change which, if accepted, does not necessarily constitute a sustainable point of balance (***b***).

a. *Although the role of scientific publishing is indisputable, the exclusive use of the purchase-subscription model no longer meets today's challenges, and no major country is limiting itself to this*

The **traditional roles of publishing**, already mentioned, and which take on a specific scope in the scientific field, have been **called into question in all sectors given the development of digital tools**, without however depriving them of their necessity[43]. At the same time, the business model changed considerably, leading to an observation that left its mark on the scientific community and was still strongly perceived, in January 2022, in the overview that introduced the recommendations of the French Académie des sciences for implementing the principles of open science: "(…) *it is important to note that the increase in the cost of disseminating science coincided with* ***considerable privatization of the dissemination of scientific knowledge****, which was initially provided by learned societies and gradually passed into the hands of commercial publishing over the last century. In 2018, four publishers alone accounted for 52% of the scientific publishing market, with profit margins close to 40% according to their financial reports, particularly in the publications segment. This led to an absurd situation in which the cost of subscriptions rose steadily over the last two decades, while, at the same time, researchers' familiarity with publication tools increased considerably, making the task of publishers even easier. The opening up even worsened the situation, as journal publishers introduced hybrid subscription formulas that included an additional cost per article, i.e. APC (Article Processing Charge), required for free publication on the publisher's site, resulting in double payment by readers and authors.*"

Some authors even put 15 reasons forward that had led them to call scientific publishing into question in favour of open access, by comparing scientific publishing to a customs system[44]. Moreover, this description is occasionally used to refer to the traditional subscription model[45], when the colour used to classify it is not black[46]. Although the findings are debatable and discussed[47], the mission nevertheless considers it **necessary to take the grievances expressed** by a significant part of the scientific community into account: it is on the basis of a partnership that is beneficial to the scientific community (and which results in the assignment of copyright) that scientific publishing has acquired its legitimacy, and it can only continue if it remains legitimate in the eyes of scientists and all players in the scientific community (including documentation services).

Two key observations can be made, which are linked to each other and have been widely highlighted since the start of the promotion of open science:

- **the increasing convergence** of scientific publishing around a few major international groups, whose financial margins appear to be very high, without French scientific publishers managing to retain their independence and diversity. The introduction of

[43] Benoît Epron, Marcello Vitali-Rosati, *op. cit.*
[44] Peter Suber, *Open Access*, Cambridge-London, MIT Press, 2012, p. 29 and f.
[45] *Ibid.*, p. 29.
[46] In this respect see the Open Science Barometer that uses this colour to indicate closed access.
[47] See on the difficulty of assessing the impacts of *Open Access*: Allison Langham-Putrow, Caitlin Bakker, Amy Riegelman, "Is the open access citation advantage real? A systematic review of the citation of open access and subscription-based articles", 2021, *PLoS ONE* 16(6): e0253129.

subscription packages, leading to an increase in prices, was probably the most visible aspect of this convergence;

- **the increase in subscription costs over the long term**, higher than inflation[48], which weighed substantially on library and university budgets, even though, in some instances, the lack of a physical medium withdrew their archiving and preservation role, which became dependent on maintaining subscriptions[49]. Although the rate of 7% per year is often put forward, two aspects were in particular brought to the fore during the mission: the redirection of budgets to maintain subscriptions (in the form of packages), to the detriment of other expenditure, and the correlative increase in inequalities in access to scientific publications.

These observations are particularly important because they reflect one of the historical foundations of scientific publishing: to enable the dissemination of knowledge. However, they need to be put back into context in a number of ways. First of all, the same fears existed after the First World War: people were already worried about rising publishing costs[50]. After that, publishing changed: digital tools require **technical infrastructure** that is **all the more demanding** given the ever-increasing expectations placed on databases and the fact that maintaining digital access may constitute an obligation under copyright law. The fact that the marginal cost of a journal in a digital subscription is low compared with the initial infrastructure should not be overlooked.

But, it does not explain everything. In fact, against the backdrop of the emergence of a global scientific publishing market structured around an oligopoly, the increased dependence on the subscription mechanism brought about by digital technology led to a feeling of precariousness in access to research results and highlighted major inequalities, while Internet conveyed an image of sharing, openness and free access. The introduction of subscriptions to journal packages only intensified this perception of a scientific publishing system that was gradually slipping away from the grasp of researchers, the capital gain generated by their work was "*captured*" (the term often used) by a handful of players. This is illustrated in the Budapest, Berlin and Bethesda declarations and, above all, in the "*Academic spring*" movements launched following the "*Cost of Knowledge*" campaign initiated by mathematician Timothy Gowers. The profitability of these major groups was moreover seen as a provocation[51], masking the reality of other publishers whose economic situation was more precarious and the challenges facing publishing, even though these other publishers represented almost two-thirds of the market.

Despite a few attempts from publishers themselves to clarify things[52], the lack of visible economic (scientific) study on the subject that is accurate, recent and takes the diversity of the sector and, consequently, the lack of transparency into account, leaves room for divergent

[48] This point was greatly emphasized in the opinion issued by the French Académie des sciences on 24 June 2014, *Les nouveaux enjeux de l'édition scientifique*.
[49] Carine Bernault, "Revues scientifiques et droit d'auteur : la rupture de l'open access", *Hermès, La Revue*, vol. 71, No. 1, 2015, p. 92.
[50] Valérie Tesnière, *Un siècle d'édition universitaire, 1860-1968*, Paris, PUF, pub. Quadrige, 2001, p. 253.
[51] In this respect, the visual used by the Library Department of Université Paris Cité for the exhibition "La science peut-elle être à la fois ouverte et fermée" (Can science be open and closed?) is highly illustrative: https://u-paris.fr/bibliotheques/wp-content/uploads/sites/34/2021/02/05-MARCHE-DE-LEDITION.pdf
[52] Richard Van Noorden, "The True Cost of Science Publishing", *Nature*, vol. 495, 28 March 2013, p. 426 or, in a different way, Les Annales, "L'économie matérielle d'une publication", *Annales. Histoire, Sciences Sociales*, vol. 75, No. 3-4, 2020, p. 555.

assessments that can only hinder dialogue[53]. Yet, **even in free access, every publication has a cost**[54], especially as "*despite appearances, the digital world is very expensive*[55]". In this respect, the transparency of the agreement between EDP Sciences and the Société de Mathématiques Appliquées et Industrielles (SMAI) is noteworthy, with an annual report setting out the costs in full[56]. Nonetheless, there are several studies that all conclude that the cost per article is high: a mean cost for French HSS journals of 1,330 euro (or 66 euro per page) was highlighted[57]. Comparing this cost with the assessments made based on the different publishing methods inevitably raises questions, even if methodological issues need to be taken into account: a British study focusing on the United Kingdom, the Netherlands and Denmark estimated the cost of a publication, excluding peer review fees and VAT, at 3,990 euro for print subscription journals (3,420 euro for digital-only subscription journals and 4,750 euro if both accesses were offered), compared with 2,230 euro for an online-only open access journal, while the minimum cost (overlay journal model) was estimated at 1,845 euro[58].

The private scientific publishing market

In 2016, the Strategic Intelligence and Monitoring Department for the scientific and technical information (STI) sector of the French Eprist Association (network of heads of STI in research organizations) analysed the financial results of scientific publishing **on a global scale** for 2015[59]. This note assessed the cumulative turnover of the world's top six scientific publishers (Elsevier, Wiley, Wolters Kulwer, Thomson Reuters, Taylor & Francis, Springer-Nature) at 7.5 billion euro, i.e. 38% of the total of the scientific publishing sector (€23bn). It estimated that these six publishers represented 65% of profit generated, with operating margins of over 36%.

It is, however, difficult to obtain consolidated figures, as knowledge of the sector as a whole is based on assessments; moreover, these figures do not distinguish between periodicals and monographs. Nonetheless, WIPO[60] data on the science, technology and medicine field highlights the growing role of these major groups between 2011 and 2021, not so much in the number of titles published but rather the number of articles.

In France, Jean-Yves Mérindol's report reiterated the profound changes in the sector: in scientific, technical and medical publishing, France's position declined sharply, with many major publishers (and even all in science, technology and medicine - STM) acquired by foreign companies, so that only offices or entities of international publishers remained; in humanities and social sciences, with less internationalization, French publishers were able to survive[61],

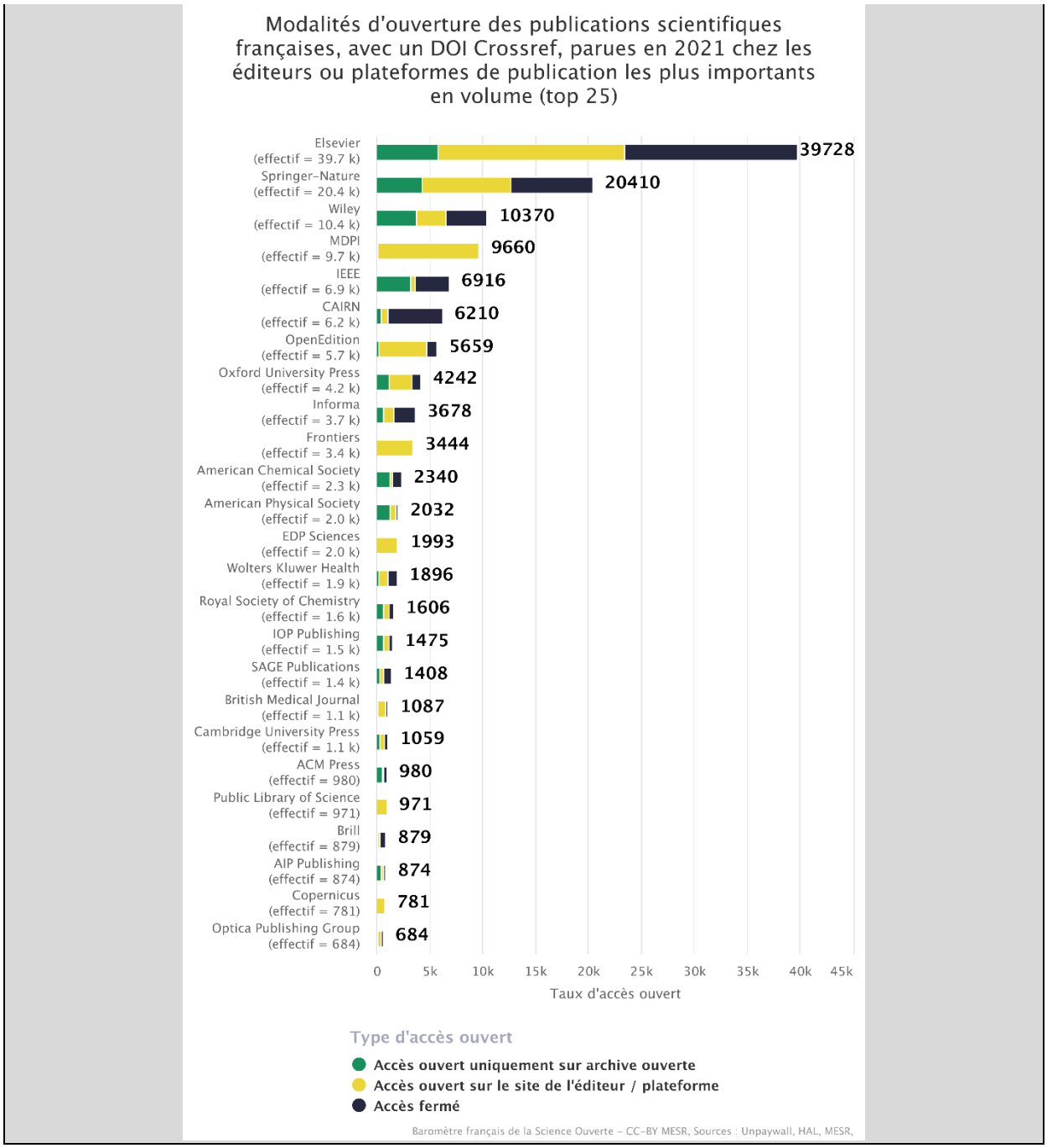
[53] In this respect, we refer to the observations of Daniel Renoult in his report *L'édition scientifique de revues : plan de soutien et évaluation des effets de la loi du 7 October 2016*, December 2019.
[54] In this respect see the conclusions of Alexandre Grossmann and Björn Brembs' study "Current market rates for scholarly publishing services", *F1000Res*., July 2021, vol. 10:20.
[55] Patrick Fridenson, "Revues et accès libre. Les pièges de la transparence", *Esprit*, vol. 5, 2013, p. 97.
[56] https://www.edpsciences.org/images/stories/news/2023/EDP-SubscribetoOpen-maths-2023.pdf
[57] Odile Contat and Anne-Solweig Gremillet, "Publier : à quel prix ? Étude sur la structuration des coûts de publication pour les revues françaises en SHS", *Revue française des sciences de l'information et de la communication* [Online], 7 | 2015.
[58] John Houghton, *Open Access – What are the economic benefits? A comparison of the United Kingdom, Netherlands and Denmark*, Knowledge Exchange, 23 June 2009.
[59] https://www.eprist.fr/wp-content/uploads/2016/03/I-IST_16_R%C3%A9sultatsFinanciers2015EditionScientifique.pdf
[60] OMPI, *The Global Publishing Industry in 2021*, Geneva, 2023 (https://www.wipo.int/edocs/pubdocs/en/wipo-pub-1064-2023-en-the-global-publishing-industry-report-2021.pdf).
[61] For an overview of the dawning of this transition: Marc Minon, Ghislaine Chartron, *Etat des lieux comparatif de l'offre de revues SHS, France-Espagne-Italie*, study for the French Ministry for National Education, Higher Education and Research, 2005.

benefiting moreover from the digital dissemination made possible in particular by Cairn.info and OpenEdition. Overall, however, the French scientific publishing sector declined sharply, with only small-scale public and private publishers remaining alongside the major groups in humanities and social sciences (HSS); these two areas are in no way comparable despite the common issues they face.

According to the French Syndicat national de l'édition (*2022-2023 Annual Report*), in a French publishing sector, where turnover stood at €2,911m in 2022, the share of STM publishing is 2.4% (or €65.6m) and that of HSS 12.9% (or €355.9m, with legal publishing alone accounting for 73% of this activity). These figures, however, only account for books.

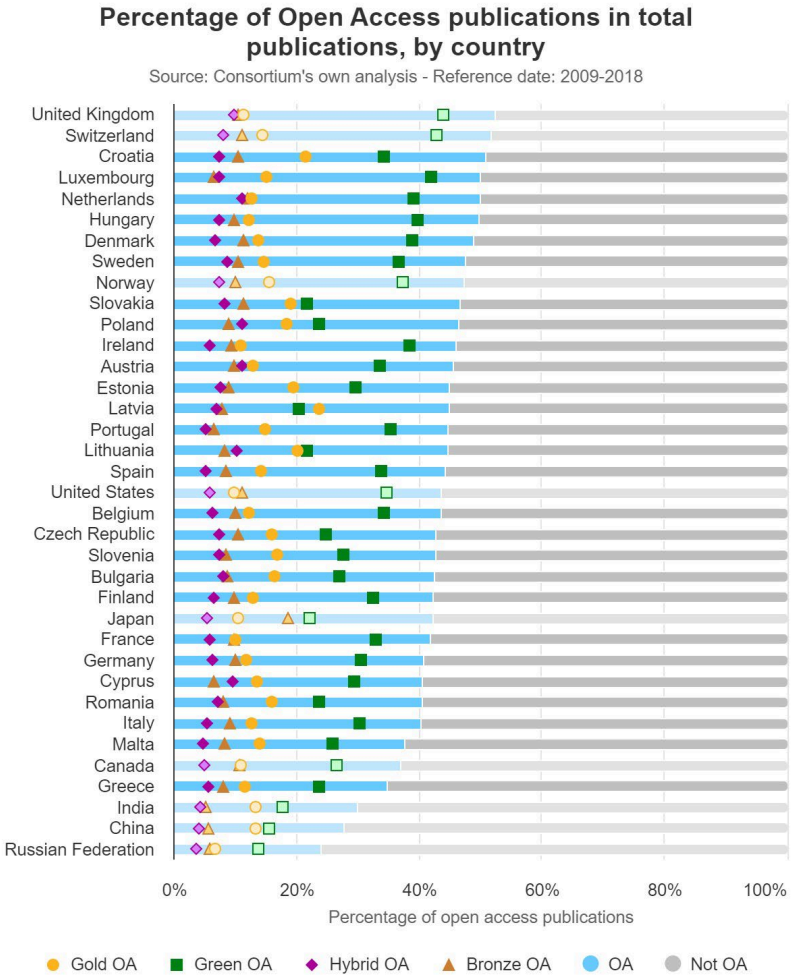
For scientific journals published in France based on a publishing model, their number is estimated at 878 (236 in STM; 642 in HSS), generating turnover of around €100m for at least 867,335 copies printed in 2022.

For publications in periodicals, the **French Open Science Barometer**, steered by the French Ministry for Higher Education and Research, gives an idea of the role of publishers, with data subdivided for each publisher or platform based on the way in which publications are opened up:



Although this does not mean that French publishing fabric should be ignored, these issues are not specific to France, as illustrated moreover by the incredibly great diversity of origins of the holders of the various open science initiatives, namely the "3Bs" (Berlin, Budapest, Bethesda). Several publishing models coexist everywhere yet, in all States, the traditional subscription share is on the decline, as shown by this data published by the European Commission[62]:

62 https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science/open-science-monitor/trends-open-access-publications_en



Furthermore, beyond underlying imagination, **the development of digital tools and Internet profoundly changed relationships to science and to the publishing** of research results. The digital platforms the mission met with, stressed the importance, moreover, of investments made to develop them and to meet the ever-growing needs of users, in particular in terms of research tools[63]; the use of artificial intelligence tools, which is likely to have a considerable impact on research and give new scope to issues related to text and data mining, today offers an imminent and visible perspective of the major changes that have led to transforming the initial publication from an offshoot of the paper version to a specific tool that offers services made possible for digital tools.

Nonetheless, these new technologies have led to calling the author/publisher balance into question by giving new scope to the main motivation put forward by the three aforementioned declarations: to make access to science results easier for everyone. Fundamentally, the aim is to return to the origins of scientific publication, enabling the widest possible dissemination, and, **rather than challenging scientific publishing as such, the criticisms focus on the way it works**. Incidentally, studies have shown that publishers could benefit from this opening up, but this benefit depends on their market position[64] and, in this respect, it is vital to **take the reality of the French publishing fabric into account**, above and beyond major groups: when

[63] With respect to this issue, also see Patrick Fridenson, afore. art.
[64] Mark J. McCabe, Christopher M. Snyder, "Open Access and Academic Journal Quality", *American Economic Review*, 2005, vol. 95, No. 2, p. 453.

it comes to pursuing a system purely based on subscriptions, which is no longer able to meet the expectations of researchers in an international competitive environment, and when it comes to imposing a single model that would call into question bibliodiversity that implies the coexistence of a host of models, based on varying economic balances. Behind the open science movement, requested by researchers, **the challenge is therefore one of change where these different economic balances may coexist** and even though not all of them have a sufficiently wide offering or a sound financial base that would enable them to diversify the dissemination channels and methods of their journals.

b. *The Lemaire Act initiated a change, currently accepted, in the perception of the respective roles of authors and publishers*

The Act for a Digital Republic, referred to as the Lemaire Act, introduced a new provision in Article L. 533-4 of the French Research Code – to the exclusion of any amendment to the French Intellectual Property Code, which did not fail to prompt questions from copyright specialists as it derogates from the assignment of rights, in principle on an exclusive basis, in the publishing agreement provided for in article L. 132-8 – which aims to make the transition to open access easier for scientific writing by modulating researchers' copyright; it is akin[65] to a **secondary publishing right**, according to the now-used term[66], which focuses on four rules:

- the opportunity for an author of a publication stemming from a research activity funded at least half by public funds to disseminate it freely after an embargo period;
- the right to freely reuse data, from such a research activity, made public as long as said data is not protected a special right or specific regulation;
- A ban on publishers limiting the reuse of research data made public as part of their publication;
- the public policy nature of these provisions.

This Act and the debates that preceded it had a profound impact on the different contributors with whom the mission met[67]. Whilst none of them call the change initiated into question today, it was a time when opposing conceptions of the roles of author, publisher and public funder emerged, as the public debate prior to the presentation of the draft Act proposed the option of compulsory online availability. Although it follows on from various initiatives, with the best known and most criticized (for very different reasons) being HAL, and enshrines the approach of opening up science by offering researchers a legal framework enabling them to participate in this perspective, the observations on which this change was based were liable to cause tension: the impact study and the parliamentary reports both emphasized the negative impact on disseminating knowledge that publishing agreements have, which deprive researchers of their copyright, as per the situation described above of a significant increase in subscription costs. This setting researchers and publishers against each other was bound to cause a stir among

[65] Some authors deem these aspects different from secondary publishing rights, which have a direct impact on the author's rights, since the French legislator chose to focus on contractual agreements (Agnès Robin, *Droit des données de la recherche. Science ouverte, innovation, données publiques*, Brussels, Larcier, 2022, p. 420). But, for the questions the mission was asked, this difference in interpretation has, *a priori*, no major incidence on the effects.

[66] See in particular Christina Angelopoulos' *Study on EU copyright and related rights and access to and reuse of scientific publications, including open access*, published by the European Commission (DG Research and Innovation), June 2022, p. 8-9.

[67] See in particular François Gèze, "Quelle politique numérique pour l'édition de savoir ? Les enseignements de la loi Lemaire", *Le Débat*, 2016/1, No. 188, p. 30.

the latter, especially as the proposed change was presented as only a step towards a more significant change, that of re-questioning copyright in the field of research.

Incidentally, the assessments made on this **secondary publishing right**, as defined since 2016, leave room for **different interpretations**, including from copyright specialists: some authors see it as the transformation of copyright into a means of promoting open access whilst protecting the author's freedom[68]; others consider, on the contrary, that it is a limitation of copyright[69], and even to the extent that "*all that is excessive*[70]". These difference are paradoxical, given that these provisions are considered to address the issue of open access from the point of view of copyright; in actual fact, they reflect different positions on what open access to science should be and how it should be implemented, with some focusing mainly on achieving the goal of opening and others on how to achieve it from the point of view of the scientific system economy. Given these positions, the mission can only but stress that **copyright cannot simply be used as an instrument, as it often has been; in defining the conditions for opening up science, it must be taken into account as such, in its entirety**: this results from the eminent role of authors in scientific production and the need to enable them to take ownership of the challenges related to it[71], and from compliance with the standards governing copyright, to which we will return later and which, although they leave considerable room for manoeuvre with regard to the many parameters to be taken into account, nonetheless lay down milestones.

Incidentally, **this approach, which does not take copyright-specific challenges sufficiently into account** even though it is similar to an approach based on copyright, is liable to cause **two series of difficulties**, which are expressed in the implementation of the Lemaire Act.

The first concerns the **questions that remain as to its tangible scope**. In addition to the limits intrinsic to publishing abroad which, in some disciplines, play a key role in the researcher's career[72], the fate of relationships between author and publisher remains uncertain, in particular as regards obligations imposed on the former prior to making the publication available[73]. Moreover, the scope of the public funding criterion is uncertain and as such leads to questioning, whereas copyright is irrelevant to funding and the notion of open format is not defined[74].

The second focuses on **the role of publishers**. Even though some rather more ambitious drafts were not retained by the legislator, all the debates as a whole and the standalone reading of the Lemaire Act may reveal latent opposition to publishers, perceived as capturing copyright for economic reasons. As we have already mentioned, their role is vital and the significant margins occasionally recorded must not make us forget the really great diversity of players in the sector.

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[68] André Lucas, Agnès Lucas-Schloetter, Carine Bernault, *Traité de la propriété littéraire et artistique*, Paris, LexisNexis, 5th ed., 2017, p. 737.

[69] Christophe Caron, "République numérique rime avec exceptions et limitations au droit d'auteur", *Communication Commerce électronique*, No. 11, November 2016, comm. 89.

[70] Pierre-Yves Gautier, *Droit de la propriété littéraire et artistique*, Paris, LGDJ-Lextenso, 2021, p. 446.

[71] As Michel Vivant stated, "De l'art de faire de la propriété intellectuelle un instrument de démobilisation", *RDLI*, 2005, No. 9, p. 3.

[72] Tristan Azzi, "Open data et propriété intellectuelle. Etat des lieux au lendemain de l'adoption de la loi pour une République numérique", *D.*, 2017, p. 583.

[73] See Pierre-Yves Gautier, *op. cit.*, p. 446, pour qui "*ce genre de décision ne se prend pas en cours de route*". Agnès Robin, *Droit des données de la recherche*, afore., p. 418 and f. moreover emphasizes the questioning that exists as regards the application of publishing agreements concluded before the Act took effect.

[74] Parliamentary work refers to the definition of the open format as per Article 4 of the French Act No. 2004-575 of 21 June 2004 on confidence in the digital economy, yet this in no way defines the related rights of use.

The rapporteur of the draft act to the French National Assembly moreover highlighted the ambivalent effect that the new provisions in the French Research Code had on publishers: "*it will be very gradual and probably rather negligible for world-class publishers in the fields of science, technology and medicine; on the other hand, it is likely to be greater for publishers and editors of humanities and social science journals*". The report as such noted the launch of a support plan, pursuant to a request from the French Prime Minister on 23 November 2015, the **French scientific publishing support plan**. In this respect, it is indispensable to remember, following the reports from the French Parliamentary Office for the Assessment of Scientific and Technological Choices (OPECST) and from the French Book Ombudsman, that no legislative change can be considered without taking all of its effects into account: the initial absence, during the preparation of the Act for a Digital Republic, of any indication of the potential effects on publishers could only create misunderstandings, whereas its implementation and renewal made it possible, without recreating confidence, to make the acceptance of legislative changes easier.

The French scientific publishing support plan

The first 2017-2021 plan aimed to support French publishers whilst accompanying them to transition to open access to disseminate scientific content. It was organized with the main French scientific journal dissemination platforms (Cairn.info and OpenEdition for HSS; EDP Sciences for STM) and had financing of 3.5 million euro. One of the main focuses of this plan was to strengthen the pooling of orders at national level, namely through Couperin and ABES (the French Bibliographic Agency of Higher Education), to consolidate journal purchasing policies. The French Ministry for Higher Education considers that, in this respect, the plan led to changes in the sector, in particular by accelerating the creation and strengthening of order pooling[75].

The 2022-2026 plan involves the same players and aims to promote the move of journals towards immediate open access, support risk-taking by securing the digital revenue of journals (based on the "*Subscribe to Open*" model subject to a minimum number of subscriptions) and build a sound business model for funding journals through a partnership framework rather than through a commercial one. It implies the end of mobile barriers, financial transparency and rights retention. This new plan seeks to draw on the consequences of the previous plan, which, according to the French Ministry for Higher Education, did not produce sufficient results in terms of lowering mobile barriers.

This balance, although it does not seem likely to call into question the scientific publishing economy[76], nevertheless remains precarious given the goal sought and, although the French Book Ombudsman noted in its 2023 opinion an aligning of points of view, **strong concerns remain**. In this respect, it should be mentioned that French legislation is largely inspired by the one adopted in Germany three years before[77]. The secondary publishing right implemented was

[75] As a reminder, this plan was assessed in a report submitted by Daniel Renoult, *L'édition scientifique de revues : plan de soutien et évaluation des effets de la loi du 7 octobre 2016*, December 2019.

[76] Two studies state that the submission by authors of their articles in archives did not destabilize the publishing economy: in France, the conclusions of the study undertaken by the Scientific Publishing Monitoring Committee are included in the aforementioned report by Daniel Renoult, p. 18 and f.; for the United Kingdom: *Evolution or revolution? Publishers' perceptions of future directions in research communications and the publisher role. A report commissioned by Research Councils UK for discussion among the Global Research Council*, Mark Ware Consulting, March 2015.

[77] The two Acts are actually identical, including the public policy aspect of secondary publishing rights, but with two differences: the embargo period is uniformly set at twelve months and periodicals published at least twice a

not, however, decisive in the move towards a more sustainable model that fully ensured open access: the consortium of academic and research bodies, through DEAL (*Deutsche Allianz Lizenzen*), was able to negotiate and create a balance of power that enabled it to hold its own against the global players in the sector. This is not without consequences when an agreement is not reached, but the path towards open science is as such defined with negotiation in mind with the players involved and not through the use of a simple legislative tool, which can have the paradoxical effect of reaching the most fragile players and not paving the way for negotiation with the most powerful. Notwithstanding, as recorded in the recent opinion from the *Wissenschaftsrat*[78] (German Science Council), the path towards open science implies giving greater thought to copyright.

Open access to scientific articles in France: overview

It is difficult to have accurate, comparable data from one country to another, but orders of magnitude are sufficient to assess the momentum. According to a Clarivate[79] report, in 2022, the number of articles published by French authors in open access stood at 35,970 out of 83,594 (**40.15%**), versus 20,327 out of 80,461 in 2018 (25.26%) and 10,460 out of 73,372 in 2013 (14.26%).

For purposes of comparison, for the same year, 2022, this report assessed the share of articles published in open access in Germany at 56.76% (for a total of 133,046 publications), in Japan at 45.14% (for a total of 93,127 publications), in China at 39.43% (for a total of 755,585 publications), in the United Kingdom at 55.82% (for a total of 151,383 publications) and in the United States at 39.60% (for a total of 456,346 publications). **Although France shows a lower level, even though its share of articles in open access had increased greatly, this also underscores the fact that there is no single publication model in any of the G20 countries**.

The same report differences in open access based on disciplines. Given the average for each of them in G20 countries, open access appears to be lower than that of these other States, except in life sciences, yet significantly lower in humanities and social sciences (humanities and languages, art and design, social sciences).

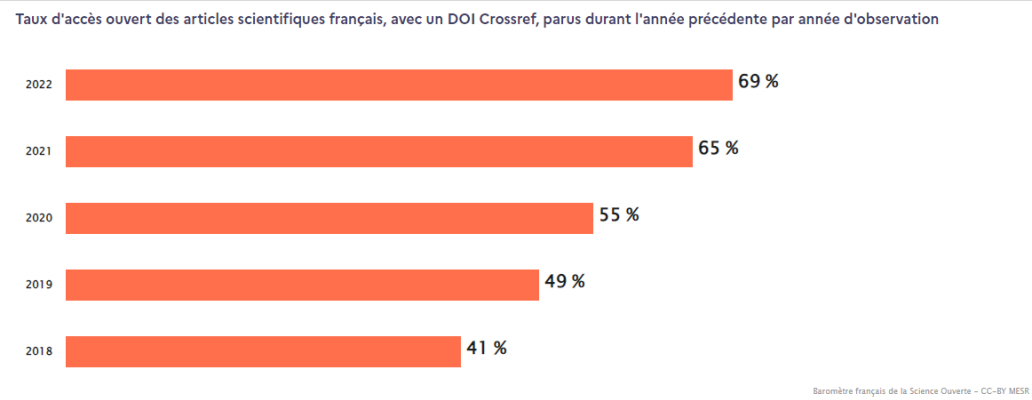
In the European Union, the **European Commission** (DG Research and Innovation) had established significantly different data, which were however more precise in terms of the different publication mediums (cf. previous chart).

In France, **Open Science Barometer** data, from the French Ministry for Higher Education and Research, on the other hand shows slightly different data, partially given the use of different methodology and classification, where, for 2021, the rate of open access publishing of articles in a journal stood at **69%**:

year are covered. Carine Bernault (*Open access et droit d'auteur*, Brussels, Larcier, 2016, p. 102-103) states, however, that behind the wording of the texts, there is a difference in philosophy between the German approach, which gives researchers a sense of responsibility, and the French approach, which focuses on their freedom.

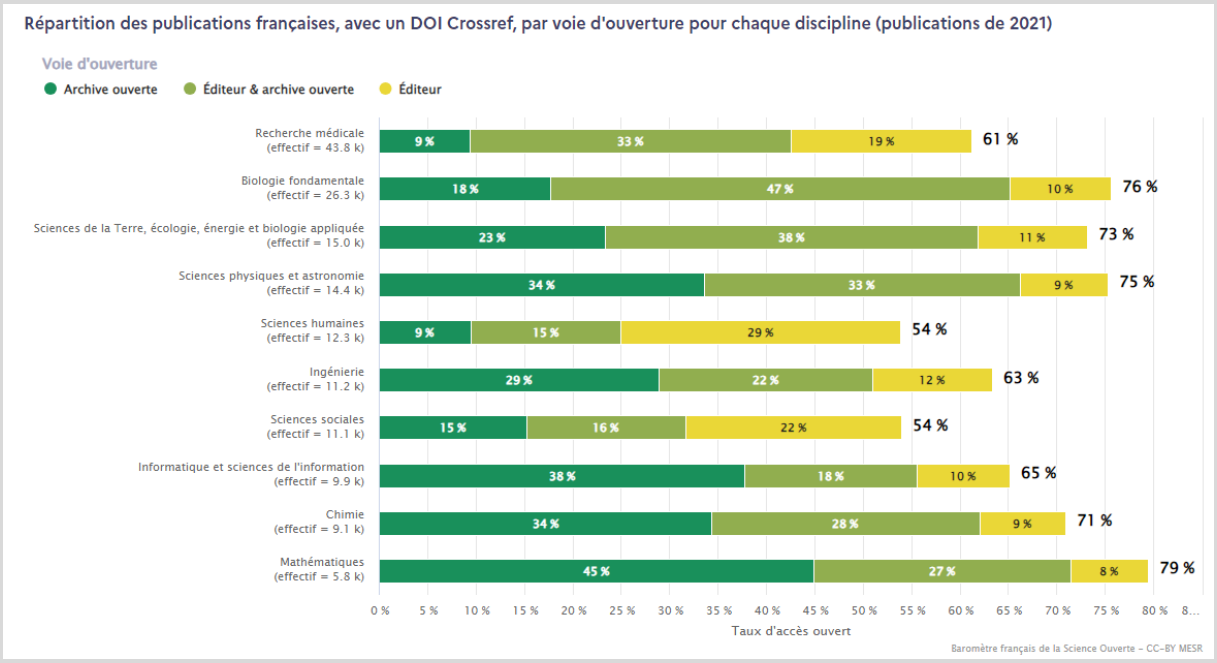
[78] *Recommendations on the Transformation of Academic Publishing: Towards Open Access*, 21 January 2022.

[79] Institute for Scientific Information, *The annual G20 scorecard. Research performance 2023*, August 2023.

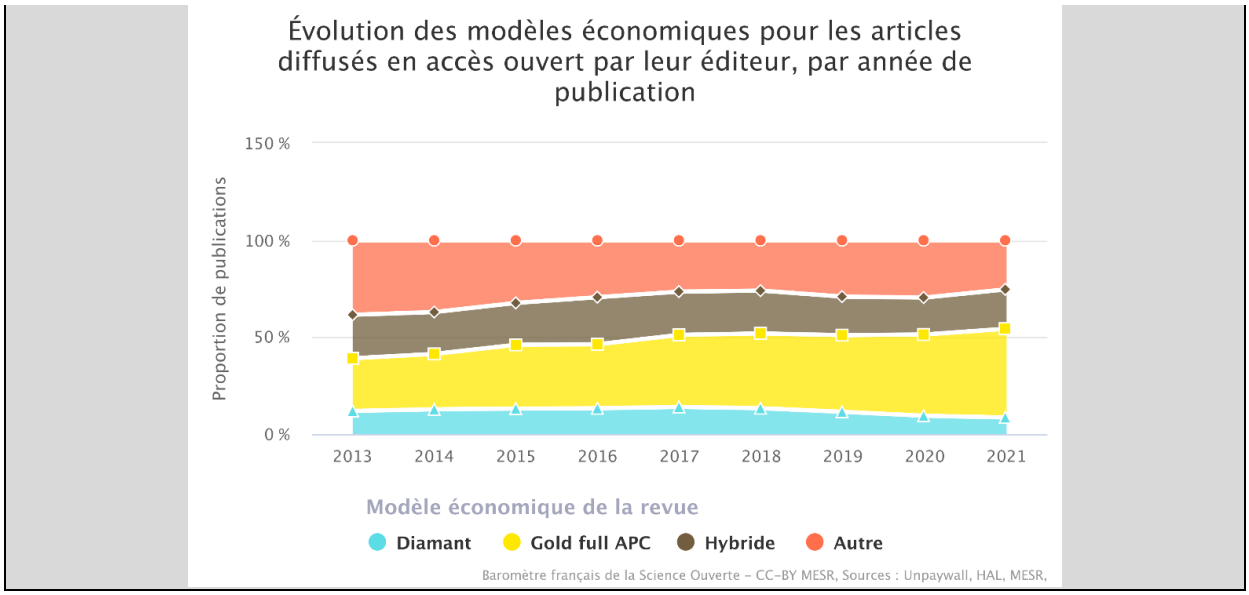


This 69% rate can be broken down as follows, based on the opening method used: 15 points for opening by the publisher, 21 for open archives and 31 conjointly by the publisher and open archives.

However, the French Open Science Barometer data highlights **considerable disparities between disciplines**, which can also be explained through the fact that a distinction is made between STM and HSS scientific publishing players:



The breakdown of the different open access models shows moreover that there is no dominant model but that the gold open access route is gaining ground:



1.1.2 *The rights related to the status of scientist-author constitute a framework which, despite its flexibility, must guide all future changes*

There is no specific status of the scientist-author from a copyright stance. That being said, the relationship between author and publisher is not quite the same as the one that usually governs the author-publisher relationship, since writing is part of the author's professional activity and the scientific author is, above all, a scientist who benefits from certain specific rights. It is in light of these principles (***a***) that, in the absence of a binding constitutional or conventional framework (***b***), any change to be made must be considered.

a. *The scientist benefits from literary and artistic property rights and freedom that must be preserved.*

The relationship the scientist has with their work is at the crossroads between two major sets of standards, which has a number of consequences.

The first set concerns intellectual property law. The intention here is not to go back over the content and scope of this law but, given the mission's purpose, to highlight a few points concerning the assignment of rights from author to publisher. Thus, as emphasized in the introduction, this assignment which, in most instances[80], is not subject to remuneration for the benefit of the author – which in itself is an exception to the usual framework of copyright – is a decisive factor in the scientific publishing economy, as the publisher can make use of the work they agreed to publish on an exclusive basis. The **economic rights** that the scientist-author assigns to their publisher are generally assigned for the maximum term of these rights, which has constantly been extended[81], since 1997, now at 70 years. On the other hand, they retain the

[80] This principle which, as we already mentioned, originated with scientific publishing, has a few exceptions, which have developed in disciplines (law and medicine) where periodicals are also intended for a very large number of professionals (often under the status of liberal professions) and which, as a result, offer a different economic balance from those where scientists are the main recipients of their publications.

[81] Michel Vivant, Jean-Michel Bruguière, *Droit d'auteur et droits voisins*, Pais, Dalloz, 4th ed., 2019, p. 474; Jean-Michel Bruguière, "Faits et méfaits de la perpétuité dans la propriété littéraire et artistique", *Propriété industrielle*, Octobert 2010, dossier 10.

moral rights and, in particular, the right to reconsider (in the exercise of which the publisher plays an active role), the right to authorship (which the publisher also seeks to protect) and the right to respect for the work (which it is also in the publisher's interest to uphold). At this stage, we can however lose sight of the ambiguity attached to copyright in scientific knowledge: this right, in principle, protects the form whereas, according to the now well-known formula, "*ideas are free to be used*[82]". Copyright must not impede the dissemination of knowledge, without losing sight of the fact that the mediation of a medium is always required for this dissemination.[83]

This highly-general framework brings to light **literary and artistic property law issues related to the assignment of rights**.

Firstly, the **publishing agreement**, as governed by Articles L. 132-1 to L. 132-17 of the French Intellectual Property Code, implies, in addition to the creation of the work (with the limits that this notion comprises for wholly-digital dissemination) and its use, an assignment, which differentiates it from the agreement at joint expense (Article L. 132-3) and, more particularly, as far as what interests us, from the **agreement at the author's expense** (Article L. 132-2), which does not include any assignment of ownership of rights but is similar to an agreement for supply of work[84], or even a commission (mandate)[85].

Nevertheless, the usual absence of remuneration for researchers, although it has strong historical foundations, nonetheless raises questions about the contractual balance on which scientific publishing is based: Articles L. 131-4 and L. 132-5 establish the principle of remuneration for authors. Traditionally-speaking, the publishing agreement is a synallagmatic agreement, concluded for a consideration, which entails the assignment to the publisher of the rights of the author or of their rightholders, with the publisher being responsible for making copies of the work or having copies made, and for publishing and disseminating it; the assignment is one of the essential elements[86]. Conversely, an agreement wherein the publisher funds everything and the author wholly or partially waives their remuneration is an agreement at the author's expense[87]. However, whenever this classification cannot be applied when the publisher has received no remuneration[88] and that free-of-charge assignment remains possible notwithstanding some controversy[89], the classic model of publishing in a scientific journal remains within the framework of the publishing agreement. **The move towards publishing costs borne by the author, to which we will return later, however disrupts this analytical grid**, which is vital for understanding the respective rights of each of the parties.

Secondly, **taking digital technology into account in the publishing agreement** has led to changes; it is taken into account through French Ordinance No. 2014-1348 of 12 November 2014 amending the provisions of the French Intellectual Property Code on the publishing

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[82] Henri Desbois, *Le droit d'auteur en France*, Paris, Dalloz, 3rd ed., 1978, p. 22.
[83] See Alain Strowel, "Les outils d'appropriation au service des communs numériques", *in Penser le droit de la pensée, Mélanges en l'honneur de Michel Vivant*, Paris, Dalloz, 2020, p. 419 and Christophe Caron, *Droit d'auteur et droits voisins*, Paris, LexisNexis, 4th ed., 2015, p. 71.
[84] Michel Vivant, Jean-Michel Bruguière, *op. cit.*, p. 783.
[85] Pierre-Yves Gautier, *Droit de la propriété littéraire et artistique*, Paris, LGDJ-Lextenso, 2021, p. 471-472.
[86] Christophe Caron, *Droit d'auteur et droits voisins*, Paris, Litec, 6th ed., 2020, n° 447 . See also 1st Civ. Ct. Cass., 18 October 1994, No. 92-15.112, *Civ. Bull. I*, No. 296.
[87] *ibid.*
[88] 1st Civ. Ct. Cass., 5 April 2012, No. 11-14.788,
[89] André Lucas, *Jurisclasseur Propriété littéraire et artistique*, V° "Fascicule 1310 : Droit d'auteur. Exploitation des droits. – Dispositions générales (CPI, art. L. 131-1 à L. 131-9)", 2023, paragr. 87.

agreement, which redefines the publishing agreement economy. In the field of books, which we are not concerned with here directly, it has been added that the assignment of rights for use in digital form must be expressly provided for and organized (Article L. 132-17-1), and the scope of the publisher's obligation to ensure permanent and ongoing use of the published work is also specified (Article L. 132-17-2).

Although such special obligations are not provided for as regards periodicals, they are, in any event, covered by the obligation of **permanent use provided for under Article L. 132-12**, which takes on a particular aspect in the scientific field, where the disappearance of the paper medium raises challenges in terms of continuity of access to publications: in addition to the preservation challenge that this raises for the **documentary policies of libraries**[90], the result is a **matter of coordination between the roles of the latter and scientific publishers**.

Lastly, the **economic rights retention strategies, combined with publications accompanied by licences offering a wide range of possibilities for reuse**, including commercial reuse, basically run counter to the general trend towards extending copyright protection over time: by publishing their work openly, they admittedly retain their economic rights as well as their moral rights, but they have little power to act, especially if this reuse is subject to legislation that does not acknowledge moral rights: by publishing, as any author does (and therefore by exercising their freedom to publish), they indeed give up the right to retain the exclusivity of their writing in order to allow it to be disseminated, but publication under an assignment of copyright grants the publisher **the interest and ability to protect the work from non-compliant use**. Conversely, free publication on Internet, as such, makes it highly impossible to comply with moral rights, namely the right to reconsider and to withdraw and the right to respect for the work, even the right to authorship, insofar as any disputes may arise with regard to legislation acknowledging moral rights in a manner equivalent to our own[91].

Rights retention is as such akin to renouncing, as the French Parliamentary Office for the Evaluation of Scientific and Technological Choices (OPESCT[92]) pointed out. A situation like this contradicts moral rights, since the author has no real means of protecting them – and, in this respect, we are reminded of the words of the Paris High Court in the *Camus* case: "*the author is supposed to be present in any agreement that could jeopardize their moral rights*[93]" – and also, at least partially, the principles of scientific integrity, in particular the principle of responsibility[94].

In this respect, **the second set of benchmark standards** that frame the matter studied **concerns the researcher's status**, in particular when they are a civil servant. Since the French Act of 1st August 2006, the third paragraph of Article L. 111-1 of the French Intellectual Property Code has established the principle that the author of an intellectual work enjoys the rights attached to

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[90] See the internal control report from the French Court of Auditors on "La politique documentaire et les bibliothèques universitaires dans la société de l'information", 23 July 2021.

[91] André Lucas, Agnès Lucas-Schloetter, Carine Bernault, *Traité de la propriété littéraire et artistique*, Paris, LexisNexis, 5th ed., 2017, p. 474; Elisabetta Bellini, "Moral right et droit moral : une question de paradigme", *RIDA*, No. 2/2005, p. 3.

[92] *Pour une science ouverte, réaliste, équilibrée et respectueuse de la liberté académique*, report by Mr Pierre Henriet, Ms Laure Darcos and Mr Pierre Ouzoulias, No. 5154 (French National Assembly) / 573 (French Senate), March 2022, p. 69.

[93] Paris High Court, 15 February 1984, *RIDA*, April 1984, p. 178, *D.* 1984, inf. rep. 291, obs. Colombet.

[94] See The European Code of Conduct for Research Integrity, published by ALLEA and to which the French Office for Scientific Integrity refers. Also see Agnès Robin, *Droit des données de la recherche. Science ouverte, innovation, données publiques*, Brussels, Larcier, 2022, p. 309 and f.

it and, although this right is significantly and generally restricted for civil servants (as for employees) by Articles L. 121-7-1 and L. 131-3-1 to L. 131-3-3[95], the fourth paragraph of Article L. 111-1 provides for an **exception of particular interest to researchers**: these restrictive provisions "*do not apply to employees who are authors of works whose disclosure is not subject, by virtue of their status or the rules governing their duties, to any prior control by the hierarchical authority*".

Researchers are actually in a different position to other civil servants in two respects. On the one hand, while, as a general rule, civil servants are free to create intellectual works, subject to their other statutory obligations (Article L. 123-2 of the French Civil Service Code), the publication, even by a private publisher, of a work that presents the results of academic research is part of the public service missions of higher education and falls within the scope of the duties of teacher-researchers in the field of disseminating knowledge[96]. On the other hand, the law acknowledges that teacher-researchers, teachers and researchers have **full independence and freedom of expression** in the exercise of their teaching roles and research activities, subject to the reservations imposed on them by the principles of tolerance and objectivity, pursuant to university traditions and applicable legislative provisions (Article L. 952-2 of the French Education Code). The guarantee of independence for teacher-researchers is even protected by a fundamental principle acknowledged by the laws of the French Republic[97].

In this context, the scope of the exception provided for in the fourth paragraph of Article L. 111-1 of the French IPC, introduced in response to the concerns expressed by academics about the draft law initially presented[98], is nevertheless uncertain, particularly as regards its application to CNRS researchers, who are subject to hierarchical authority[99]. The fact remains **that, given the combination of copyright rules and the statutory provisions governing researchers, the French legislator has quite clearly chosen[100] to give teacher-researchers considerable freedom in publishing** which, insofar as disseminating and promoting the results of research is one of the missions assigned to the public education service and to teacher-researchers[101], mainly concerns the means of such dissemination. In a way, by preserving the

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[95] As regards this general right, taken from CSPLA work: Marie Cornu, "Droit d'auteurs des fonctionnaires : le périmètre contenu de l'exception de service public", *D.*, 2006, p. 2185; Jean-David Dreyfus, "Brèves remarques sur le droit d'auteur des agents publics après la loi du 1er août 2006", *AJDA*, 2006, p. 2179.

[96] 1st Civ. Ct. Cass., 23 February 2011, No. 09-72.059, Civ. Bull. *I*, No. 41. Yet we are aware of the fact that the Court of Appeal of Paris ruled that the publication of the lectures given by Roland Barthes at the Collège de France did not fall within the scope of his mission, which was limited to solely giving a lecture (Ruling of 24 November 1992, *RIDA*, 1993, No. 155, p. 191).

[97] Constitutional Council, 20 January 1984, Dec. No. 83-165 DC; 6 August 2010, Dec. No. 2010-20/21 QPC.

[98] See in particular M. Cornu, N. Mallet-Poujol, "Droit d'auteur des universitaires et des chercheurs : l'expropriation sans cause d'utilité publique", *D.*, 2005, p. 3025; M. Vivant, "De l'art de faire de la propriété intellectuelle un art de démobilisation", *RLDI*, October 2005, p. 1.

[99] On this issue, see Michel Vivant, Jean-Michel Bruguière, *op. cit.*, p. 391.

[100] The question of attributing intellectual property rights to the researcher or to their institution is as old as actually determining these rights and addresses obvious economic interests, which have however changed over time and based on the countries concerned. As regards this, see Gabriel Galvez-Behar, *Posséder la science., La propriété scientifique au temps du capitalisme industriel*, Paris, EHESS Publications, 2020, not. p. 48 and f.

[101] Article L. 123-3 of the French Education Code and, in the case of teacher-researchers, although the wording is less clear-cut, Article 3 of Decree No. 84-431 of 6 June 1984 establishing the common statutory provisions applicable to teacher-researchers and establishing the special status of the body of academic professors and the body of lecturers. Moreover, we know that the European Court of Human Rights has deemed that a researcher's freedom of expression does not necessarily preclude an obligation to publish specific research data: ECHR, GC, 3 April 2012, *Gillberg v Sweden*, No. 41723/06 (on this case: R. Encinas de Munagorri, "Existe-t-il un droit des chercheurs à ne pas communiquer leurs archives?" *in* M. Cornu, J. Fromageau and B. Müller (dir.), *Les archives de la recherche – Problèmes et enjeux de la construction du savoir scientifique*, Paris, L'Harmattan, 2014, p. 113).

researcher's freedom, this balance illustrates the French balance between essentially public scientific research and scientific publishing which, by leaving the field open to private players, encourages diversity of opinions.

b. *No principle of higher law (constitutional or conventional) imposes a specific model*

Copyright has strong constitutional but, above all, conventional bases. Although the French Constitutional Council has acknowledged that copyright benefits from the extension, since 1789, of the scope of **property rights** and the right of its holder to enjoy and protect it within the framework defined by the law and France's international commitments[102], it is mainly Directive 2001/29/EC of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, supplemented by Directive 2019/790 of 17 April 2019, which establishes the principles to which national legislation is bound; it follows in particular that all exceptions and limitations made to copyright by the national legislator must not infringe the normal use of the work or the purposes concerned, nor unreasonably prejudice the legitimate interests of the rightholders[103] (**principle of the so-called three-step test**).

Notwithstanding, given the matter studied by the mission, **the provisions of this directive from 2001 do not, as such, have an impact on the business model adopted**. Articles 3 and 4 simply provide for the exclusive right of authors to authorize or prohibit any communication to the public of their works, as well as any form of dissemination to the public. Yet, **three remarks** should be made.

Firstly, these principles, starting with respect for the author's freedom, are limits that must be complied with, and any model that has a compulsory aspect and would entail a derogation from these principles should be analysed in light of the principles surrounding exceptions and limitations to copyright.

Secondly, the fact that the scientist mainly focuses on the reputational aspect of copyright – and therefore, in reality, on the moral right of authorship – this does not, under Directive 2001/29/EC, impact the scope of the copyright they enjoy: it remains unaffected and they, like all authors, are free to enjoy it pursuant to their interests. In this respect, it is certainly possible to consider that there is no obstacle to open access to research articles[104], but this is based on the assumption – which the mission deems to be inaccurate as such – that only publishers are in fact attached to full copyright and that only scientists have a reputational stake. On the one hand, a scientist-author is certainly not an author like any other, but not to the extent that they could not, in light of the principle of equality, benefit, in addition to the right of authorship, from the other attributes of copyright when they are in fact the holders of that right[105]. However, on this last point, there is a diversity of national models as to who holds the intellectual property rights to the research results (the scientist or the institution to which they belong, for simplicity's sake) and, unless this model is called into question, it is within this framework, mentioned

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[102] Recit. Recit., 27 July 2006, Dec. No. 2006-540 DC; 21 November 2014, Dec. No. 2014-430 QPC; 4 August 2017, Dec. No. 2017-649 QPC.

[103] Principle established by Article 5 of the Directive of 2001 and taken up by the Constitutional Council (Dec. No. 2006-540 DC afore.).

[104] In this respect, see Christina Angelopoulos' *Study on EU copyright and related rights and access to and reuse of scientific publications, including open access*, published by the European Commission (DG Research and Innovation), June 2022, p. 8-9.

[105] See, from the opposing standpoint, Marco Bellia and Valentina Moscon, "Academic Authors, Copyright and Dissemination of Knowledge: A Comparative Overview", Max Planck Institute for Innovation and Competition Research Paper No. 21-27, 2021.

above, that copyright is applied. On the other hand, even if these are distinct aspects, reputation is also an issue for the publisher in terms of a direct and reciprocal correlation with the author: each benefits from and participates in the other's reputation.

Thirdly, the recent **European Parliament and Council Directive 2019/790 of 17 April 2019 on copyright and related rights** in the single digital market provides for **exceptions related to research**. Although these do not concern open science directly, its Article 18 establishes a principle of appropriate and proportional remuneration for authors who assign their exclusive rights for the use of their work, supplemented by an obligation of transparency in Article 19. Except in rare cases, scientific authors are not paid by publishers. These principles and, more generally speaking, the philosophy of this directive as regards research-related copyright exceptions, are not without impact on the balance to be achieved, even though the affirmation of a strategy of rights retention has the *de facto* effect of depriving these provisions of their scope.

While European Union law is highly relevant, the constitutional framework should not be overlooked insofar as the Constitutional Council has defined copyright as a component of property rights: while it is possible to think of the right of the author-researcher in a specific way[106], the importance of this right in the Constitutional Council case law cannot be overlooked, as it provides special protection. This perspective moreover implies that it is in this light that the principle of equality must be assessed in the event of specific developments in researchers' rights.

The **researcher's freedom** is, in fact, the fundamental framework for considering the issue of disseminating research results. This researcher freedom, although difficult to grasp, is nonetheless based on **two fundamental principles**: freedom of expression and independence[107]. Against this backdrop, **the dissemination of the researcher's work is inherent to their mission**, since it expresses the freedom of expression and communication in teaching and research, which is protected by the Constitutional Council; **it can only be limited to the extent required by the public service in question** and this freedom is in the interests of the service itself[108].

This freedom of expression and communication for researchers is given special attention in conventional instruments. In this respect, the European Court of Human Rights protects academic freedom, "*which must guarantee freedom of expression and of action, freedom to disseminate information and freedom to conduct research and distribute knowledge and truth without restriction*[109]", as States have very little room for manoeuvre when it comes to regulating higher education. In addition, on the basis of its special protection under Article 13 of the Charter of Fundamental Rights of the European Union, the Court of Justice of the

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[106] Attempts have been made, in particular through the notion of *common good* applied to scientific work, an issue to which we will return briefly in the second part.
[107] On this issue, see Charles Fortier, "La liberté du chercheur public", *in* Jacques Larrieu, *Qu'en est-il du droit de la recherche ?*, Toulouse, Presses de l'Université Toulouse Capitole, 2008, p. 113.
[108] Dec. No. 94-345 DC of 29 July 1994.
[109] 23 June 2009, *Sorguç v. Turkey*, No. 17089/03, paragr. 35; 20 October 2009, *Lombardi Vallauri v. Italy*, No. 39128/05, paragr. 43; 27 May 2014, *Mustafa Erdoğan and others v. Turkey*, N$^{os.}$ 346/04 and 39779/04, paragr. 40,; 19 June 2018, *Kula v. Turkey*, No. 20233/06, paragr. 38. The Court refers to Recommendation 1762(2006) of the Parliamentary Assembly of the Council of Europe, which provides for the protection of this freedom in this form.

European Union has given it an even broader scope than the Strasbourg Court, making it a freedom independent of the general freedom of opinion[110].

It follows that **any infringement of this academic freedom must be fully justified, without the infringement being excessive, as the threshold for such infringement is likely to be low in relation to the importance attached to this freedom**.

At the intersection of these two issues, there is one final point worth mentioning: even if it does not, as such, come under constitutional or conventional standards, it is increasingly structuring the field of scientific research. **Scientific integrity**, which is the counterpart of academic freedom, **imposes obligations that are directly linked to the rights attached to copyright**. By protecting the right to reconsider and to withdraw and the right to authorship, **moral rights** are the instrument required to exercise this responsibility. However, it has been stressed that the challenges involved are similar to those of open science, but that it is not always easy to reconcile them; the condition is to ensure strictly that papers are valid and that the ones that need to be withdrawn are withdrawn[111] – in other words, that the researcher makes use of their rights, which become an obligation.

1.1.3 The widespread use of diamond open access alone would seem unlikely to ensure the independence of research and the quality of its dissemination

It should be made clear from the outset **that any attempt to impose a single publication model runs counter to the aforementioned principles and does nothing to take account of the diversity of situations, which could be detrimental to the bibliodiversity and vitality of scientific publications**.

The aim to open science remains a perfectly-acceptable political objective – and it is not for the mission to debate it – and one that will be achieved all the more so if this bibliodiversity is upheld, with all that it implies in terms of diversity of players, plurality of economic balances, possibility of developing new models and, ultimately, increased dissemination of quality science. In this respect, the mission was able to quickly observe that diamond open access, which is occasionally brought to the fore, does not have the qualities required to comply with the goals *in all circumstances*: even if, in some cases, it may present a balance, which should not be called into question, it cannot present the qualities of a generalizable benchmark model, as has already been emphasized by the French Parliamentary Office for the Assessment of Scientific and Technological Choices (OPECST)[112]. It should also be noted that this was not the intention of the French Parliament in 2016 (it is not mentioned in parliamentary proceedings), nor that of the German *Wissenschaftsrat* and, moreover, journal publishing has never followed a single business model[113]. Finally, it should be noted that the French Ministry in charge of Higher Education and Research never wished for it to dominate either.

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[110] CJEU, GC, 6 October 2020, *Commission v/ Hungary*, case C-66/18, point 226, referring to points 145 and 146 of the conclusions of Advocate General Julian Kokott.

[111] See Michèle Leduc, "Science ouverte, de l'intention à l'action", *in* Frédérique Coulée (pub.), *Sciences et pandémies : quelle éthique pour demain ?*, Paris, Érès, 2023, p. 213, which, in particular, mentions the sites *PubPeer* and *Retraction Watch.*

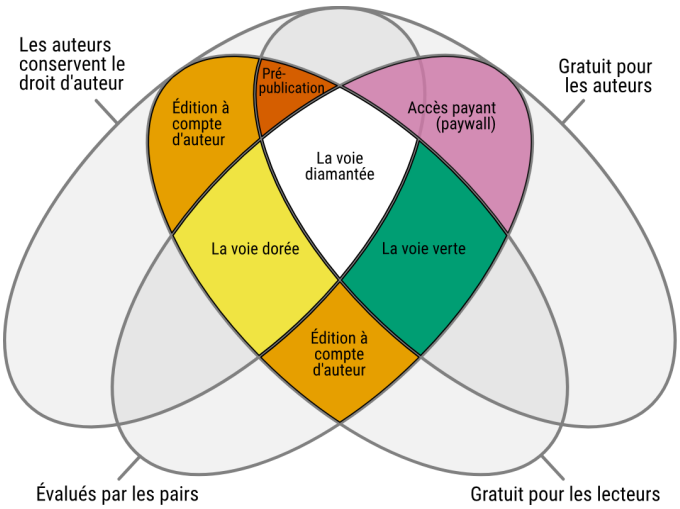
[112] *Pour une science ouverte, réaliste, équilibrée et respectueuse de la liberté académique*, report by Mr Pierre Henriet, Ms Laure Darcos and Mr Pierre Ouzoulias, No. 5154 (French National Assembly) / 573 (French Senate), March 2022.

[113] IDATE DigiWorld, *Étude sur l'économie des revues françaises en sciences humaines et sociales. Rapport final : phases 1 et 2*, French Ministry for Culture, 2020

a. *Works are natively open-access without any funding from the reader or the scientist-author*

Diamond open access, occasionally described as a variation of gold open access without APC, is very open and, at least in appearance, detached from any real economic considerations: it implies that scientific writing is made available free of charge and immediately to readers and that authors are not liable for any costs; it also implies, as it is most often promoted, that there will be no commercial use (by a third party). It is presented by its most fervent advocates as being the closest to scientists' expectations, and even as "*equitable by nature and design*[114]": the journals are managed by them, on the basis of exclusively academic considerations and belong to them.

This model benefits from visible support. The Open Science European Conference (OSEC) in February 2022 was an opportunity to propose an action plan for diamond publishing, drawn up by Science Europe, cOAlition S, OPERAS and the French National Research Agency (ANR) with the intention of harmonizing and developing joint resources for the diamond ecosystem and bringing together all the players involved in this model. According to this action plan, in 2021, there were between 17,000 and 29,000 journals that corresponded to this model around the globe, representing between 8 and 9% of all scientific publications in journals (which is in line with the rate observed by France through its Open Science Barometer), and 45% of publications were open-access accessible. The conclusions of the world summit devoted to this model, held at the end of October 2023, which namely brought together UNESCO, cOAlition S and the French National Research Agency (ANR), present it as a model that guarantees the access and dissemination of research funded by public funds, protecting *bibliodiversity* and focusing on the quality of content rather on the publication itself. Incidentally, some illustrations, which make use of a Venn diagram, make it a central model that guarantees all science goals are met, which is actually misleading:



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[114] This is how Science Europe (https://www.scienceeurope.org/our-priorities/open-access/diamond-open-access/) presents it.

[115] By Jamie-farquharson — https://doi.org/10.6084/m9.figshare.21602334.v1, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=125807036

In France, this plan is supported by the French National Research Agency (ANR), which was involved in its conception, as well as by the CNRS, which supported the 2022 action plan. Nonetheless, in 2019, the CNRS Ethics Committee (COMETS) itself observed that diamond open access "*may appear to some to be a morally satisfactory objective*" but "*in the market economy system in which open science is likely to develop, the total absence of APC can only be deemed a utopia. Editorial work should be remunerated and the costs incurred are inevitable. However, its principle may stimulate the search for solutions*[116]".

Despite this warning, the second French national open science plan 2021-2024 initiated by the French Ministry for Higher Education and Research intends to support this model, admittedly with others, stating that "*75% of open access journals*[117] *are journals referred to as diamond managed by the scientific community and whose funding is not based on author-pays or on compulsory reader contribution, but is borne upstream by a State, a university, a consortium of public institutions or a non-profit organization*" and adding: "*The recent OA Diamond Journals Study commissioned by cOAlition S revealed the scale and strategic nature of these journals and made recommendations that France will support and implement*[118]".

These figures, which highlight a mass effect, need to be brought into perspective, however, for the reasons put forward by the advocates of this model in support of rights retention strategies: since the important thing for a researcher is to be published in a journal that has the acknowledgement of the scientific community, which implies an editorial mission that ensures the quality of the scientific publication and its dissemination, **as numbers alone do not represent relevant data. What is important is the impact of dissemination** and it should be noted that France lacks consensual studies on this aspect, so that, basically, we can only refer to foreign studies undertaken on countries where the balance of scientific publishing is not the same.

A report was admittedly **drawn up, commissioned by cOAlition S**[119], yet it is not a scientific study and it is worth noting that it also underscores the limits of the current situation. A point, in this respect, attracted the mission's attention: **the limited dissemination of the majority of these journals** which, contrary to the goal established under Plan S Point 3, shows **that they do not actually substitute the major journals that are extensively disseminated**[120], that diamond open-access journals must not be seen as a replacement for existing ones and that the ongoing interest of scientists in publishing their work in these non-diamond journals should not be overlooked. Incidentally, the report does not manage to provide an accurate total of the number of these journals, which do not meet all criteria set out by Plan S. Moreover, even if other research nations, like the United States and China, have initiated a process of opening up science, **the effects of asymmetrical opening up are not taken into account**.

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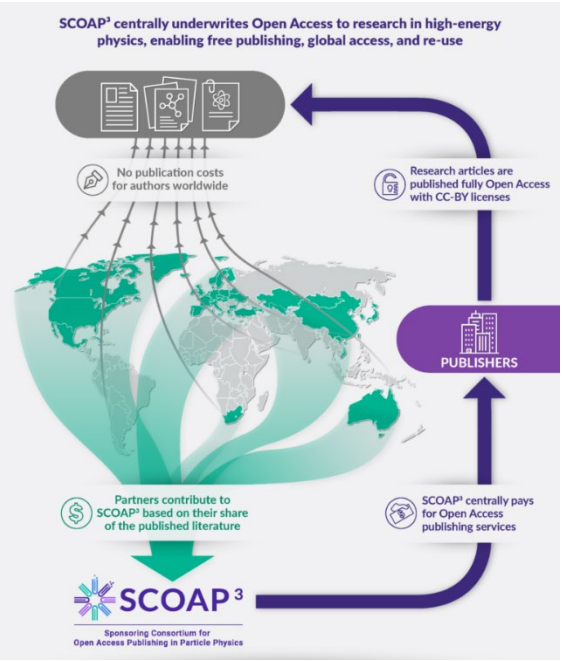
[116] Opinion No. 2019-40, "Les publications à l'heure de la science ouverte".
[117] AN: which must be distinguished from the number of articles.
[118] https://www.enseignementsup-recherche.gouv.fr/sites/default/files/2021-10/second-french-plan-for-open-science-13715.pdf
[119] Jeroen Bosman, Jan Erik Frantsvåg, Bianca Kramer, Pierre-Carl Langlais, Vanessa Proudman, *OA Diamond Journals Study. Part 1: Findings*, March 2021.
[120] It seems, however, that some mathematical journals are beginning to enjoy a highly-favourable reputation and extensive dissemination, in an environment of a discipline that is, on the whole, highly-favourable to open access. This shows that there is obviously a time aspect to be taken into account.

Yet, the journals using this open-access model may be relevant in a public research framework that publishes itself. Moreover, it is this model that dominates in **Spain** where scientific publications are mainly from universities themselves, which explains recent legislation, which we will return to later, which establishes the principle of *ab initio* open access. Furthermore, this type of journal opened up the possibility of publishing more widely to researchers who were unable to gain access to the more prestigious journals: even if the reputation effect is not the same, it helps overcome the constraints related to a limited number of journals and ensures the dissemination of research results. In this respect, they are fully involved in bibliodiversity, without being reduced to it, and the increase in scientific publications from the 2000s has but benefited from the opportunities offered by the development of this model, in addition to other mediums.

The reference to the diamond model, based on the platforms that use it, should also prompt a point of attention: **a platform cannot be entirely equated with a publisher**. Although the first provides a technical infrastructure (and must, because of this, be funded), it does not necessarily have an editorial role. This is the responsibility of every team in charge of the journal published on the platform. As such, the quality of publications on a platform cannot *a priori* be guaranteed; it depends on the editorial work undertaken by the team concerned, which explains the heterogeneity observed and the unfavourable or mitigated reputation that reference to a platform can sometimes create. Unlike the classic publishing system, the medium does not have distinct editorial accountability, which means that the reputational effect rests solely with the journal.

SCOAP³, an example of diamond open access?

The mission was invited to review the case of SCOAP³ (*Sponsoring Consortium for Open Access Publishing in Particle Physics*) as a successful example of moving towards diamond open access. It is defined as follows:



"SCOAP³ is a one-of-its-kind partnership of over three thousand libraries, key funding agencies and research centers in 44 countries, regions or territories and three intergovernmental organisations. Working with leading publishers, SCOAP³ has converted key journals in the field of High-Energy Physics to Open Access and continues to support OA publishing in these journals at no cost for authors. In addition, existing Open Access journals and even books and monographs are centrally supported, removing existing financial barrier for authors and allowing a free and easy scientific discourse in High-Energy Physics. Each country, region or territory contributes in a way commensurate to its scientific output in the field.
SCOAP³ journals are open for any scientist to publish in without any financial barriers. Copyright stays with authors, and a permissive CC-BY license allows text- and data-mining. SCOAP³ addresses Open Access mandates at no burden for authors. All articles appear in the SCOAP³ repository for further distribution, as well as being Open Access on publishers' websites. Metadata are freely available and an API (*SCOAP³ partner exclusive*) allows easy ingestion of all articles in national or institutional repositories.[121]"

[121] https://scoap3.org/what-is-scoap3/

The business model is based on CERN centralizing all the costs for the publishing services provided and, above all, pooling them:

> "The SCOAP[3] model is based on a lightweight central administration at CERN which arranges payment of Article Processing Charges at a competitive level, through funds made available by the participating institutions.
> The total amount contributed by each country, region or territory is commensurate with its share in the worldwide scientific output in High-Energy Physics. To fairly reflect the global diversity in the context of large scientific collaborations, typical for the discipline, each article is allocated proportionally based on the institutional affiliation of all its authors. This correctly reflects the international collaborative nature of High-Energy Physics and allows a fair distribution of publication costs across all participating institutions. Based on the central support of OA publishing in the participating journals, all authors worldwide can publish their works in Open Access without any financial or administrative barriers.[122]"

In actual fact, this model does not imply eliminating APC: these are borne by CERN, via a cost-pooling system, but favours financial balance in which institutions (including libraries) and publishers are stakeholders, which makes it possible to limit APC. As such, it is not a tangible implementation of diamond open access but a development of gold open access that aims to reduce APC by ensuring fair economic conditions for the whole of the scientific community concerned[123]. In the end, payment is global, enabling any author from any country and any institution to publish without economic barriers.

Notwithstanding, as Ghislaine Chartron highlights, this model is based on a scientific community approach and, although it has been able to prosper in the field of particle physics, it is because this community is structured, has only a limited number (12) of central journals and can rely on a mediating player of international scope[124]. Yet, it shows the interest of having a pragmatic approach to the matter, that can tailor to the needs and constraints of each sector.

Moreover, **innovative journal models** have emerged and are linked to this model: these are **overlay journals**, like the Episciences platform developed by the French Center for Direct Scientific Communication (CCSD), under the authority of the CNRS, INRIA and INRAE[125]. They are based on the submission of texts in an open archive without peer review, this is then undertaken gradually from the moment the text is submitted; the overlay journal distinguishes articles approved by its members. More generally, diamond open access leads to the development of a new publishing offer, by protecting researchers from predatory journals[126], of which there is also a very high number[127]. However, in this respect, the fight against predatory journals[128], whose reality continues to be contrasted[129], must not become, as the

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[122] *ibid.*

[123] See Anne Gentil-Beccot, Ralf Schimmer, "Libraries Can Make Open Access Happen Today by Simply Redirecting Subscription Funds: An Update on the SCOAP3 Initiative", *Liber Quarterly*, vol. 18, No. 3/4, December 2008, p. 449; Ralf Schimmer, "A road long travelled: is SCOAP 3 now arriving?", *Insights*, vol. 26, No. 2, July 2013, p. 135.

[124] Ghislaine Chartron, "Géopolitique de l'open access", ICOA18 Symposium, November 2018, Rabat, Morocco. Also see Peter Suber, *Open Access*, Cambridge-London, MIT Press, 2012, p. 146.

[125] See Alice Fritsch, "Publier autrement : l'épopée d'Episciences et des *overlay journals* : Lyon – 30 et 31 mars 2023", *Bulletin des bibliothèques de France (BBF)*, 11 May 2023.

[126] Carine Bernault, *Open access et droit d'auteur*, Brussels, Larcier, 2016, p. 68.

[127] Over 15,500 according to the InterAcademy Partnership report, *Combatting Predatory Academic Journals and Conferences*, 2022.

[128] According to the definition of Agnes Grudniewicz and coll., "Predatory journals: no definition, no defence", *Nature*, December 2019, No. 576, p. 210; these are entities that prioritize self-interest at the expense of scholarship and are characterized by false or misleading information, deviation from best editorial and publication practices, a lack of transparency, and/or the use of aggressive and indiscriminate solicitation practices.

[129] Eric Filiol, "Un autre regard sur les revues prédatrices", Interview, *Pour la Science*, 13 August 2018.

mission was able to see on some academic sites, an opportunity to equate them with the journals of publishers, particularly the major ones, which require APC, whose offer is still high quality and complementary to diamond OA journals: diamond open access is not, actually, always the most protective of authors' interests.

b. *Diamond open access is not economically generalizable and may undermine the researcher's independence and the quality of the publishing work*

As reported in the press release through which the CNRS showed its support for the aforementioned 2022 action plan, **diamond open access is a "*business model [that is] based on academic grants*"**. Publishing comes with a cost, as we have already mentioned, publishing on Internet comes with an even greater cost than it did in the days when this medium did not exist: online journals require technical infrastructures and ongoing adaptation to external tools that change scientific work[130]. According to the *OpenAPC* site, based on costs recorded in different research organizations around the globe, the average cost for publishing an article in a journal that has total free access, including publishing costs for authors, stood at €1,623 in 2018 and the average cost for publishing an article freely-accessible in a hybrid journal stood at €2,580 in 2018. Even by remembering that this cost is higher with major international publishers[131], where margins are, in any event, higher, these figures give an idea of how much it costs to publish a single article. **The model that is totally free requires a source of funding which, by design, in diamond open access is not the author or the reader**. Incidentally, even publishing with diamond open access is not exempt from own costs[132].

Feedback from Elsevier Masson confirms there is a budgetary risk: until 2019, and for over 20 years, Elsevier Masson was the publisher for publications from the French Académie des Sciences, whose business model was based on subscriptions. The duration of this partnership meant that the publisher was able to deal with digitization and the transition of the Académie's publications from paper to electronic version. This change was expressed through a great improvement in financial results, which led to the annual payment of several hundred thousand euro in royalties to the Académie. In 2019, the Académie decided to forsake the subscription model and take on diamond open access, to stop using a specific publisher and to use a CNRS public platform. Since 2020, the publication of the Académie des Sciences Reports is funded by an annual grant of around €300k, granted by the French Ministry for Research and earmarked for a limited period of time. In addition to the fact that this change led to significant delays in publication, the visibility and citations of the content published, and as such the appeal of these publications, are said to have fallen significantly since the change in publishing model. Such a journal must as such rely on funding, whether it is private or public, which poses a number of immediate issues: in addition to the **sustainability of this funding**, which is needed to forge the journal's reputation, there are questions about **editorial independence**, particularly in terms of the assessment of articles submitted. **This risk is also an ethical one**, namely when funding is private. The recent study by *Ouvrir la science !* on the economic sustainability of this model[133] moreover highlights the need to ensure that journal funding is separate from research

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[130] See as a summary the aforementioned article by Patrick Fridenson, "Revues et accès libre. Les pièges de la transparence", *Esprit*, vol. 5, 2013, p. 97.

[131] Between 10 and 20%, but this average figure itself does not take the considerable differences between journals into account, even when they are with the same publisher.

[132] See the assessments of John Houghton's study *Open Access – What are the economic benefits? A comparison of the United Kingdom, Netherlands and Denmark*, Knowledge Exchange, 23 June 2009.

[133] Quentin Dufour, David Pontille, Didier Torny, *What direct support is available for open-access Diamond journals? Funding models and arrangements for implementation*, French Ministry for Higher Education and Research, June 2023.

funding. Moreover, **if funding is public, the issue at hand is that of complete state control of research** and its publishing, as mentioned by the French Parliamentary Office for the Assessment of Scientific and Technological Choices (OPECST) report.

There is a strong tendency to see this as the role of the State, particularly in France, where it is the main player in research funding[134]. An underlying criticism of the system is that the publication of articles based on work funded with public money generates added value for publishers.

It is true that, in France, it holds a key place, yet does this mean that public authorities should have such a role, including even when it comes to reviewing and disseminating research results? As a research funder, it certainly makes sense for the State to retain this publishing role, since the added value currently generated by scientific publishing only exists thanks to the investment made upstream. However, the risks associated with such funding, which is based entirely on public funds, cannot be overlooked either: against a backdrop of tight budgets and increased research reviewing, there is a kind of paradox in creating new journals, which entail costs, without being able to ensure that they are sustainable given a lack of other resources[135], on the one hand, and at a time when the quality and influence of publications appear to be vital for reviewing researchers' work, despite the fact that the "*publish or perish*" principle is regularly challenged, on the other. Furthermore, state control of publishing is not likely to protect publishing diversity. **As such, there is a risk of creating greater researcher dependency**, forced to prioritize publishing methods where costs are covered, without really taking into account the dissemination of the journal and its reputation, which has a twofold effect: reducing the diversity of expressions in the same journal and making it impossible for authors to access journals subject to APC in the absence of a dedicated budget[136]. The aggravating factor of distance from the scientific community, when international competition is strong and open access is asymmetrical between States, also comes into play.

Finally, contrary to the principle of transparency that is being promoted, **it is particularly difficult to determine the costs of a diamond open access journal**: even more than for traditional journals[137], the costs are integrated into the research or university structures; staff, who are mainly assigned to other tasks, are mobilized. In the end, the very cost of the publication is diluted, making it difficult to understand and putting the model at risk. In this respect, it is worth emphasizing that its own persistence over time must be guaranteed, that several of the conclusions and recommendations of the aforementioned report commissioned by cOAlition S concern funding and operating resources, and that the aforementioned recent study for *Ouvrir la science !*[138] highlights the absence of a study on the funding model for diamond open access journals that strive to fill this gap. However, this same study also identifies

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[134] Carine Bernault, *op. cit.*, p. 68-69.

[135] The disappearance of some journals has also been observed: Mikael Laakso, Lisa Matthias and Najko Jahn, "Open is not forever: A study of vanished open access journals", *Journal of the Association for Information Science and Technology*, vol. 72, No. 9, 2021, p. 1099; Marc-André Simard, Gita Ghiasi, Philippe Mongeon, Vincent Larivière, "National differences in dissemination and use of open access literature", 2022, *PLoS ONE* 17(8): e0272730.

[136] The mission is nonetheless aware of the great effort being made by French research organizations for funding APC, illustrated by the *OpenAPC* site: CNRS and INSERM are among the leading funders of APC.

[137] On several occasions, the mission had the opportunity to hear criticism as regards a hidden publishing cost, borne by the State, stemming from the mobilization of public servants ahead of the publisher's mission. This point was brought to light, for example, in a study by Maya Bacache-Beauvallet, Françoise Benhamou, Marc Bourreau, *Quel délai pour le libre accès des revues de sciences humaines et sociales en France ?*, IPP (French Institute for Public Policy) Report No. 11, July 2015.

[138] Quentin Dufour, David Pontille, Didier Torny, afore.

the methods of funding these journals, which provides valuable insights that will enable the institutions concerned to have a clearer framework at their disposal. Even if such objectification is vital (and all the parameters are not yet transparent), it should be mentioned that this leads to the issue of finding funding for publication being passed on to public servants, and even researchers, when they are already sometimes worried about having to devote time to this type of issue in order to carry out their research, to the detriment of their own work.

This model alone cannot address all the needs related to publishing scientific articles and **diamond open access cannot be the model of bibliodiversity**, as has been sometimes claimed; **it contributes to it**. From an economic standpoint and in terms of the interests of disseminating research results, **imposing diamond open access does not seem appropriate**, as the theoretical benefits it brings can only be fully achieved if this type of publication becomes widespread: as the French Parliamentary Office for the Evaluation of Scientific and Technological Choices (OPESCT) said, "*the cure could turn out to be worse than the illness*[139]".

c. *Diamond open access can come up against copyright and academic freedom when it focuses on a compulsory rights retention strategy*

Diamond open access, in the way it could have sometimes been promoted by public authorities, although not on an exclusive basis, poses serious issues in terms of copyright. First of all, on the principle, where it has already been mentioned that **imposing a publishing model**, *a fortiori*, if it leads to imposing publication in a journal, **is liable to infringe academic freedom**, along with the moral right of disclosure. On the other hand, this does not prevent the funder of a specific project from imposing, through a call for projects, terms and conditions for publishing the future results: this is a perfectly-acceptable contractual commitment, accepted by all parties and Pillar 1 of the French national open science plan does not present any intrinsic difficulty in this respect. However, the mission has observed that the generalization of such an obligation in all calls for projects leads to a convergent effect with the strategy referred to as rights retention.

Secondly, in this respect, diamond open access terms and conditions pose more difficulties and one point – the other aspects are political choices that the mission does not intend to discuss – focuses the attention of the publishing world: **rights retention strategies**. Both Plan S and the French national open science strategy are designed to support "*the rights retention strategy to immediate open access to scientific publications and make it easier for researchers to do so. Invite universities and research performing organizations to adopt this strategy when negotiating with the publishers*". This was the subject of a guide, published in 2022 by the COSO[140]; it is now the benchmark for researchers, especially as it begins with a presentation of the convergence of different organizations and bodies towards this strategy.

The CNRS defines it "simply": "*just apply a CC-BY licence to all successive versions of the manuscript*[141]". **In reality, the aim is to oppose the exclusive assignment of the rights to use the article**.

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[139] P. 59.
[140] https://www.ouvrirlascience.fr/implementing-the-rights-retention-strategy-for-scientific-publications/
[141] https://www.science-ouverte.cnrs.fr/les-recommandations-du-cnrs/

Creative Commons licence

Free access to intellectual works is based on free licences; there are several types[142] but one stands out in the open science approach, and more particularly within the scope of Plan S and its variations: *Creative Commons* licences. The CC-BY licence (currently version 4.0) is known as the "Attribution" licence in that it allows the work to be reproduced, distributed, represented or communicated to the public, or integrated into another work, provided that the author's authorship rights are complied with. However, there are other versions of this licence that impose additional restrictions:

Licence Creative Commons	Droit d'utiliser l'oeuvre à titre NON commercial	Droit d'utiliser l'oeuvre, y compris à titre commercial	Droit de créer des oeuvres dérivées (modifications)	Obligation de partager toute adaptation sous la même licence	Obligation de mentionner le nom de l'auteur
BY	oui	oui	oui	non	oui
BY ND	oui	oui	non	non	oui
BY NC	oui	non	oui	non	oui
BY NC ND	oui	non	non	non	oui
BY NC SA	oui	non	oui	oui	oui
BY SA	oui	oui	oui	oui	oui

Source: Mission to support French State Intangible Heritage, Legal Affairs Directorate of the French Ministry for the Economy, Finance and Industrial and Digital Sovereignty.

The choice made in support of Plan S as such favours the most open model, free from any restriction, even when it comes to commercial use.

It should nevertheless be emphasised that these CC licences are considered to be "abdicative" waivers of moral rights, where the author suspends their exercise by a unilateral commitment of free will[143]. Other authors even believe that these licences reverse the principle of copyright: everything is permitted by default and it is then up to the author to define the limits, as an exception to this principle[144]. CC licences are by no means total waivers of rights and, as such, are not formally part of the process of creating a voluntary public domain[145], but the dividing line is, in practice, a fine one, and this underlines the fact that **the waiver of rights must be based, above all, on an act of free will**. Moreover, the use of CC licences is not intended to be uniform, but implies a choice – necessarily an informed one – by the author[146].

However, in light of what has been said above, the mission considers that **this strategy is likely, subject to the way it is implemented, to clash head-on with the scientists' rights under**

[142] See Mélanie Clément-Fontaine, *Jurisclasseur Propriété littéraire et artistiques*, V° "Fasc. 1975 : L'œuvre libre", 2023, paragr. 84 and f.
[143] Pierre-Yves Gautier, *Droit de la propriété littéraire et artistique*, Paris, LGDJ-Lextenso, 2021, p. 174.
[144] Silvère Mercier, Philippe Eynaud, "Le droit d'auteur au défi des biens communs de la connaissance", *Juris associations*, 2014, No.501, p. 28.
[145] Séverine Dusollier, *Etude exploiratoire sur le droit d'auteur et les droits connexes et le domaine public*, OMPI, 4 March 2011, CDIO/7/INF/2; Mélanie Clément-Fontaine, *L'œuvre libre*, Brussels, Larcier, 2014.
[146] As proposed, for example, by Lexi Rubow, Rachael Shen, Brianna L. Schofield, *Understanding Open Access: When, Why & How to Make Your Work Openly Accessible*, Authors Alliance, 2016.

current legislation. The primacy given to this reasoning is based on a number of errors of perspective:

- **The assumption**, expressly stated in Plan S, that this strategy would give researchers the freedom to submit their manuscripts for publication in the journal of their choice, including those on subscription, **is illusory**: the publisher's business model is based on the right of use that is assigned to them; if they cannot make use of it, they lose what enables them to finance their activity and will most often not accept publication. In this respect, it is worth remembering the issues already raised by secondary publishing rights as regards the author's obligations towards the publisher if they exercise this right, and the implicit acknowledgement, contained in the legislator's introduction of an embargo period, of the need for exclusivity for the publisher. Although it is stated that the aim of the strategy is to avoid authors having to pay APC, there is no mention of how the publisher, who incurs costs, manages to cover them: while the embargo does not appear to have disrupted sector business[147], the disappearance of all barriers cannot be considered to have the same impact. Moreover, the link between a free CC-BY licence and the publisher's rights is particularly complex[148], far from the simple answers suggested;
- This strategy is based on the idea that the author's only right is to decide whether or not to publish[149]. However, this is an **extremely restrictive view of copyright**, including from a European Union law perspective: Articles 4 and 5 of Directive 2001/29/EC expressly state that the author's right is exercised over the various forms of publication, which implies the choice of publication and its means of dissemination;
- The strategy is based on the idea that "*There is no reason for scientists to make an exclusive free copyright transfer of their work to publishers, which denies them the right to reuse their own publications*[150]" which could, especially when read too quickly, be considered as **breaking the law**. The exclusive assignment of rights is the principle in a publishing agreement, pursuant to Article L. 132-8 of the French IPC. In principle, it is not free and it is possible to derogate from it, but this de facto cost-free aspect in most scientific fields has historical foundations and is hardly ever called into question; it cannot be used as a pretext to contest a principle that is independent of it;
- It is paradoxical to impose the application of a CC licence and then insist, as the CNRS Open Science website[151] does, that this licence cannot be called into question, which **amounts to denying the author's moral rights**. Admittedly, these licences are in no way illegal in principle, as mentioned in Joëlle Farchy's report in 2017[152]. But the assertion that the licence cannot be called into question has no legal basis and poses the same issues with regard to the independence and freedom of teacher-researchers as the strategy itself;
- Finally, although the CC licence is designed to protect its author, **the author's ability to enforce their rights does not seem to be taken for granted**: more often than not, they do not have the skills or the means to take action, unlike publishers, whether public

[147] See the aforementioned report by Daniel Renoult.
[148] Carine Bernault, *op. cit.*, p. 149-150.
[149] In this respect, see in particular the document from the European Commission DG Research and Innovation, *H2020 Programme. Guidelines to the Rule on Open Access to Scientific Publications and Open Access to Research Data in Horizon 2020*, version 3.2, 21 March 2017.
[150] https://www.cnrs.fr/en/update/there-no-reason-scientists-make-exclusive-free-copyright-transfer-their-work-publishers
[151] https://www.science-ouverte.cnrs.fr/la-strategie-de-non-cession-des-droits/
[152] Joëlle Farchy, Marie De La Taille, *Les licences libres dans le secteur culturel*, Mission Report for the CSPLA, December 2017.

or private, who, in return for the assignment, are responsible for ensuring that these rights are complied with. Moreover, the protection offered by *Creative Commons* licences is uncertain: some authors have mentioned the difficulties of linking them both to American copyright law[153] and to moral rights under French law[154], even though the exercise of moral rights is indispensable in terms of scientific integrity requirements.

It is also contradictory to pursue such a rights retention strategy shortly after the legislator decided to offer secondary publishing rights to authors of scientific articles. The French Book Ombudsman highlighted this in its opinion of April 2023: the embargo period, guaranteed to the publisher, no longer exists, the non-commercial aspect of reuse no longer prevails and the optional aspect of using these rights is no longer relevant. The legislator could have made other choices – and they have been discussed – but chose a path that has now become compulsory. The conclusions of the study commissioned by the European Commission DG Research and Innovation moreover show that, in the absence of change in the law, academic freedom severely limits employers' action with regard to researchers' copyright[155].

In the end, **the rights retention strategy appears as a pure and simple waiver of the researcher's rights**, contrary to the rights and freedoms they enjoy under EU and French national law, **and, when imposed, as a challenge to the choices made by the legislator**, without the status of the writing concerned and of the researcher being clear. In recent years, the French legislator has made clear choices, which have been widely discussed, in favour of researchers holding copyright over articles resulting from their research work. These choices, which have not been made in the same way for researchers in the private sector or other civil servants, could change to establish a new balance, subject to constitutional requirements and compliance with France's international commitments in this area. Yet, this is how the French model stands today. **Rights retention is, in any event, an option for researchers; it is a matter of freedom.** It is perfectly possible, both for the French Ministry for Higher Education and Research and for universities and research establishments, to encourage researchers to proceed in this way, by explaining to them the issues at hand and the advantages of this choice in terms of the goals pursued. **On the other hand, the law prevents it from being imposed, and various administrative documents cannot as such impose it** directly or indirectly. They must be free to choose whether to use the traditional method or to use a licence that is in line with the open science strategy - and the choice of some authors to provide free access to their work is not new, but it has always been part of their active approach[156]. To do this, they must be fully informed of the real impact of this choice, far from the irenic or caricatured views that are sometimes portrayed. The COSO guide could, as such, have usefully included information on the choice offered to scientists and the ins and outs of each of the options available to researchers, even if it highlights the Ministerial preference. However, the mission noted that the intention of the French Ministry for Higher Education and Research was not to make this compulsory, and that only a quick reading of the guide would lead one to believe that this was the case. Fears need to be clarified, however.

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[153] Timothy K. Armstrong, "Shrinking the Commons: Termination of Copyright Licenses and Transfers for the Benefit of the Public", *Harvard Journal on Legislation*, vol. 47, No. 2, 2010, p. 359.
[154] Alexandra Giannopoulou, "The Creative Commons licences through moral rights provisions in French law", *International Review of Law, Computers and Technology*, vol. 28, No. 1, 2014, p. 60.
[155] Christina Angelopoulos, *Study on EU copyright and related rights and access to and reuse of scientific publications, including open access*, published by the European Commission (DG Research and Innovation), June 2022.
[156] Mélanie Clément-Fontaine, *L'œuvre libre*, Brussels, Larcier, 2014.

EU law, as set out in recent Directive 2019/790 of 17 April 2019, is in line with this. The principles established in 2001 and outlined above give authors the right to decide how their works are used. In this respect, the Court of Justice of the European Union emphasized that "*every author must be effectively informed of the future use of their work by a third party and of the means available to them to prevent such use if they so wish. In the absence of effective prior information concerning that future use, the author is not in a position to take a position on it and, consequently, to prevent it, if applicable, so that the very existence of his implied consent in this respect remains purely hypothetical*[157]". It seems difficult to imagine that this obligation could not have an impact on rights retention strategies.

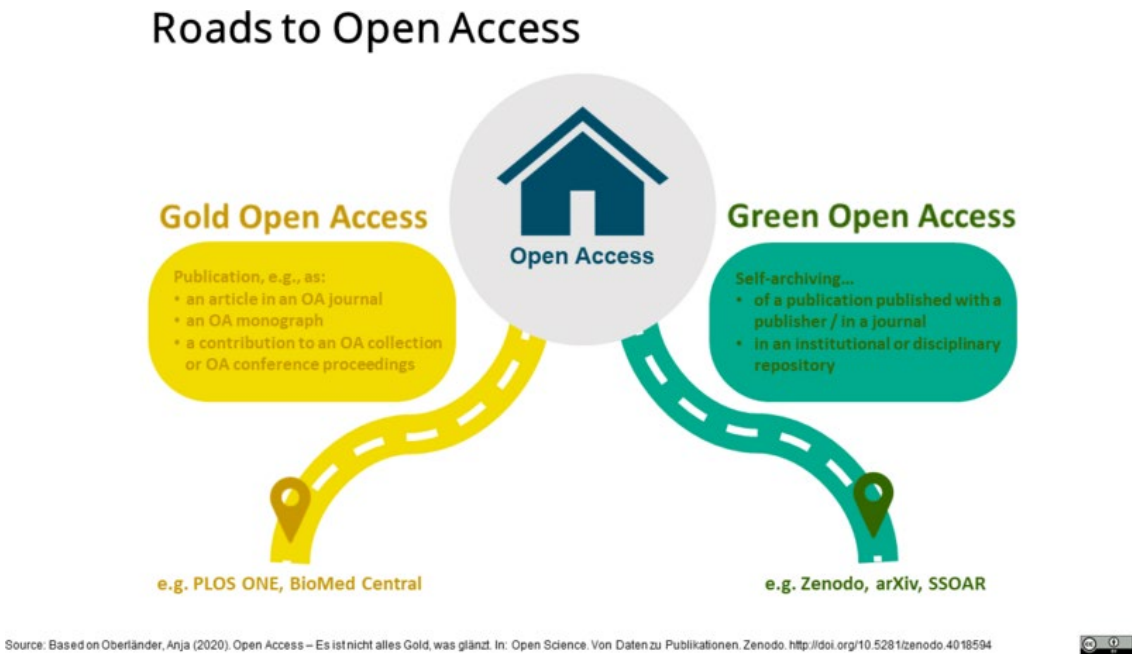
Moreover, the 2019 Directive, on the one hand, established exceptions serving the interests of science by regulating the search of texts and data for the purposes of scientific research (Articles 3 and 4) and concerning the preservation of cultural heritage (Article 6) and, on the other hand, sought to draw the consequences of the unequal relationship between the author and the assignee of the rights of use, in particular to ensure fair remuneration for authors (Articles 18 to 23). If publication of scientific writings in periodicals is not generally remunerated, the imposition of a CC licence and open access publication deprives the purpose of this Directive of all effect. The new Directive makes it all the more important for authors to be informed about the use of their rights, including with regard to strongly suggested rights retention strategies.

1.2 Balanced models are found in the laws of the major research countries

Green (1.2.1) and **gold (1.2.2)** open access were differentiated in 2001 (1st and 2 December) during **The Budapest Open Access Initiative**, formalized in the Declaration of 14 February 2002[158]: "*An old tradition and a new technology have converged to make possible an unprecedented public good. The old tradition is the willingness of scientists and academics to* ***publish*** *the fruits of their research in* ***scholarly journals*** *without payment, for the sake of inquiry and knowledge. The new technology is the Internet. The public good they make possible is the* ***world-wide electronic distribution*** *of the peer-reviewed journal literature and* ***completely free and unrestricted access*** *to it by all scientists, scholars, teachers, students, and other curious minds*".

Two alternative methods are considered: "***Self-archiving***" *enabling scholars to "submit their peer-reviewed journal articles to open electronic archives, and natively-open "****alternative open-access journals***"". There is still a challenge for authors: "*The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited*.".

[157] CJEU, 16 November 2016, *Soulier & Doke*, case C-301/15, points 38 and 39.
[158] https://www.ouvrirlascience.fr/budapest-open-access-initiative/



1.2.1 *Green open access corresponds to French positive law and is widespread throughout Europe without any proven weakening of the publishing sector.*

Green open access is the access where **the author of a publication decides themselves to submit it to an open archive after a specific period of time**. This prompts wider dissemination and means archiving content independently of a publisher. Some publishers can reserve an exclusive dissemination period by demanding an **embargo** period before the full text is accessible via an open archive. This is known as "mobile barriers" when the embargo period is implemented by the publishers themselves[159].

a. *Article L. 533-4 of the French Research Code (Act No. 2016-1321 of 7 October 2016 for a Digital Republic) only provides for one **option**, at the end of a six month or one year period.*

Article 30 of French Act No. 2016-1321 of 7 October 2016 for a Digital Republic, referred to as the Lemaire Act, introduced a new provision in Article L. 533-4 of the French Research Code, which is currently the **only normative source** that enables scientific writing to be published digitally in an open format.

Naturally, before this legislation came into effect, in principle **authors** have **always been able to make** their **works available** to the **public** for **free**. In this respect, Article L. 122-7-1 of the French Intellectual Property Code provides that "*the author is free to make their works available to the public free of charge*". Notwithstanding, subject to third-party rights and agreements concluded, in particular when the author makes use of their right to assign under Article L. 122-7, which states that "*The right of representation and the right of reproduction may be assigned free of charge or for a consideration*".

[159] According to Jean-Yves Mérindol's report, for HSS, these mobile barriers are around 24 months, yet 40% of journals have barriers of over 36 months. 5 years for the Société Mathématique de France.

The text of Article L. 533-4 of the French Research Code **does not impose any obligation**. It provides an option: I provides that "*even after having granted exclusive rights to a publisher, the author has the right to make the final version of their manuscript available digitally, in an open format*". As such, this legislation in no way establishes an obligation that would have been expressed through the legal use of the verb "*must*" (*must make available*) or the present simple tense ("*makes available*"). This is the first noteworthy aspect.

Even though the legislation only proposes one option, it provides for four sets of conditions:

- A **genre condition** concerning "*scientific writing*".
- A **prefunding condition**: scientific writing must have been funded "*at least half by public funds*". The author's wages are not taken into account. In traditional copyright law, it is irrelevant whether or not the work has been funded by public funds. This condition is important because it seems to exclude certain writings in humanities and social sciences, in law for example, for which the research costs are low and do not give rise to any special allowance. Admittedly, academics are paid by the State for their teaching activities and, sometimes, during their doctorate, but their articles are not the subject of any ad hoc funding.
- A **publishing medium condition**: it must have been published "*in a periodical published at least once per year*". The aim here is to exclude monographs and journals that are published less frequently, as well as to protect confidential data, such as those protected by law (professional or defence secrecy), which, as a matter of principle, are never published.
- A **time limit** "*of a maximum of six months for a publication in the fields of science, technology and medicine*" and "*of twelve months for the field of humanities and social sciences*".

The originality of the article lies in the use of the option "*even after having granted exclusive rights to a publisher*", making it possible to compete with the rights of the assignee by performing an act that would normally only be performed by the rightholder after the assignment.

When these different conditions are met, **reuse** is **free** (II of the Article) including the reuse of data (III). The article is of public policy, so that any contractual clause to the contrary is deemed unwritten (IV).

This article stems from the aforementioned **political compromise**. As the article[160] impact study[161] mentions, the balance between publishers, authors, scientific communities and institutions was disrupted by an increase in the cost of subscriptions, which resulted in libraries losing a growing number of subscriptions. According to the impact study, **expenditure on electronic documentation for laboratories increased by 450% between 2002 and 2014**.

[160] This concerned Article 17 of the French Government's draft act: https://www.legifrance.gouv.fr/contenu/Media/Files/autour-de-la-loi/legislatif-et-reglementaire/etudes-d-impact-des-lois/ei_art_39_2015/ei_republique_numerique_cm_09.12.2015.pdf.pdf

[161] The SNE (French National Publishers' Union) emphasized to the mission that the content of this impact study could lead to debate particularly given the economic sustainability study published in 2015 by IDATE and carried out on commission by Cairn.info on the subject of French-language HSS journals (*L'Open Access et les revues SHS de langue française*, October 2015).

This was based on a British study showing that the benefits of a policy of disseminating and reusing research data could be four times greater than its cost, given the savings made[162].

The choice of **embargoes** stemmed from such a compromise between the interests of the publisher, who must have exclusive economic use time for the publication, as mentioned in the introduction, and the expectations of the research community. At the time, France chose to adopt the timeframes recommended by the European Commission in its recommendations of 17 July 2012 on access to and preservation of scientific information. And the decision to promote the free reuse of research data within the same timeframe was in line with the guidelines of the Horizon 2020 research framework programme (2014-2020).

In practice, a journal that formalizes this option provided for by law in its contractual relations with authors becomes a "moving barrier" journal if the content is initially only accessible on subscription, before being freely accessible after the end of the subscription period (six months, one year). Nonetheless, in this instance, the content is not under a *creative commons* type licence.

b. *Many countries have opted for the same type of compromise*

When France implemented its reform in 2016, it did so after other countries had introduced comparable embargoes: Germany (12/12 months, no change since)[163], Austria (12 months/12 months, unchanged), Argentina (6/6 months), United States (12/12 months)[164], the Netherlands ("reasonable period"), Spain (12/12 months, then native from 2022), Italy (18/24 months); Horizon 2020 research framework programme (6/12 months), Research Council UK (6/12 months), Belgium (6/12 months), Canadian agencies (12/12 months), Indian agencies (6/12 months). It is worth noting that Germany and Italy had also imposed a threshold of 50% of funding from public funds. In any event, embargo periods, whether they are dated or not, are justified through the need to enable publishers to cover their costs.

Some countries impose that the first publication must be cited (Germany, Austria, Belgium, the Netherlands), but this is not the case in France. The rule is of public policy in some countries only (France, Germany, Austria, Belgium).

The **compromise** appears **viable**. At the time the Lemaire Act was passed, the expected decline in turnover was limited. The impact of this measure on the economic balance of French institutional scientific publishing, which is mainly made up of publishers of humanities and social sciences, had to be put into perspective, pursuant to preparatory work for the Act, insofar as most of their turnover was made up of subsidies provided by institutions and laboratories. Moreover, according to the impact study, on average, journals accounted for only 18% of their publishing output, and between **40% and 60%** of the overall sales figures related to these journals were generated by **the year's publications**, which would remain embargoed, ensuring that these players would only be marginally impacted.

In 2016, the French Government justified its choice through the successful example of the **INSDC International Human Genome Project** (thanks to international contribution to an

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[162] https://repository.jisc.ac.uk/279/2/JISC_data_sharing_finalreport.pdf

[163] *Study on EU copyright and related rights and access to and reuse of scientific publications, including open access*, study for the European Commission, Dr Christina Angelopoulos, 2022.

164 The White House's "Nelson Memo", from 2022, now however imposes immediate open access and waivers embargoes.

open databank), where the benefits were estimated at 800 billion dollars and 310,000 jobs created for just 3.8bn dollars invested by the US Government.

With **a few years' hindsight**, INSEE reviewed **sector 581** (Periodical book publishing and other publishing activities), obviously wider than scientific publishing, to have tax-exclusive turnover of €18.3bn in 2019, versus 18.5 in 2018. However, in 2020, it only stood at €14.6bn[165]. As such, journal and periodical sales had declined from €3.486bn to €3.2bn. Over the same period, the number of businesses, on the other hand, had increased from 13,403 to 14,390. This data is highly imperfect for two reasons. First of all, because the effects of Covid are not neutralized. Secondly, because the level of granularity is insufficient to target the scientific journals concerned by the measure. More detailed monitoring would undoubtedly be needed to keep better track of the complex issues involved in open science.

***Proposal 1**: Ensure specific macro-monitoring by the French Scientific Publishing Observatory, with the support of INSEE, of the turnover of scientific publishing firms for their activities relating to open science challenges.*

c. *The mission believes that the procedures adopted in French law comply with the principles of copyright*

The mission deemed that French positive law, as it stands today, does not affect copyright fundamentals. The same globally applies to green open access. As a reminder, pursuant to 1° of Article L. 112-2 of the French Intellectual Property Code, scientific writing are intellectual works. We do not believe that the choice of an option rather than an obligation infringes on the author's freedom.

Nevertheless, it is important to bear in mind that, compared with the traditional relationship between a researcher and the publisher(s) they choose based on opportunities for disseminating their work and the compatibility between an editorial line and the work, **a third party is then involved, namely the public entity that funded more than 50% of the work**. However, this new right is not the same as that of civil servants (see a. of 1.1.2).

No issues were identified at a conventional level. Article 2 of Directive 2001/29 **of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society** establishes the principle of protection: "*Member States shall provide for the exclusive right to authorise or prohibit direct or indirect, temporary or permanent reproduction, by whatever means and in whatever form, in whole or in part: a) for authors, of their works; (...)*". Exceptions are envisaged under Article 5, paragraph 2, in particular c) " *in respect of specific acts of reproduction made by publicly accessible libraries, educational establishments or museums, or by archives, which are not for direct or indirect economic or commercial advantage;*". Moreover, paragraph 3 provides for the exception of illustration, with indication of the author's name. In any event, paragraph 5 states that "*the exceptions and limitations provided for in paragraphs 1, 2, 3 and 4 shall only be applied in certain special cases which do not conflict with a normal exploitation of the work or other subject-matter and do not unreasonably prejudice the legitimate interests of the rightholder*". **Open science is not considered as an exception in the Directive**. The

[165] Fiche secteur 581 - Édition de livres et périodiques et autres activités d'édition − Fiches sectorielles - 2020 | Insee

Court of Justice of the European Union did not interpret it differently in its *Wort* decision (C-457/11 to C-460/11 of 27 June 2013, *Wort*, points 33 and 34): "*In Article 5, the European Union legislature, in the very title of that article, makes a distinction between, first, exceptions and, secondly, limitations to the exclusive right of rightholders to authorise or prohibit the reproduction of their protected works or other subject-matter. / Accordingly, that exclusive right may, depending on the circumstances, be either, as an exception, totally excluded, or merely limited. It is conceivable that such a limitation may include, depending on the particular situations that it governs, in part an exclusion, a restriction, or even the retention of that right*". There is **no total exclusion here.**

Finally, it should be remembered that European Union law protects scientific works against counterfeiters who disseminate them on free platforms without permission. As such, in the *Cyando* case (GC, 22 June 2021, C-683/18), concerning a platform that disseminated works for which Elsevier held exclusive rights, the platform was considered as having played an active role and as a counterfeiter. It was, therefore, accountable.

1.2.2 Gold open access goes further and has been promoted in several comparable countries

Gold open access represents an even more ambitious opportunity to develop open access for research results to the entire community of researchers and citizens.

a. *There is no embargo and funding is provided by the research establishments*

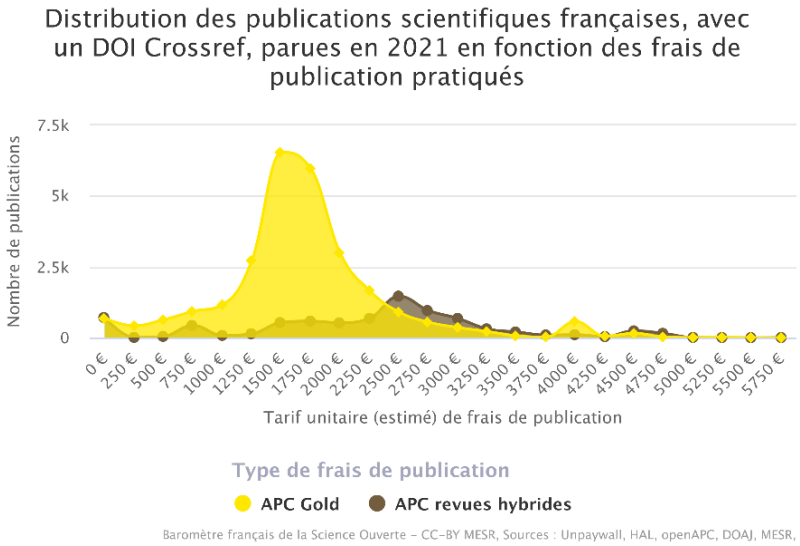
In this open access, which can also be said to be "*author-pays*", the costs for "freeing" the article, i.e. APC (*Article Processing Charges*) are paid as soon as it is published by the institution to which the author is attached. The advantage of this open access is that the article published in this way is **immediately accessible** to everyone and that the **risks of loss of turnover for publishers** are **perfectly controlled** since the source of revenue is transferred upstream, to the author and those who support them, and as such is perfectly **manageable**.

Other types of funding exist:

- ***Sponsor open access***, where the author is sponsored by a research organization, an institution, a learned society, an association or a foundation. It can be similar to diamond open access if, *in fine*, the author does not fund anything.
- ***Freemium open access***, where the reader contributes by subscribing to access additional services (pdf formats, for example, rather than html). But, not for all readers as some prefer the basic freemium open access. It should be noted that this open access could be considered as diamond open access, given its free-of-charge open part.
- ***Hybrid open access***, where subscription articles and open-access articles coexist in the same journal. It is up to the author to choose the dissemination method they wish. Publishers have two sources of revenue: traditional subscriptions and APC.

The risk that is clearly identified is an **increase in expenditure for public authorities**. In 2016, in its studies prior to the Act for a Digital Republic, the French Government estimated that, for example, if we made the extreme assumption that all articles would eventually be published in open access on the basis of an APC of €2,200 per article (the average recorded by the publisher Nature Springer), the **cost** of the generalized gold open access borne by the **CNRS** would be **six times greater than its current subscriptions budget**. Publishing an article in gold open access moreover takes longer than submitting an article in an institutional archive such as HAL,

which means extra wage costs. The French "Ouvrir la science" report on APC[166]shows a fairly high increase, moving from €90m of subscriptions to an equivalent subscription model, to which €30m of APC is added. The SNE (French National Publishers' Union) states that France contributes around 2.5% of the articles published worldwide (source: OECD, OST, MESR) but only 2.2% of subscription expenditure on publications worldwide. As such, gold open access would increase public expenditure by at least 15%.



b. *Transformative agreements are a tool for transforming towards native open access that complies with copyright*

These agreements, also referred to as general agreements, probably emerged in 2007. A first major agreement was concluded between Springer and universities in the Netherlands in 2015. These type of agreements are known as "*big deals*" when a buyer, like an academic network, contracts with a publisher to gain access to the publisher's entire catalogue.

Couperin (French Unified Consortium of Academic and Research Organizations for Access to Digital Publications) is a non-profit association funded by membership fees from its member institutions and subsidized by the French Ministry for Higher Education and Research. It intends to **create and develop a national network of skills and exchanges in the field of electronic documentation**, particularly with regard to acquisition policies, collection development plans, information systems, publishers' invoicing models, access ergonomics and statistics of use. As such, it supports the negotiation of agreements to promote **bibliodiversity**. Its goal, through agreements, is to ensure the transition from a subscription-based electronic model to native open science. According to its articles of association, it "*positions itself as a national pooling structure enabling these establishments to acquire digital resources on the best possible terms, to defend their interests in relation to commercial publishers, to integrate these commercial or alternative resources into their information systems, to ensure the best*

[166] Ouvrir la Science - Open Science Library

possible dissemination to their users and to ensure the best possible conditions for putting their own works online".

In this respect, the consortium has already signed specific agreements on open science with major publishers, such as Elsevier, for example. The purpose of the agreement, first concluded for the period 2019-2022 and renewed in 2023[167], is to make the "*Complete Freedom Collection*" and "*Collection Bibliothèque Médicale Française*" databases available to all subscribers. Access will take place 12 months or 24 months (Article 6.5.1) after publication. This open access is referred to as "*subscribe to open*", where you subscribe to open content (subscriptions fund openness as long as a minimum level is maintained[168]). At the start, the agreement covered 80 titles. It currently stands at 1,500 titles. This agreement includes a strong open access aspect, with all Elsevier articles published by French researchers during this period made available on the HAL platform. As such, 36,000 articles were uploaded by the publisher to the platform.

The study, coordinated by the **Committee for Open Science** (*Contracting in the era of open access publishing. A systematic analysis of transformative agreements*[169], 17 December 2020), which took into account 197 agreements concluded between publishers and library consortiums (covering 22 countries and 39 publishers), shows that all of these agreements focused on the **co-presence** of a **subscription component** and an **open access publishing component**, even if minimal (through a reduction on APC for example or "tokens" for publications offered). The analysis highlights in particular a **disconnection** between the purpose of the subscription and the purpose of the publication. The first is still set in a closed environment, subject to payment and triggering a series of identifiers (IP addresses in particular) for the flow of content and users. On the other hand, open publication complies with the principles of free access, workflow management and access conditions. Editors retain their publishing independence and are never obliged to publish an article, which means that it will not subsequently be published in open access either. In 92% of the agreements reviewed, open access publication is only offered to authors. There are various ways of calculating the amounts related to open access publishing.

The report notes, however, that the consortia are moving towards publication at a constant cost, whether or not they take account of pre-existing APC expenditure and whether or not they tolerate **measured inflation (2 to 3%).** However, the report notes a lack of foresight regarding the amounts expected beyond the end of the contractual commitments in question. The great diversity of agreements stems, firstly, from the initial conditions of the relationship between consortia and scientific publishers – the amounts spent on subscriptions are the starting point for new agreements – and, secondly, from the each party's goals.

Sometimes the "*transformative*" aspect mainly involves **transferring the amounts traditionally allocated to subscriptions to open access publishing**. This leads to a sort of *status quo* for the parties. The goal is never to transform the business model of journals, i.e. to turn subscription or hybrid journals into fully open-access journals. And this is exactly why the **model appears viable.** The report highlights various funding models: fixed sum/unlimited

[167] https://www.couperin.org/wp-content/uploads/2023/07/Marche-2022-20-Elsevier-CCP.pdf
[168] The transformative agreement concluded between EDP Sciences and the Société de Mathématiques Appliquées et Industrielles (SMAI) as such is based on a 95% retention rate for all the journals covered.
[169] https://hal-lara.archives-ouvertes.fr/OUVRIR-LA-SCIENCE/halshs-03203560

volume funding packages, *Pay as you Publish* funding packages, fixed sum/unlimited volume packages.

c. *Countries that have introduced native open access legislation have seen no negative impact.*

The mission wished to take a closer look at **the Spanish example in particular, which has been highlighted by open science advocates**. The principle of submitting publications to an open archive is established by law, without any embargo period. The French Science Act, which dates from 2011 (BOE-A-2011-9617 Ley 14/2011 of 1st June 2011 on science, technology and innovation), was reformed in 2022 to promote greater open access when the funding of the research work mainly comes from public funds. The article now provides for **native open access publishing** when the **research** is **mainly funded by public funds** and the choice is made to publish in a scientific journal that has accepted this publication. The FAIR data goal is also established in the Act. The mission's Spanish contacts did not mention any identified issues for private Spanish publishers, although they did state that the sector was less structured than in France and that direct academic publishing was highly developed.

d. *However, the mission considers that the theoretical balance of the model needs to be reviewed over time.*

In theory, the model appears to be sound in terms of ensuring the quality of scientific publications, in the absence of any disappearance of the fundamental intermediary of the paid publisher, whose turnover can be managed upstream. The only difference between the two models, as J-Y Mérindol states in his report[170], is that the economic balance shifts from the **need to attract subscribing readers** to the need to **find paying authors**. Nonetheless, three risks will need to be monitored in particular.

Firstly, the author's freedom will need to be called into question, as their ability to publish will depend on the publishing budget of their laboratory or the institution to which they belong. As such, there is an **issue of equality for the researcher**.

The second risk is a decorrelation of costs, which increases with the journal's prestige. The mission heard reports of costs of up to 10k dollars for an article. The French Syndicat national de l'édition (SNE - French National Publishers' Union) mentioned that a **British study** had assessed the impact of immediate open access for scientific articles or after 12 months for works with a licence allowing widespread reuse of the works at **2bn pounds sterling in losses for publishers** between 2022 and 2027 and 3.2bn pounds sterling in indirect losses, as well as additional expenditure for universities (with the maintenance of subscriptions for journals not in open access). The third risk is of course a qualitative one. Aggressive policies to attract paying authors, when a journal's economic balance is based solely on this source of turnover, can limit the filtering quality of the editorial line. Monitoring must continue with regard to expenditure by French public institutions. Open science developed alongside subscription price rises. An identical risk could emerge in parallel.

Last but not least, it will be necessary to **ensure that the inalienable and perpetual moral rights**, attached to the author (Article L. 121-1 of the French Intellectual Property Code, which ensures the right to authorship) are guaranteed. A priori, maintaining the publishing profession should not lead to a formal deterioration in the dissemination of scientific writing. It could even

[170] Page 11

be strengthened by the author's role as a payer, in a position to demand a certain quality in return for this payment. Pursuant to Article L. 121-2 of the same French Code, the author "*determines the disclosure process and sets the conditions for this*". Immediate open-access publishing does not deprive the author of any right of review. Very early on, the French Court of Cassation ruled that the submission of work to the French national archives does not necessarily imply willingness to disclose it to the public (1st Civ. Ct. Cass., 15 January 1969, *Dalloz* 1969 p476). Like other works, scientific writing cannot be altered (1st Civ. Ct. Cass., 5 July 1965, *JCP G* 1965 II 14339), reproduced in overly degraded quality (1st Civ. Ct. Cass., 4 May 2012, *JCP G* 2012, 790). Article L. 121-4 also ensures the right of withdrawal. However, it is vital to ensure that, in practice, **moral rights** (right of reconsider, right to authorship, right to respect for the work) are not disregarded over time (several years after submission to an archive or open journal). Likewise, publishers must make sure that works are used on a permanent, ongoing basis (Art L. 132-12 of the French Intellectual Property Code), despite open access and even native open access.

II. The development of an open access policy must be part of a framework that takes into account the systemic issues of copyright, in light of those of science, and any new exception must comply with the 3-step test

The mission was invited by the CSPLA President to analyse the proposals for changes to the legal framework that are currently being put forward to ensure the move towards open access and open science, and to assess what is at stake in terms of literary and artistic property.

Although discussions with stakeholders mainly focused on the current de jure and de facto situation, these two aspects were not necessarily seen by all players as really intersecting, particularly as regards the rights retention strategy, as such the mission found that these differences in position were sometimes based on different approaches to copyright and to scientific publishing and open science challenges. Some declarations, explicitly directed against players in the scientific publishing industry, in this respect only served to stiffen positions, a far cry from the message that has, however, long been promoted by advocates of open access, in that there are no issues.

In this respect and, without agreeing with everything the author says, we can highlight that, according to Peter Suber "*The basic idea of OA is simple. But it has acquired crucial refinements over the years to answer objections and make implementation fast, easy, inexpensive, and lawful. This creates a tension. Because the basic idea is simple, it's continually being rediscovered. However, people fresh to the concept haven't yet absorbed the refinements that answer objections and make implementation fast, easy, inexpensive, and lawful.*[171]". And, the author adds: " *A lot of energy was wasted defending peer review, when it was never under attack. Much energy was also wasted defending copyright – or celebrating its demise – when it was never under attack. More precisely, copyright and copyright excesses were under attack from other directions, but OA itself was always compatible with unrevised, unbalanced, unreconstructed copyright*[172]".

This is why, before looking at the challenges related to potential changes at French national (**2.2**) and European and international (**2.3**) levels, it would seem necessary to place the debate in its proper context, as this overall contextualization could dispel certain misunderstandings (**2.1**).

2.1 Researchers' copyright is a complex, autonomous topic that cannot be looked at solely through the prism of open access

Given the mission statement, the report hereof logically focused on copyright challenges in the context of the development of open access. Notwithstanding, the interviews and the various documents consulted have shown that, while copyright has become an obvious focus of attention, structuring antagonisms which, sometimes at the risk of exaggeration, have led to it becoming a totem - that some would like to bring down while others would refuse to accept any change - it is necessary, in order to take all the challenges into account, **it is necessary to**

[171] Peter Suber, *Open Access*, Cambridge-London, MIT Press, 2012, p. 163.
[172] *Ibid*., p. 166. In the same vein, Carine Bernault, *Open access et droit d'auteur*, Brussels, Larcier, 2016, p. 11 and f.

consider copyright in its proper perspective, i.e. as a tool for protecting authors, capable of adapting, provided that some principles are respected: copyright, like the open science goal, addresses systemic issues that need to be included in the reflection. **In this respect, it must not be seen as an obstacle to open science**, but as an aspect that ensures a wide range of publishing models are preserved.

2.1.1 Researchers' copyright is not in itself an obstacle to open science

The previous reports on open science, in particular the ones from the French Parliamentary Office for the Assessment of Scientific and Technological Choices (OPECST), from Jean-Yves Mérindol, from Daniel Renoult and from the French Book Ombudsman, highlighted the need to find a solution to the antagonism that has emerged between publishers and open science advocates, occasionally expressed in a virulent way, or at least perceived as such. The intention here is not to go back over this point or the proposals formulated, all of which have not yet been implemented; at a time when the French Book Ombudsman has observed a growing consensus on the need to maintain the diversity and vitality of the scientific publishing sector, far from a single model, the aim here is to highlight a point in this essential convergence: **the very role of copyright in science**.

It appeared to the mission that this was being instrumentalized for the benefit of the different points of view and the rights retention strategy is one of the illustrations of this, as it is opposed, in its very philosophy, to the foundations of scientific publishing and has, moreover, sometimes been presented from this standpoint. Yet, the principle is simple and not even limited to the classic model of exclusive assignment: **the author is given the freedom to choose between the various dissemination and publication models available**[173]. Copyright, insofar as it derives from the right of ownership, implies specific constraints, but it remains a tool that, over the centuries, has been able to adapt to the sometimes divergent needs of research, the economy and society. In this respect, although French law still establishes the principle of assignment of copyright under the publishing agreement, this in no way means that this model is exclusive; it is a matter of understanding its effects, especially as gold open access is very similar to an agreement at the author's expense, the implications of which are not necessarily taken into account in full. Moreover, the changes made, namely to address science needs, in European Union law through recent Directive 2019/790 show that copyright can be adapted, without calling its foundations into question, but within the framework of an open debate.

In this respect and in light of the observations made in the first part, the mission has drawn two conclusions.

a) **The matter of copyright in the context of opening science must not be seen as a purely autonomous issue; it is part of systemic issues**, **in terms of intellectual property law** (to which we will return in 2.1.2) **and science**. From the science aspect, the mission highlights the observations and recommendations recently formulated by the German *Wissenschaftsrat* which, even if it is part of an accepted transition towards gold open access, appears to be transposable:

[173] The question is however considered differently when the article presents work from research that was part of a call for project and special funding, providing the conditions for publishing the results. The contractual principle obviously prevails in this case, but it is clearly the expression of the freedom left to the author, who accepts their own limitation *ab initio*.

> "(…) the transformation of publishing goes beyond the change in access regimes to OA and comprises four essential sub-transformations: the transformation of access regimes and business models is complemented by the transformation of usage rights through changes in rights and licences, as well as the technical transformation through the development of structured and linked publication formats and an infrastructure based on them. A fourth transformation alongside this one concerns the way researchers are assessed, evaluated and recognized. Therefore, the transformation of academic publishing is not just about ensuring read access and increasing cost efficiency, **but about optimising all functions of academic publishing** (…). The OA transformation must contribute to these overarching goals.
> This also means that every academic OA publication should not only be equipped with as comprehensive a licence as possible, but must also be structured and prepared according to requirements (which must be defined). However, the goals and paths of transformation may differ depending on the type of publication.[174]"

The copyright issue is one of the issues posed by open science and, more specifically by open access: these changes also concern publishing practices and business models, dissemination techniques, as well as researcher review and acknowledgement; all of these issues are interlinked and cannot be considered in a purely autonomous way.

The various consultation bodies should as such be able to **include all of these aspects in order to consider structural changes that do not focus solely on copyright**. In this respect, it should be highlighted that the weight of publications in researchers' careers has tended to increase, and that the expression "*Publish or perish*", which is increasingly put forward[175], suggests concerns linked to a mechanism which, while it can be explained but is not unrelated to the periodical aspect of publications[176], is likely to bias research itself[177] by making publishing carry a weight that does not belong to it. The opening up resulting from the emergence of digital journals, which open up new publishing opportunities, would have a paradoxical effect if it was to be accompanied by a new publishing constraint, whereas publishing independence is a guarantee of its quality.

It is all the more vital to take all the challenges of science into account because, when implementing the open science strategy, even when it is fully accepted, researchers are faced with **contradictory injunctions**, with no clear, coherent way out. These challenges are, firstly, the need to **find commercial partnerships** – which, as we will return to later, is contradictory to publishing under licence with no restrictions on commercial reuse – and, secondly, **business intelligence issues**. On this last matter, efforts have been made to inform researchers about the risk of espionage and the issues related to open publishing, especially against a backdrop of asymmetric international openness: open access cannot be an absolute that disregards the issues involved in transmitting information whose reuse may be sensitive, especially when, in addition to free publication, publication of the related data and scripts is also required.

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[174] *Recommendations on the Transformation of Academic Publishing: Towards Open Access*, 21 January 2022, p. 31-32. Emphasis added.
[175] It is however historic, as it can be traced back to the 1920s in the United States.
[176] Gideon Parchomovsky, "Publish or Perish", *Michigan Law Review*, vol. 98, 2000, p. 926.
[177] See e.g. Mark de Rond, Alan N. Miller, "Publish or Perish. Bane or Boon of Academic Life?", *Journal of Management Inquiry*, vol. 14, No. 4, December 2005, p. 321; Ahmet Insel, "Publish or Perish ! La soumission formelle de la connaissance au capital", *Revue du MAUSS*, vol. 33, No. 1, 2009, p. 141; Michela Marzano, "Publish or perish", *Cités*, vol. 37, No. 1, 2009, p. 59; Icy Lee, "Publish or perish: The myth and reality of academic publishing", *Language Teaching*, vol. 47, No. 2, 2014, p. 250.

***Proposal 2**: Make sure that the consideration of copyright is an integral part of the overall consideration of changes in science and the ways in which it is disseminated, reviewed and funded.*

Among the challenges facing science today, the mission highlighted in particular **the issue of scientific integrity**, noting that certain obligations are **in line with the rights granted to researchers holding intellectual property rights**. This also implies that researchers must be able to exercise the responsibilities attached to their copyright, which they are often unable to do on their own when they have not assigned their rights. Here too, copyright serves the general interests of science, taken as a whole, and consideration of this point would seem essential (see 2.2.2).

More generally, and as the German *Wissenschaftsrat* underlines, the scientific publishing system must continue to give a central place to the issue of the **quality of contributions published**, which is based not only on the peer review system, but also on the **independence, including economic independence, of publishing choices**: this implies that research funding cannot be the same as publication funding and that the latter must be able to rely on stable funding sources.

***Proposal 3**: Make sure the characteristics and challenges related to copyright are included in the scientific integrity approach.*

b) More importantly, **the choices made by the legislator must be complied with**. Following a debate that was somewhat heated, but during which the various options were raised and assessed, in 2016, the French Parliament chose to establish an **embargo period** for the benefit of publishers, while establishing so-called secondary publishing rights at the end of this embargo period. This choice may have caused clashes, but the few years of hindsight show that, notwithstanding the uncertainties that remain as to its scope, it has not fundamentally changed the scientific publishing economy, nor has it really led to massive use by authors of the right granted to them, as the pre-existing practices of some scientific communities of submitting work to open archives remain in place. While this relates to the question of information for researchers (see 2.2.2), the choice made by the French legislator is consistent with that made by other major research countries, even if the parameters are still open to debate.

It is interesting, in this respect, to observe also that, **although some States have made other choices, in particular in favour of greater openness, this decision was taken by the legislator[178] or, at the very least, is the result of extensive consultation between the various players[179]**. By re-situating the challenges of scientific publishing in the context of open science and copyright, the aim is also to enable a real consideration of France's goals for its scientific publishing, an issue that the French Parliament addressed through the French Parliamentary Office for the Evaluation of Scientific and Technological Choices (OPESCT), but for which it did not deem necessary, at the time of its work, to consider any legislative changes. In any

[178] This is in particular the case in Spain and in Germany, although in different ways.
[179] In this respect, we can also mention the case of the United Kingdom, in addition to Germany.

event, when researchers' copyright and rights and freedoms are called into question, **the legislator's intervention is required**.

Consequently, **this choice applies to everyone and, more particularly, to public authorities**. Insofar as it enables researchers to assign their copyright, subject to secondary publishing rights, **rights retention strategies**, which may result from researchers' legitimate choices, **do not seem to be very compatible with French legislation** whenever they are imposed through texts or incentives of such magnitude that they become **compulsory in practice**. Moreover, the issue of copyright is sufficiently complex, particularly in terms of its challenges for publishing and scientific integrity, for it not to be restricted to a single choice of licence that is beyond the control of the authors concerned and for which the full consequences have not yet been assessed.

In light of these factors, the mission believes that, without even mentioning the legal instrument behind them, **the policies implemented by some establishments where researcher review is conditional on their publications being made available in open access or where only these publications alone are taken into account, infringe the law**, as regards the very terms of the law, which grant full copyright to the researcher, and as regards teacher-researchers' freedom and independence. These practices, which moreover may have been devised pursuant to an extensive view of open access, show their limits whenever they take an interest in all of a researcher's publications, without taking their share of public funding into account (criticism of the French Lemaire Act); this means that, in disciplines such as literature where the boundary between scientific writing and literary or personal writing can be upheld, they go beyond the very goals of open science[180].

Yet, this does not stop open access from being promoted, through incentives (which may moreover relate, above all, to the use of the option provided by the French Lemaire Act) or through specifications accepted during a call for project (which widely prevails in STM). However, a consultation, to assess all the challenges at stake[181], is a prerequisite for it to be accepted and, as has been mentioned, universities can be a support system for open access for the benefit of their researchers to support their wish to be part of this system[182]. Yet, and it is a limitation of current legislation on copyright and on researchers' status, this should only be perceived in terms of **positive, not negative, incentives**. This is the principle of **researcher accountability**, used in Germany[183].

Proposal 4*: Ensure that, within the framework of current legislation, rights retention is an option offered to researchers with a view to open access of their work.*

Exclude any de facto or de jure obligation to make publications open access (except for research undertaken as part of calls for projects), although this does not rule out an incentive approach.

[180] Ongoing litigation between Professor Philippe Forest and the University of Nantes, France.
[181] In this respect, several people interviewed emphasized the difficulty, expressed through long-standing litigation, related to the side-effects of the obligation to publish in open access for publications that are not part of the research activity.
[182] Carine Bernault, *op. cit*., p. 74.
[183] *Ibid.*, p. 100.

In this respect, the mission has moreover observed that, although the French Lemaire Act falls within green open access, the practical conditions are polarized between a more efficient search and indexing system in the case where articles are published in gold open access or diamond open access, without any real objection to such efficient systems being implemented for articles disseminated in open archives beyond the embargo period. The limits of HAL moreover were highlighted several times to the mission, in such a way that **the potential of green open access has not yet been fully harnessed**, without even mentioning the issue of text mining.

In this respect, a question was raised with the mission: **the access to the metadata of articles not accessible** in open archives or in another open access. This data is strategic for researchers and, as regards the potential that has not yet been fully explored, is a matter where a compromise could be sought between rightholders. As such, it is paradoxical that, at a time when piracy of articles that are not available in open access is widespread and that generative artificial intelligence tools are gaining ground, the contractual policies of some publishers are moving towards tightening their open access policy: AI will as such draw widely on data published by pirate sites rather than being designed on the basis of data that is legally accessible to all researchers.

***Proposal 5**: Harness the real potential of green open access by ensuring a real means for exploring the publications concerned and facilitating access to metadata to enable the development of efficient research tools for researchers.*

2.1.2 Researchers' copyright can be considered in various ways but must comply with the 3-step test

In addition to challenges for science, the question of open access to researchers' publications also poses structural questions for literary and artistic property. Although the report hereof mainly explores the topic under current legislation, it is worth remembering that the positioning of research results in this field of law regularly prompts very general questions, with options that are a matter of **political choices**. In particular, it prompts the question of whether it can be described as a public good, or even a common good[184], which is not the subject of discussion here. Nonetheless, two points can be brought to the fore:

- it would profoundly call researchers' copyright into question, contrary to what current French, European and international law does. Even though the abolition of scientists' copyright has been put forward, this proposal is very much a minority one[185], especially as it neglects, in particular, the reality of the costs related to digital publishing (by focusing on the marginal cost) and the effects that this would have on the quality of publications, as a result of the inevitable disappearance of the role of the publisher;

[184] Given the extensive writings on the subject, see in particular Dominique Foray, *L'économie de la connaissance*, Paris, La Découverte, coll. Repères, 2009, p. 51; Alain Strowel, "Les outils d'appropriation au service des communs numériques", *in Penser le droit de la pensée, Mélanges en l'honneur de Michel Vivant*, Paris, Dalloz, 2020, p. 419; Agnès Robin, *Droit des données de la recherche. Science ouverte, innovation, données publiques*, Brussels, Larcier, 2022, p. 211.

[185] Steven Shavell, "Should Copyright of Academic Works Be Abolished?", *Journal of Legal Analysis*, vol. 2, n° 1, 2020, p. 302; qualifying this approach: Frank Müller-Langer, Richard Watt, "Copyright and Open Access for Academic Works", *Review of Economic Research on Copyright Issues*, vol. 7, No. 1, 2010, p. 45.

- it actually raises structural issues of governance itself, so that it is not enough to open up, it is also necessary to know how to do so to enable all players to find a satisfactory balance[186].

These observations show that **copyright is not an obstacle, systemic issues exist that this right, above all, brings to light in a more immediate way**.

Incidentally, **copyright is a legal instrument that has already proved it can adapt to key challenges**, including science ones. Since the transposition of Directive 2001/29 in 2006, the French Intellectual Property Code has established a special exception for teaching and research, which was extended in 2013 (e of 3° of Article L. 122-5)[187] and Directive 2019/790 has sought to take account of the needs of researchers, in particular by introducing an exception for text and data mining; the EU legislator has even demonstrated the importance of these issues by making this exception compulsory and specifying that it is a matter of public policy. This illustrates that copyright is really capable of adapting to contemporary challenges and that, in particular, the challenges of science have been taken into account without calling it into question[188].

However, the debate on the scope of the exception for scientific research is far from finished. Even if "*some of these arguments, like the "right to know" are as old as copyright*[189]", this is a subject which takes on a whole new meaning given the backdrop of open science. The subject, moreover, was the subject of a report for the November 2023 session of WIPO's Committee on Copyright and Related Rights[190], which prompted concern among publishers' representatives. Nevertheless, the mission observed that this report, which is neither binding on WIPO nor, *a fortiori*, has any binding value, highlights the **need to find an agreement between two factors**: firstly, international agreements, which, while acknowledging the importance of exceptions for research purposes and adapting them to current needs, emphasize that they must satisfy the 3-step test; secondly, the use of licences directly by researchers, whose diverse uses are noted, while emphasizing that the use of licences is of significant interest in facilitating scientific exchanges. In the more specific case of open access, the mission observed that, notwithstanding the positions taken, which can obviously be discussed (and are intended to be), the report, above all, raises valid questions designed to reconcile the issues at hand. In particular, it is mentioned in the conclusion: "*Open science strategies, in particular open access programmes and Creative Commons licences have been successful in ensuring access and enabling the reuse of works, in particular for non-commercial uses. These programmes are vital for disseminating research results across the globe and for enabling subsequent access to research publications. The key challenges focus on the way copyright is taken into account in this new context. It is important to clearly define who retains copyright in public open access works under agreements, how this copyright is allocated between authors and institutions, and how the*

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[186] On these issues of governance of common good, see Mélanie Clément-Fontaine, "La gouvernance des communs", *in* Agnès Robin (dir.), *La propriété intellectuelle en partage*, Paris, Dalloz, 2020, p. 33.

[187] Even though earlier texts already provided for this exception in a less condensed form: Christophe Alleaume, "Les exceptions de pédagogie et de recherche", *Electr. Comm. com.*, No. 11, Nov. 2006, study 27; Benoît Galopin, "Retour sur l'exception pédagogique après la loi d'orientation et de programmation pour la refondation de l'école de la République", *Légipresse*, 2013, No. 309, p. 563.

[188] In the cultural field, the recent issue (144) of the journal *Culture et Recherche* shows the potential of the tools developed thanks to contributions made in favour of open science.

[189] André Lucas, Agnès Lucas-Schloetter, Carine Bernault, *Traité de la propriété littéraire et artistique*, Paris, LexisNexis, 5th ed., 2017, p. 347.

[190] Raquel Xalabarder, *Scoping study on the practices and challenges of research institutions and research purposes in relation to copyright*, 17 October 2023.

appropriate use of the work is ensured in relation to licences and rights, as opposed to principles and policies aimed at ensuring availability and the free use of scientific research."

It is important that these issues are addressed and debated, including in forums involving specialists and players in the literary and artistic property field, so that all issues can be taken into account, particularly as regards the possible definition of a new scientific exception. At this stage however, such an option does not seem to be favoured, given that the use of licences is likely to enable the goal of open access to be achieved. This led to two observations.

First of all, **licences play a crucial role as regards the open science perspective**. The CSPLA had the opportunity to devote a study to this[191]. It was stressed that the CC-BY licence is likely to cause legal difficulties under French law, even though it has the advantages of simplicity (at least apparent) and wide dissemination. Yet, it may also be mentioned that this licence is not, in itself, necessarily in line with the goals of open science, which are not to completely deprive scientists of the results of their work. In this respect, **the CC-BY licence permits commercial use**, which may clash with a certain view of open science, designed for researchers – such as the legislator intended to establish in the French Lemaire Act by specifying that the version made available pursuant to Article L. 533-4 of the French Research Code may not be used for commercial publishing – and which is likely to raise questions of conscience for researchers as regards the uses that may be made of it. Moreover, this highly-open licence is part of the logic of the commons, without the legislator really having been able to consider this perspective and without authors, who use these licences, being fully aware of the consequences. It should be noted, however, that the rights retention guide mentions the CC licences and not just the CC-BY licences.

As such, there is room for reflection on licences adapted to research needs and interests, and even on collective licences. Incidentally, researchers, especially STM researchers, are also invited to find partnerships in the private sector to fund research, which then implies the ability to use it commercially for the benefit of the partner(s). The CC-BY licence, which on the other hand enables unrestricted commercial use, is likely to hold back potentially interested companies, deprived of the exclusivity of the benefits of their investments (except in the case where this results in a patent), which puts researchers between **conflicting expectations**.

> ***Proposal 6****: Reflect on the real compatibility between the licences used and the interests of science, by taking issues related to commercial considerations into account.*

Secondly, **any new copyright exception must be considered pursuant to the higher standards** that govern it and, as such, **must comply with the 3-step test** taken from the Berne Convention[192] and reiterated in domestic law. The secondary publishing right, as applied in France via the Lemaire Act, is not an exception to copyright in the traditional sense, insofar as it is optional and grants a new right to authors, notwithstanding any exclusive assignment they

[191] Joëlle Farchy, Marie De La Taille, *Les licences libres dans le secteur culturel*, Mission Report for the CSPLA, December 2017.

[192] As a reminder, pursuant to Article 9.2 of the Convention and to Article 5, paragraph 5 of Directive 2001/29, the exceptions and limitations provided for shall only be applied (1) in certain special cases which (2) do not conflict with a normal exploitation of the work or other subject-matter and (3) do not unreasonably prejudice the legitimate interests of the rightholder.

may have made[193]. However, the definition given by the Court of Justice of the EU to limitations is such as to bring it into the category of limitations, insofar as it concerns the maintenance of the right in all circumstances[194]. **If this definition of limitation is retained** or, even more so, if this option becomes an obligation, de facto or de jure, which would then clearly have the effect of making it a limitation, **it must comply with the three-step test**.

Even before considering these three criteria, it should be remembered that the very principle of this test is **to interpret only restrictively the scope of exceptions and limitations to copyright**: this implies that the limitation is a waiver and cannot have a wider scope than that expressly provided for; it follows, once again, as regards French law that it is not possible to go beyond what is provided for in the Lemaire Act, namely an **optional** secondary publishing right, covering only scientific writing and funded at least half by public funds.

Validating the various successive stages poses obvious issues, beyond the questions that remain about their interpretation. The second condition (normal conditions of use) is, on the other hand, more delicate, in particular because the question of taking non-economic considerations into account is still being discussed[195] and these considerations are a decisive factor in the balance sought as regards open access to scientific publications. Even studies in favour of this secondary right are reluctant to consider that this condition has been met, as an appropriate embargo period is an essential point of assessment[196] and, in this respect, the fact that the French scientific publishing economy has not been called into question since 2016 could, retrospectively, lead us to consider that the periods provided for are suitable. Finally, with regard to the prejudice caused to the interests of rightholders, where assessment has become complex given the development of digital dissemination, this is generally assessed with regard to authors who receive remuneration from the use of their work. Nevertheless, publishers are also rightholders in the sense of the three-step test and their interests need to be taken into account, even though their interests do not coincide with those of researchers when it comes to open access. As they are generally not remunerated for their publications, this can easily lead to the conclusion that this condition is met by secondary publishing rights[197], although such a conclusion should not be made systematically.

This quick review shows that, **in actual fact, the creation of a secondary publishing right, although it seems generally acceptable, leads to systemic issues concerning copyright and science, including the issue of remuneration** in scientific publishing. As such, insofar as this right remains optional, it poses no issue. Considering extending it would imply however that, in order to pass this three-step test, it is necessary to take a more systemic look at the economics of scientific publications. This is true *a fortiori* if the aim is to create a wide exception in the

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[193] Pierre-Yves Gautier, *Droit de la propriété littéraire et artistique*, Paris, LGDJ-Lextenso, 2021, p. 737-738, highlighting the debates that exist, however, on the qualification of exception, and even waiver.

[194] CJEU, 27 June 2013, *VG Wort e.a.*, joined cases C-457/11) C-460/11, already mentioned, points 33-34: "*In Article 5, the European Union legislature, in the very title of that article, makes a distinction between, first, exceptions and, secondly, limitations to the exclusive right of rightholders to authorise or prohibit the reproduction of their protected works or other subject-matter. / Accordingly, that exclusive right may, depending on the circumstances, be either, as an exception, totally excluded, or merely limited. It is conceivable that such a limitation may include, depending on the particular situations that it governs, in part an exclusion, a restriction, or even the retention of that right.*"

[195] Pierre-Yves Gautier, *op. cit.*, p. 368-372.

[196] Christina Angelopoulos, *Study on EU copyright and related rights and access to and reuse of scientific publications, including open access*, published by the European Commission (DG Research and Innovation), June 2022, p. 44.

[197] In this respect, Christina Angelopoulos, aforementioned study, p. 45-46.

interests of scientific research, since it would be much more difficult to comply with the three-step test.

***Proposal** 7: Before considering any extension of researchers' rights on their publications, which could be described as a limitation of copyright, or introducing a new exception to copyright in favour of scientific research, and in order to comply with the three-step test, the question should be re-situated within the balance between copyright and scientific challenges.*

2.1.3 The French strategy must be inter-ministerial and take the diversity of models and the wealth of the publishing fabric into account

The conflict and the tightening of the positions of the players in the field of open science are largely due to insufficient inter-ministerial cooperation, which has recently been improved *(a)* and any new development must, thanks to this inter-ministerial cooperation, better cover all the interests of the research sectors, authors and existing publishing firms and be based on the wealth of the publishing fabric *(b)*.

***a.** Inter-ministerial cooperation has become vital to put an end to the "schizophrenic" State [198]*

Right from the introduction of the report hereof, we have been able to see the relevance of the goal of open science for the dissemination of knowledge and collective development. As such, it is only natural that the French Ministry responsible for research, or to put it in other terms, science, should have addressed this goal very early on. And, it is only natural too that the French Ministries responsible for the professionals impacted by this change should be concerned about the support to be provided or the limits to be defined. This is the normal, necessary inter-ministerial cooperation approach to reach the best decision for the Government at the end of the day.

The fact remains that on the subject of open science, **administrative polarizations** may have been excessive, reflecting the opposition that has already been expressed. All the reports that took a look at the challenges of open science emphasized the need to have more inter-ministerial cooperation.

As such, in its opinion on scientific publishing as regards policies in favour of open science, the French Book Ombudsman[199] highlighted a "*lack of consultation and of shared ambition*". The report from the French Parliamentary Office for the Assessment of Scientific and Technological Choices (OPECST) "*For open, realistic, balanced science that respects academic freedom*", published on 9 March 2022, considers as its first proposal the use of "*a truly inter-ministerial approach that in particular involves Ministries responsible for higher education, research and culture*" and, as its second proposal, facilitating "*discussion between all stakeholders and reforming the Scientific Publishing Observatory*". In 2019, Jean-Yves Mérindol's report on "*The Future of Scientific Publishing in France*" emphasized the same imperative for experts to be able to discuss, "*whether they come from the world of research, or*

[198] With reference to Martine Lombard, *L'Etat schizo*, Paris, Paris, JC Lattès, 2007.
[199] 12 April 2023

are linked to other Ministries, and first and foremost with those of the Ministry for Culture. This is why this support plan and the consultation system must be created conjointly by the French Ministry responsible for Higher Education and Research and by the French Ministry responsible for Culture"[200].

Of course, the initiatives for the "rights retention strategy" pushed this lack of discussion to the utmost limit, as did the publication in July 2022 by the Committee for Open Science (COSO) of a guide on the subject for the reasons mentioned above, even if the issues undoubtedly stemmed from reading these publications too quickly (see 2.1.1).

In this respect, the **2022 creation of the French Scientific Publishing Observatory**, under the dual supervision of the two Ministries, marked **significant progress**.

The fact remains that it is inconceivable that the discussion, in the absence of inter-ministerial arbitration at the end, should leave the impression that there are **two States** on the subject of open science. It is therefore vital for a single strategy to be defined, arbitrated and announced by the French Prime Minister when the issue affects copyright and publishers' rights. Of course, the French Ministry responsible for research remains solely competent when a given subject does not interfere with these rights.

> ***Proposal 8****: The French national open science plan should necessarily be backed by the Prime Minister for issues that have an impact on copyright or publishers' rights in order to ensure the inter-ministerial cooperation as regards France's position.*

This strategy must be established around a bibliodiversity framework. Today, as we have seen, France has only provided for one legal system, in the form of green open access and authorizes, this is the issue of contractual freedom, the move towards gold open access through transformative agreements. Behind the various classifications of models, the issue must be more teleological and ensure the vitality of French scientific publishing, which must, of course, be accessible and open.

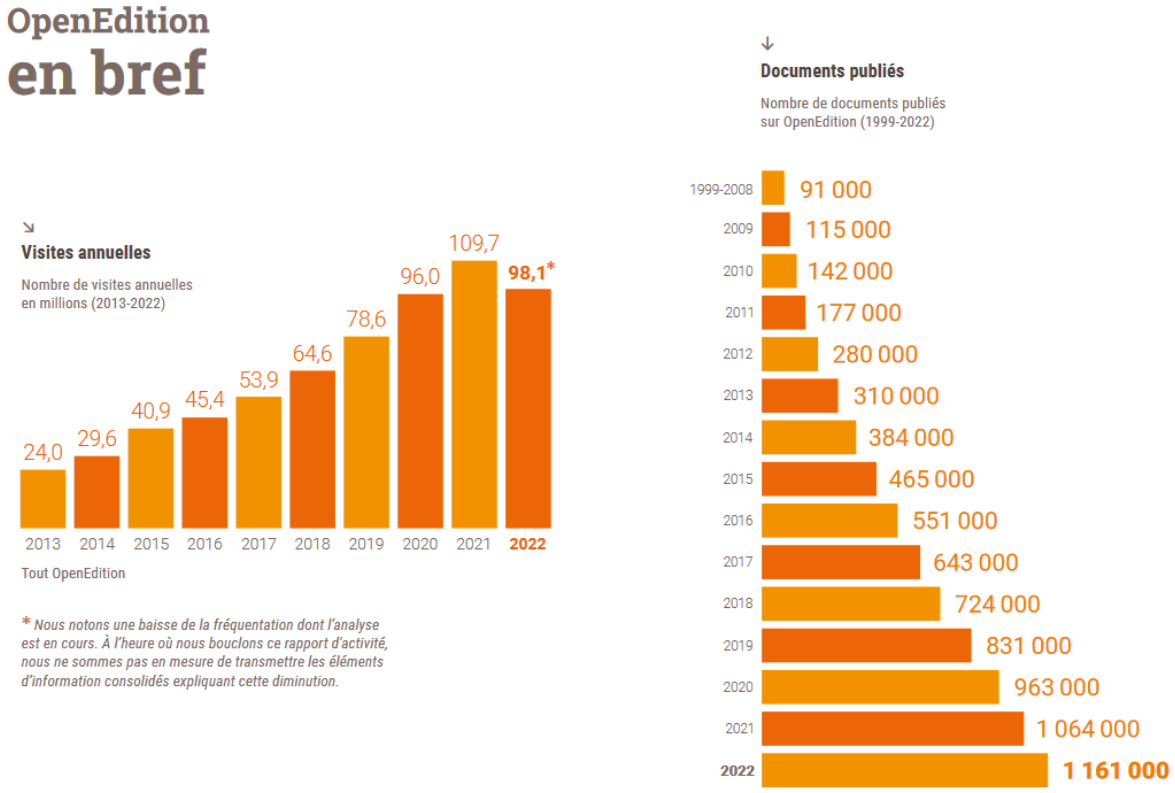
b. *In particular, France has two platforms in the HSS field, CAIRN.info and OpenEdition, on which open science projects should be able to rely*

The wealth of the private French publishing fabric has already been highlighted in the first part. This wealth also extends to open access platforms such as **Cairn.info** and **OpenEdition**, whose **reach is worldwide.**

OpenEdition is a humanities and social sciences publishing portal created by the French Centre pour l'édition électronique ouverte (Centre for Open Electronic Publishing - CLEO), together with the CNRS, EHESS, Aix-Marseille University and Avignon University. The portal comprises four platforms: Revues.org created **in 1999** by **Marin Dacos**, which became OpenEdition journals in 2017, Calenda created by Marin Dacos in 2000, which focuses on scientific events, Hypothèses.org created in 2008 for scientific blogging and OpenEdition

[200] Page 51

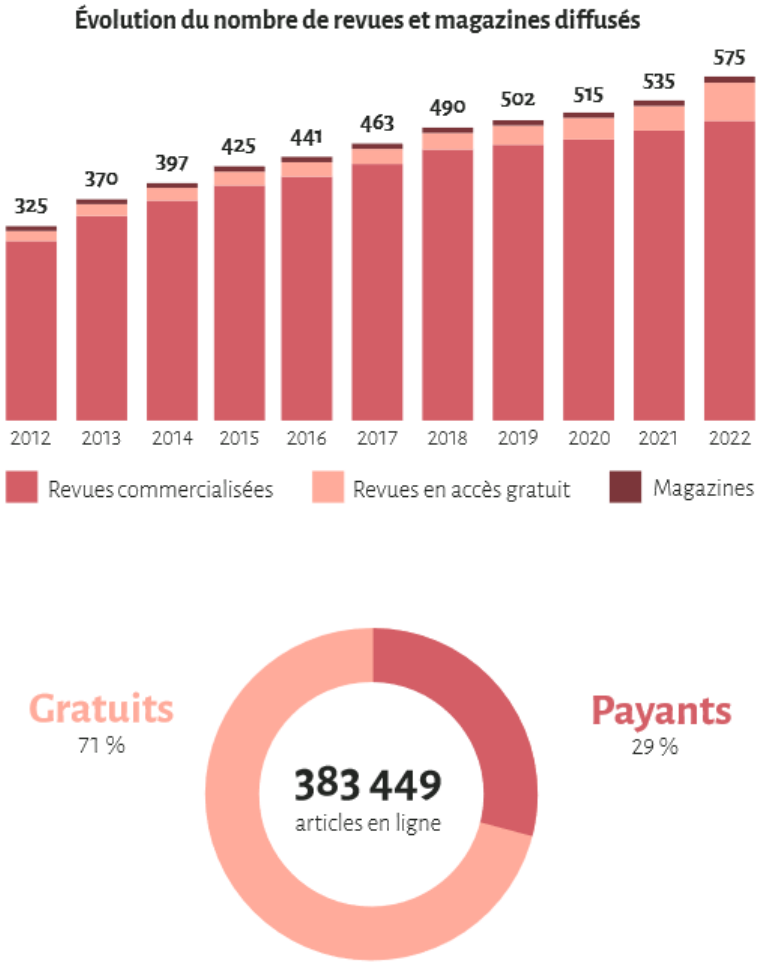
Books created in 2013 for books where at least 80% are open access. The 2022 Annual Report[201] shows a long-term increase in annual visits, proof of its success:



The platform's open access accounts for 84%. Expenditure stands at €3.6m per year for equivalent revenue. In its Strategic Plan 2024-2028[202], OpenEdition states that it proposes a "*diamond open access model*".

Cairn.info was founded specifically in the field of humanities and social sciences in 2005 by four publishing houses, Belin, De Boeck, La Découverte and Erès, which were joined by BNF, PUF and then the Madrigall Group. Cairn has established partnerships with 2,000 universities around the globe. The catalogue was initially the founding publishers' one, like in a traditional publishing house. Later on, however, the portal provided access to the catalogues of over 150 private publishers. Its model focuses on a combination that includes a commercial offer and a free offer. Nonetheless, Cairn.info is not a publisher, even though it has its own publishing house "Cairn Editions". Under these conditions, authors of articles must first of all submit them to journals they choose, which is also the policy for OpenEdition. Cairn.info has had huge success: 243 million views per year, 1.1 million online sales[203].

[201] https://www.openedition.org/41795?file=1
[202] https://www.openedition.org/45461?file=1
[203] https://www.cairn.info/docs/cairn-rapport-d-activite-juin-2023.pdf



There is no reason why, as part of a more ambitious open science policy, and with all the precautions mentioned in the first part as regards diamond open access, French platforms should not be included in all the considerations and openly supported, yet keeping in mind that these platforms are not publishers but rely on the work of publishing houses.

***Proposal 9**: Include French platforms in defining new directions for open science to take into account tools developed, their needs, their potential for disseminating publications and the service they provide to publishers.*

2.2 Copyright provides protection that justifies the re-establishment of its full scope, especially in an open science environment

2.2.1 The French State may consider specifying the path towards increased open access by providing it with guarantees, in particular by optional standard agreements

As aforementioned, even though two open access models with proven viability can serve as the groundwork for legislation that secures their future, it is not recommended for the State to

curtail contractual freedom as regards open access as this would prevent any new initiatives towards bibliodiversity.

Notwithstanding and, **given the need to ensure that copyright is complied with**, contractual freedom cannot be unlimited or its respect passed on to any subsequent litigation. With these conditions in mind and to ensure **preventive balance**, one of the solutions is for **the State, without imposing it, to choose to approve or at least to publish standard agreements that comply with copyright**. As we saw in the first part, there is a host of contractual tools in particular for transformative agreements, also referred to as general agreements. The State may choose to use these as a base for approving specific standard clauses.

The mission purposefully draws from other branches of copyright where such processes have been successfully implemented. This already exists for agreements for the production of cinematographic and audiovisual works. As such, Article L. 311-5 of the Cinema and Animated Images Code, amended by Ordinance No. 2020-1642 of 21 December 2020 transposing the AVMSD Directive provides for *"The allocation of funding from the Centre national du cinéma et de l'image animée is subject to the inclusion in the agreements concluded with the authors of cinematographic and audiovisual works submitted in support of an application for funding of standard clauses ensuring compliance with the moral rights granted to authors under Articles L. 121-1 and L. 121-5 of the French Intellectual Property Code and the principles established under Articles L. 131-4 and L. 132-25 of the same code relating to the determination of their remuneration. These standard clauses are drawn up by agreement between professional authors bodies and the collective management bodies mentioned in Title II of Book III of the aforementioned Code and the professional bodies representing producers. In the absence of an agreement within one year of the publication of Ordinance No. 2020-1642 of 21 December 2020, a French Council of State decree will set the standard clauses*".

In her guide on research data law, Agnès Robin highlights **the issue of the legal interoperability** of data and takes the example of the already-initiated Research Data Alliance legal interoperability strategy that put forward a proposal for a more standardized structure for scientific publishing agreements. The study identifies 14 key contractual variables for implementing the open science policy. Definitions are proposed to be included in publishing agreements.

Following discussions with Couperin and ABES (the French Bibliographic Agency of Higher Education), the content of these standard agreements for open access could focus on the following items:

- Clauses concerning the exercise of authors' moral rights;
- Archiving rights (related to the obligation to ensure permanent and ongoing use) and rights on years subscribed;
- Access to metadata;
- Clauses governing price increases;
- Clauses, whose content and scope require particular consideration, to take account of the risks related to excessive appropriation by generative AI.

***Proposal 10**: Approve or at least publish non-compulsory, standard clauses that comply with copyright to promote the conclusion of general agreements*

2.2.2 *Copyright provides protection for researchers, and must be given a practical form of expression*

Pursuant to current legislation, copyright belongs to scientist-authors and is intended to protect authors. When it is considered that there is no principled opposition between this right and open science, then two sets of implications must be taken into account.

a) Although **the exercise of this right**, through scientific publishing, has led to ensuring that science can be published, the fact remains that, **as the holders of this right, authors must be able to take informed decisions that concern them**. The mission believes that this has significant consequences on the way in which scientific publishing works and the relationships between all the stakeholders.

The first is the **need to train researchers on these issues and to provide them with comprehensive information**, at least as far as institutional information is concerned, so that they can make informed choices: researchers are entitled to opt for a CC-BY licence or, conversely, to assign their rights to a publisher, but they can only do so if they are fully aware of the issues involved (including those of open science) and the consequences. The mission observed that researchers, whenever open science strategies do not directly concern them, obviously have information on the topic, but no real in-depth understanding of all the issues (including as regards their rights). Open access is often imposed by the power of funding and the wish to provide access to research at the lowest possible cost, but without any understanding of copyright issues. The conditions under which the rights retention strategy is promoted are not conducive to ensuring that researchers are fully informed, and as such contribute to antagonistic attitudes. Yet, researchers' ownership of their articles presents major challenges, in particular as regards the control they retain over modifying their publications and protecting infringements of their rights.

> ***Proposal 11****: Ensure researchers are fully informed about the procedures for publishing their articles, including information on copyright-specific issues.*

The second consequence relates to the **unsatisfactory nature of the observation**, already highlighted in Daniel Renoult's report, **that there is frequently no publishing agreement** prior to publication. Admittedly, in most disciplines, publication does not involve remuneration but, for this reason, it seems all the more vital to conclude an agreement: assigning rights leads, in principle – and Directive 2019/790 reiterated this – to remuneration; it may not exist, but it is an exception that should be explicitly accepted by the author.

Moving on to the APC system or to diamond open access in no way undermines the relevance of a **contractual document**, even if it is only to assess as to whether this agreement actually complies with the scope of the publishing agreement as defined by the French Intellectual Property Code (which is far from obvious in the case of APC) and to draw the consequences as regards the author's economic rights. This agreement conclusion would be all the more relevant in a situation where researchers are aware of the scope of the agreements concluded, notwithstanding the inequality that many observers have already noted between authors and publishing houses as regards room for negotiation.

***Proposal 12**: Make the conclusion of an agreement between publishers and authors standard practice, as provided for in principle under Article L. 131-2 of the French IPC.*

Moreover, although it was not able to look into the matter in depth, the mission emphasizes that the publishing agreements that it was able to consult and that were concluded between researchers and major international publishing houses for open access publications in international journals, including for publications in gold open access, pose serious issues: apart from the fact that a foreign law is imposed as the law governing the agreement and, consequently, copyright (with the English term *copyright* being applied), the mixture of the exclusive assignment of rights to the publisher, the latter deciding on the licence and holding this licence, as well as the reassignment of specific rights by the publisher to the author, can be called into question as regards open science goals and French researchers' rights.

b) In the publishing agreement, the publisher is assigned this responsibility to protect the work and it is in their interest to do so, and they have adequate critical capacity to do so. On the other hand, **by retaining their rights, the author is the only one responsible for protecting the effectiveness of their rights**, which is all the more complex when the publication is accompanied by a free or very open licence. Yet, the need to protect copyright remains, and scientists may find themselves in a difficult and complex situation when it comes to ensuring this protection, unless they decide to take a step back from their scientific activity.

Piracy practices have been developing for many years, in particular through Sci-Hub. According to some data transmitted, France ranks as the third greatest user country of this site, which, even if this data is not conclusive[204], shows the systemic character of the use of pirated data. Piracy is an infringement of literary and artistic property rights and, as such, must be prosecuted, but **the massive scale of its use expresses a need among researchers that is not being met otherwise**. In France, on 7 March 2019, the Paris High Court ordered the blocking of 57 domain names linked to the Sci-Hub and LibGen platforms for a period of 12 months, for infringement of copyright through the posting of scientific publications. On 18 December 2020, the Paris Judicial Court, this time, ordered the blocking of 278 domain and sub-domain names for 18 months and also specified, in an unprecedented move, that in the event of the reactivation of a domain name for which the blocking measures had been lifted, "*ISPs would have to take adequate action to prevent access to the domain name concerned*", without a new court decision, within 15 days of notification of the rightholders and for the remaining period. However, the mission found that the method to bypass (in just a few clicks) the filtering implemented by the French Ministry for Higher Education and Research on Renater to block access was regularly disseminated on social media by researchers.

As the strategy for promoting open science can only be based on copyright holders' agreement, it appears to be necessary, where applicable, for the sake of scientific integrity, **to take powerful action on a regular basis with regard to all the players concerned to prevent the use of pirated articles**. Yet, this can only be effective if **researchers' expectations that have not been met otherwise than through the use of these tools are taken into account**, and, in

[204] Other studies show a lower ranking, although France is still one of the main users: see e.g.: Llarina González-Solar, Viviana Fernández-Marcial, "Sci-Hub, a challenge for academic and research libraries", *El profesional de la información*, vol. 28, No. 1, 2019, e280112; Brian M Till, Niclas Rudolfson, Saurabh Saluja, Jesudian Gnanaraj, Lubna Samad, David Ljungman et al., "Who is pirating medical literature? A bibliometric review of 28 million Sci-Hub downloads", *The Lancet Global Health*, vol. 7, No. 1, 2019, p. e30.

this respect, some issues have been addressed in the report hereof regarding the unexplored potential of green open access, the availability of metadata as well as heritage issues, even if all these expectations have not yet been met.

> ***Proposal 13**: Strengthen initiatives for tackling piracy, by focusing on meeting researchers' as-yet unmet expectations for accessing publications. Where applicable, organizing rightholders in an association could lead to better use of the dereferencing tool provided for under Article L. 336-2 of the French Intellectual Property Code[205] and ensure it is effective.*

With regards to this piracy issue and the previous matter on contractual relationships, **the mission is considering the need to, more generally, redefine the management of scientists' copyright from the perspective of open science**. As aforementioned, the *Wissenschaftsrat* is committed to this perspective by reviewing the role of researchers more globally. At a time when, in the interests of open access and rights retention as well as the use of open licences, researchers are having to directly address cases of non-compliance with their copyright (and are having to deal with cases of defamation, infringement of image rights, potentially from abroad, etc.), in particular through piracy, **the introduction of a collective protection tool for this copyright**, where applicable within the framework of collective management of this right, **could be considered**. Although this does not necessarily fall within the traditional framework of collective copyright management bodies, there may be room for a system to defend scientists, in particular in the case of rights retention. The Centre français d'exploitation du droit de copie (CFC - French National Copyright Clearance Centre) is itself the result of discussions held at the time of the development of photocopying and, without necessarily constituting a model or framework, it could be a precedent to be explored.

However, this consideration should be **part of a more overall consideration of the scientific publishing economy, with a particular focus on remuneration issues**, which are a major source of tension between authors and publishers, particularly given the margins that are sometimes generated and a service that is increasingly perceived as limited, especially in STM. In this respect, it is worth remembering that Directive 2019/790 firmly establishes the principle of appropriate and proportional remuneration, which moreover led to the censure of the ordinance transposing it into French law[206]. Although authors do not seek as such to be remunerated, the absence of remuneration for them and for rapporteurs and members of publishing committees prompts questions against a backdrop in which the profits from publications do not benefit the scientific community. From this perspective, open access publishing appears to be a way for researchers to achieve this collective benefit, including researchers with limited resources to access paid-for content, while at the same time meeting the pressure to publish in reputable journals. Although it is in no way comparable, the SCOAP[3] experience moreover shows the possibility of reallocating funds devoted to publishing for the

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[205] "*In the event of an infringement of copyright or a related right caused by the content of an online public communication service, the President of the Judicial Court ruling under the accelerated procedure on the merits may order, at the request of the rightholders of the protected works and subject matter, their successors in title, the collective management bodies governed by Title II of Book III or the professional defence bodies referred to under Article L. 331-1, any measures likely to prevent or stop such infringement of a copyright or related right, against any person likely to contribute to remedying it. The request can also be made via the Centre National du Cinéma et de l'image animée*".

[206] French Council of State, 15 November 2022, No. 454477, unpublished, *Dalloz IP/IT*, 2022, p. 594, obs. C. Lamy ; *ibid*. 2023, p. 234, obs. S. Dormont ; *Légipresse* 2022, p. 598 and obs.; *ibid*. p. 707, study C. Alleaume, *RTD Com.*, 2003, p. 343, obs. F. Poullaud-Dullian.

benefit of all players, while offsetting inequalities and as such creating an ecosystem that is beneficial to all.

In the end, the mission believes that, at a global level or based on a more specialized approach depending on the discipline, there is room for reflection on the way in which collective rights can be protected while **ensuring a financial redistribution that also benefits researchers collectively**.

> ***Proposal 14****: Initiate discussions on creating a collective protection tool for scientists' copyright, related to the redistribution of profits generated by scientific publications for the benefit of scientific communities.*

2.2.3 Copyright must retain its heritage aspect

During its work, the mission was alerted to an issue that is an integral part of the scientific research ecosystem, and in fact presents serious long-term challenges: the role of documentation services and libraries, and through them the ability to maintain a heritage role.

The introduction of digital databases, through which publishers have been able to make a large number of journals available, often more numerous than those to which libraries and institutions were previously subscribed as part of "*big deals*", has effectively put an end to the preservation mission that was related to receiving printed journals[207]. Although it has sometimes been possible to keep a preservation role, the mission was informed of an increasingly-restrictive policy by publishers with regard to this type of service. **As such, documentation services and libraries have lost their ability to establish heritage collections**, which was one of the driving forces behind their support for open science, as they were paying subscriptions at increasing cost without being able to pursue their mission in its entirety. While digitization was seen as a means of providing researchers with easier access to previous writings, documentation services and libraries saw it as a loss of control, despite increasing expenditure. The experience of some German and American universities has as such confirmed that refusal to continue a subscription results in the loss of access to the corresponding databases and, in turn, to the archives of journals that are deemed as unprinted. On the other hand, the long-standing development of open archives in certain disciplines, such as ArXiv, called into question the very reason for having subscriptions, in favour of a heritage role played by the scientific community, but without the preservation logic of dedicated services.

The has led to a **paradoxical situation that is in direct conflict with recent changes to copyright**. This scientific publishing economy, which has revolved around a few global players and has sometimes appeared detached from the challenges of science, is based on the use of copyright assigned to the publisher, whereas this assignment has seemed to work against those who support authors in their research: despite the increase in their costs, they have found themselves unable to maintain and make accessible a lasting return on these costs, which has driven the open science movement. Exceptions to copyright have been made specifically to enable works to be preserved as part of their heritage, which the lack of ownership of the data related to digital publishing largely deprives of their scope of impact. Although Article 6 of Directive 2019/790 provides for a heritage-type exception, it is more restrictive (and it is

[207] Carine Bernault, "Revues scientifiques et droit d'auteur : la rupture de l'open access", *Hermès, La Revue*, vol. 71, No. 1, 2015, p. 92.

moreover not certain that digital scientific journals fall within its scope of application, given the wording of this article) than the exception introduced by the French legislator in 2001. At a time when European and French legislation is seeking to clarify the balance between authors' interests and collective access to documentation service collections[208], **access by platforms alone neutralizes the very principle of these exceptions, by linking it to licences**.

In light of this, the mission has identified **a point of focus**, which could usefully be included in the overall discussion on open science: **preserving the heritage role of documentation services**. Without calling the contribution of digital tools into question, and even if fully open access removes any issues relating to making access conditional on maintaining a subscription, **these services should be able to retain a level of control over the publications they have funded, irrespective of the open access model chosen**. Although no specific solution has been identified at this stage, it is legitimate for them to receive consideration for the cost of acquiring access to the author's writing, which stems from copyright.

Moreover, **from a strategic point of view**, such a perspective seems indispensable at a time when, although major international groups have been created, changes in capital ownership may occur, calling into question previous balances **without there being any guarantee of the long-term availability of and access to digital publications**. As such, this consideration can most probably be linked to the issues surrounding legal deposit (which mainly concerns the French National Library (BNF)) and the exception granted to it.

***Proposal 15**: Integrate the role of documentation services, including their heritage and preservation aspects, to find a solution which, while taking the various business models into account, provides a lasting return on publishing costs they helped fund through subscription or other models.*

2.3 The changes considered on a European and even on an international scale need to be in line with a multifaceted approach that complies with copyright principles

In the previous sections, the whole report has strived to outline a balanced position, by ensuring that opening up is not to authors' disadvantage. However, it is clear that supra-national initiatives, whether on a European Union scale (2.3.1) or on an international level (2.3.2) are devoid of these distinctions and are far removed from what national legislators have retained in their positive laws.

2.3.1 Challenges related to discussion at a European Union scale

All the texts produced by the European Union, whether they are Commission recommendations or Council conclusions, support maximum opening ("*as open as possible, as closed as necessary*") (a). At the same time, binding texts (copyright directives) protect authors and publishers' interests (b). This contradiction is now an issue and is a source of concern.

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[208] On the challenges of this balance, see in particular Lionel Maurel, *Bibliothèques numériques : le défi du droit d'auteur*, Villeurbanne, Presses de l'ENSSIB, 2008; Marie Cornu, "Le patrimoine en partage, propriété intellectuelle et dimension collective : les logiques du service public", *in* Agnès Robin (dir.), *La propriété intellectuelle en partage*, Paris, Dalloz, 2020, p. 153.

a. *Commission recommendations and Council conclusions are in line with maximum opening*

In more detail, the recent Council conclusions from 23 May 2023 (High-quality, transparent, open, trustworthy and equitable scholarly publishing[209]) reiterate "*the importance of* ***accelerating the transition to open science*** *to improve research quality, efficiency and impact by promoting transparency, accessibility, diversity, reusability, reproducibility and trustworthiness of research results, that open access to scholarly publications, including their reuse, is one of the core elements of an open science system*". "*HIGHLIGHTS that* ***immediate and unrestricted open access*** *should be the norm in publishing research involving public funds, with transparent pricing commensurate with the publication services and where costs are not covered by individual authors or readers*."

The Council had already adopted several conclusions in this respect:

- Its conclusions from 1st December 2015 on research integrity recognizing "*the importance of open science as a mechanism for reinforcing research integrity, while, at the same time, research integrity contributes to open science*";
- its conclusions of 27 May 2016 on the transition towards an Open Science system agreed "*that the results of publicly funded research should be made available in an* ***as open as possible manner*** *and ACKNOWLEDGES that unnecessary legal, organisational and financial barriers to access results of publicly funded research should be removed as much as possible and appropriate in order to attain optimal knowledge sharing, taking into account when necessary the need for exploitation of results*". And, it welcomed "***open access to scientific publications as the option by default*** *for publishing the results of publicly funded research*";
- Its recommendation of 5 April 2022 on building bridges for effective European higher education cooperation highlighted how important it was to support the testing and piloting of open source solutions to overcome common challenges, thus contributing to the interoperability, digital readiness, data sovereignty and responsibility of higher education systems.

The **Commission's** recommendation of 17 July 2012 on access to and preservation of scientific information proposed that the Act for a Digital Republic would include that "*there should be open access to publications resulting from publicly funded research as soon as possible, preferably immediately and in any case* ***no later than 6 months after the date of publication, and 12 months*** *for social sciences and humanities*". As such, public initiatives were coherent here. Regulation (EU) No. 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) reiterated this goal: "*open access to scientific publications should be ensured. Furthermore, open access to research data resulting from publicly funded research under Horizon 2020 should be promoted*".

Under the Commission's guidance, the 2016-launched **European Open Science Cloud** (EOSC) aims to achieve a federation of infrastructures providing seamless access to interoperable research objects and value-added services for the whole research data cycle, from discovery and mining to storage, management, analysis and re-use across borders and scientific disciplines.

[209] pdf (europa.eu)

b. *Binding texts and jurisprudence, on the other hand, offer authors more protection*

There is a contradiction with the texts protecting copyright adopted by the European Union. It is worth remembering in particular that, pursuant to Article 2 of Directive 2001/29 **of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society**: "*Member States shall provide for the exclusive right to authorise or prohibit direct or indirect, temporary or permanent reproduction, by whatever means and in whatever form, in whole or in part: a) for authors, of their works; (...)*". Exceptions are envisaged under Article 5, paragraph 2, in particular c) "*in respect of specific acts of reproduction made by publicly accessible libraries, educational establishments or museums, or by archives, which are not for direct or indirect economic or commercial advantage*". Moreover, paragraph 3 provides for the exception of illustration, with indication of the author's name. In any event, paragraph 5 states that "*the exceptions and limitations provided for in paragraphs 1, 2, 3 and 4 shall only be applied in certain special cases which do not conflict with a normal exploitation of the work or other subject-matter and do not unreasonably prejudice the legitimate interests of the rightholder*". **Open science is not considered as an exception in the Directive.**

As regards Directive 2019/790 of 17 April 2019 on copyright and related rights in the single digital market, in its Article 18, it establishes the **principle of appropriate and proportional remuneration**: "*Member States shall ensure that where authors and performers license or transfer their exclusive rights for the exploitation of their works or other subject matter, they are entitled to receive appropriate and proportionate remuneration*".

For member States voting in the Council and for French MPs elected to the European Parliament, it would seem preferable to reduce the gap between Council conclusions that are in favour of unrestricted general opening despite the risks shown in the first part of single, binding models and positive law texts which, as regards France, pursue with green open access.

***Proposal 16**: Promote a more balanced approach in European discussions that favours model diversity, without a single, binding model.*

2.3.2 *As it stands today, Plan S does not appear to be in line with the interests of all French players.*

cOAlition S, created on 4 September 2018, is a consortium of research organizations, supported by the European Commission, whose initiative was to achieve **open scientific writing by 2021**. Irrespective of whether they are funded by public or private grants awarded by research councils and national, regional and international funding bodies. Specifically, as regards publications funded by public funds, it provides for general opening: "*After 1st January, 2021, 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*.". It supports the principles of the San Francisco Declaration on Research Assessment (DORA) that research needs to be assessed on its own merits rather than on the basis of the venue in which the research is published.

The 10 principles express a priority for diamond open access:

- Authors retain copyright of their publication with no restrictions. All publications must be published under an open license, preferably the Creative Commons Attribution Licence CC BY. In all cases, the license applied should fulfil the requirements defined by the Berlin Declaration;
- The Funders will ensure jointly the establishment of robust criteria and requirements for the services that compliant high quality Open Access journals and Open Access platforms must provide;
- In case such high quality Open Access journals or platforms do not yet exist, the Funders will, in a coordinated way, provide incentives to establish and support them when appropriate; support will also be provided for Open Access infrastructures where necessary;
- Where applicable, 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;
- When Open Access publication fees are applied, their funding is standardised and capped (across Europe);
- The Funders will ask universities, research organisations, and libraries to align their policies and strategies, notably to ensure transparency;
- The above principles shall apply to all types of scholarly publications, but it is understood that the timeline to achieve Open Access for monographs and books may be longer than 1 January 2020;
- The importance of open archives and repositories for hosting research outputs is acknowledged because of their long-term archiving function and their potential for editorial innovation;
- The 'hybrid' model of publishing is not compliant with the above principles;
- The Funders will monitor compliance and sanction non-compliance.

Plan S proposes three routes for supporting the transition: publishing in open access journals that cOAlition S funders can support financially; publishing in a subscription journal and, at the same time, making either the VoR or the AAM openly available in a repository (without support from cOAlition S in this case) and, finally, transformative agreements (known as transformative arrangements for Plan S) that it can contribute to financially.

For the reasons mentioned in the first part of the report hereof on the risks of generalizing diamond open access for authors, as well as for bibliodiversity and, ultimately, French research independence and vitality, it would seem that this initiative does not comply with the interests of all French players.

CONCLUSION

To bring this mission to a conclusion, it would appear that France can pride itself not just on its highly-dynamic scientific research sector but also on its rich, open publishing fabric that ensures the widest possible dissemination of French scientific writing while respecting its authors.

France was able to address the challenges of open access in a timely manner to ensure wider dissemination of its works, whether this momentum is based on various initiatives (Revues.org, created by Marin Dacos in 1999; development of general agreements subsequently; creation of Cairn.info) or on a legislative framework that resulted from a compromise in 2016 and that provided researchers with greater security.

Yet, some international initiatives, reiterated at European Union level and/or by French public institutions, which encourage the generalization of diamond-type open access, are unable to guarantee appropriate protection for authors. In light of this, the report hereof advocates clarifying the open access policy by focusing on authors' interests by ensuring inter-ministerial coherence on the one hand and coherence between national law and initiatives supported internationally on the other hand. **The mission believes that the need to open up science can be achieved without weakening copyright.**

Without directly addressing the topic, which will be the subject of another CSPLA mission, it is obvious that without this sufficient, clear and firm legal framework, there is a great risk that scientific writing will be improperly exploited by the major platforms funded by their advertising revenue, which will develop AI models without any guarantee of the scientific quality of the source data or of fair remuneration for scientist-authors.

Annex 1:
MISSION STATEMENT

MINISTÈRE
DE LA CULTURE
Liberté
Égalité
Fraternité

Conseil supérieur de la propriété littéraire et artistique

Le Président

182, rue Saint-Honoré
75033 Paris Cedex 01

Téléphone : 01.40.15.38.73

cspla@culture.gouv.fr

https://www.culture.gouv.fr/Sites-thematiques/Propriete-litteraire-et-artistique/Conseil-superieur-de-la-propriete-litteraire-et-artistique

Paris, le 4 avril 2023

Monsieur Maxime BOUTRON
Maître des requêtes au Conseil d'Etat

Monsieur,

Les politiques de « science ouverte » ont pour objectif la diffusion sans entrave des résultats, des méthodes et des produits de la recherche scientifique. L'un des principaux instruments aujourd'hui mobilisés au service de la « science ouverte » est l'accès ouvert, ou *Open Access*, qui consiste, suivant des modalités d'ailleurs très diverses, à rendre accessible gratuitement les publications scientifiques sur Internet et à faciliter leur exploitation, notamment à des fins de recherche.

L'article L. 533-4 du Code de la recherche, issu de la loi du 7 octobre 2016 pour une République numérique, garantit ainsi le droit des chercheurs à déposer sous forme numérique leurs articles financés majoritairement sur fonds publics dans une archive ouverte à l'expiration d'un délai courant à compter de la date de la première publication (six mois pour une publication dans le domaine des sciences, de la technique et de la médecine et douze mois dans celui des sciences humaines et sociales).

La mise en place des délais d'embargo est le résultat d'un compromis entre, d'une part, la prise en compte du modèle économique de l'activité d'édition, en laissant aux éditeurs un temps d'exploitation exclusive de leurs publications, et, d'autre part, l'objectif d'une large diffusion de la connaissance la plus rapide possible.

La loi préserve par ailleurs les droits d'auteur des chercheurs puisqu'elle ne leur impose pas la mise à disposition de leurs écrits à l'expiration des délais d'embargo mais se borne à leur garantir une faculté en ce sens.

Au-delà de ce dispositif législatif, des réflexions ont pu se faire jour pour développer encore l'ouverture de la science. Le « plan S » adopté au plan européen par la cOAlitionS, qui regroupe des organismes de financement de la recherche, promeut ainsi une « stratégie de non cession des droits ». Les conclusions du Conseil de l'Union européenne sur l'évaluation de la recherche et la mise en œuvre de la science ouverte du 10 juin 2022 estiment que « *les auteurs de publications de recherche ou leurs institutions devraient conserver, dans une mesure suffisante, les droits de propriété intellectuelle, pour garantir un accès ouvert à ces publications* ».

Le médiateur du livre a également rendu public, le 11 mars 2022, un projet d'avis sur l'édition scientifique, dans lequel il rend compte des délicats équilibres à assurer dans le cadre de la politique de science ouverte, y compris en ce qui concerne les questions de cession de droits[1].

Par ailleurs, les organismes de recherche tendent de plus en plus, en pratique, à évaluer les scientifiques qui leur sont rattachés en tenant compte de leur propension à publier nativement dans des publications à accès ouvert et à ne pas céder leurs droits, ce qui n'est pas exempt de risque contentieux.

Dans ce contexte, la mission que je souhaite vous confier a pour enjeu d'examiner les modalités de mise en œuvre du cadre législatif et règlementaire actuel au regard de l'objectif essentiel de juste équilibre entre une large diffusion des travaux dans le domaine de la science et la vitalité de l'édition scientifique. Il s'agira, ensuite, d'analyser les propositions d'évolution de ce cadre qui sont actuellement avancées, en France ou au niveau de l'Union européenne, et d'évaluer leurs enjeux en termes de propriété littéraire et artistique, et notamment en ce qui concerne la possibilité pour les auteurs chercheurs de maîtriser la forme sous laquelle leurs publications sont rendues disponibles.

Pour mener cette mission, pour laquelle la collaboration des services du ministère de l'enseignement supérieur et de la recherche sera précieuse, vous serez assisté d'un rapporteur, M. Alexandre Trémolière, maître des requêtes au Conseil d'Etat. Vous pourrez également vous appuyer, en tant que de besoin, sur les services du secrétariat général du ministère de la culture et de la Direction générale des médias et des industries culturelles, et procèderez aux auditions des membres du CSPLA ainsi que des entités et personnalités dont vous jugerez les contributions utiles.

Il serait souhaitable que vos travaux puissent être présentés à la séance plénière du mois de décembre 2023, après avoir fait l'objet d'échanges avec les membres du CSPLA concernés.

Je vous remercie d'avoir accepté cette mission et vous prie de croire, Monsieur, à l'expression de mes sentiments les meilleurs.

Olivier Japiot

[1] http://mediateurdulivre.fr/publications/dossiers/ledition-scientifique-dans-le-contexte-des-politiques-en-faveur-de-la-science-ouverte/

Annex 2:
LIST OF INTERVIEWEES

With the exception of academics and researchers, the institutions on behalf of which the persons were interviewed are listed.

Nicolas Georges, French Ministry for Culture

Sébastien Chevalier, French Ministry for Higher Education and Research
Marin Dacos, French Ministry for Higher Education and Research
Odile Contat, French Ministry for Higher Education and Research
Pascale Bourrat-Housni, French Ministry for Higher Education and Research

Jean-Philippe Mochon, French Book Ombudsman

Christine Cherbut, President of the French Scientific Publishing Observatory

Ghislaine Chartron, Professor, holder of the Chair of Documentary Engineering at the Conservatoire national des arts et métiers
Mélanie Clément-Fontaine, Professor of Law at University of Versailles Saint-Quentin-en-Yvelines
Philippe Forest, Professor of French Literature at University of Nantes
Tony Lelièvre, Professor at the Ecole nationale des Ponts et Chaussées Paris Tech, Head of CERMICS
Jean-Yves Mérindol, Professor of Mathematics
Amandine Veber, CNRS Research Director at Université Paris Cité

Lionel Maurel, CNRS

François Gèze, Syndicat national de l'édition (SNE - French Publishers Association)
Catherine Blache, Syndicat national de l'édition (SNE - French Publishers Association)
Sara Grimal, Syndicat national de l'édition (SNE - French Publishers Association)
Julien Chouraqui, Syndicat national de l'édition (SNE - French Publishers Association)

Françoise Rousseau-Hans, Couperin consortium
Grégory Colcanap, Couperin consortium
Sébastien Perrin, Couperin consortium

Patrice Locmant, Société des gens de lettres (SGDL - French Writers' Association)
Maïa Bensimon, Société des gens de lettres (SGDL - French Writers' Association)

Thomas Parisot, Cairn.info

Nathalie Huilleret, Syndicat de la presse et de l'édition des professions de santé (SPEPS - French Press and Publishing Association for Health Professionals)
Jennifer Henry Lemoine, Syndicat de l'édition culturelle et scientifique (French Scientific and Cultural Publishing Association)

Charles Ruelle, Syndicat de l'édition culturelle et scientifique (French Scientific and Cultural Publishing Association)
Eugénie Varnier-Klimoff, Fédération nationale de la presse spécialisée (FNPS - French National Specialist Press Federation)
Laurent Berard Quelin, Fédération nationale de la presse spécialisée (FNPS - French National Specialist Press Federation)

Philippe Masseron, Groupement Français de l'Industrie de l'Information (gf2i - French Information Industry Consortium)
Guillaume Leblanc, Groupement Français de l'Industrie de l'Information (gf2i - French Information Industry Consortium)
Asja Prohic, Groupement Français de l'Industrie de l'Information (gf2i - French Information Industry Consortium)

Daniel Rodriguez, Elsevier Masson
Willima Rubbens, Elsevier Masson

Sébastien Bardou, LexisNexis (RELX)

Lluís Anglada i de Ferrer, Consorci de Serveis Universitaris de Catalunya (CSUC - University of Catalonia Services Consortium)
Josep Matas, Lawyer in Girona[210]

[210] The mission would like to thank Juan Mora Sanguinetti and Ciro Llueca for their help in seeking contacts in Spain, as well as the different researchers questioned informally about their publishing practices.

Annex 3:
LIST OF PROPOSALS

***Proposal 1**: Ensure specific macro-monitoring by the French Scientific Publishing Observatory, with the support of INSEE, of the turnover of scientific publishing firms for their activities relating to open science challenges.*

***Proposal 2**: Make sure that the consideration of copyright is an integral part of the overall consideration of changes in science and the ways in which it is disseminated, reviewed and funded.*

***Proposal 3**: Make sure the characteristics and challenges related to copyright are included in the scientific integrity approach.*

***Proposal 4**: Ensure that, within the framework of current legislation, rights retention is an option offered to researchers with a view to open access of their work. Exclude any de facto or de jure obligation to make publications open access (except for research undertaken as part of calls for projects), although this does not rule out an incentive approach.*

***Proposal 5**: Harness the real potential of green open access by ensuring a real means for exploring the publications concerned and facilitating access to metadata to enable the development of efficient research tools for researchers.*

***Proposal 6**: Reflect on the real compatibility between the licences used and the interests of science, by taking issues related to commercial considerations into account.*

***Proposal 7**: Before considering any extension of researchers' rights on their publications, which could be described as a limitation of copyright, or introducing a new exception to copyright in favour of scientific research, and in order to comply with the three-step test, the question should be re-situated within the balance between copyright and scientific challenges.*

***Proposal 8**: The French national open science plan should necessarily be backed by the Prime Minister for issues that have an impact on copyright or publishers' rights in order to ensure the inter-ministerial cooperation as regards France's position.*

***Proposal 9**: Include French platforms in defining new directions for open science to take into account tools developed, their needs, their potential for disseminating publications and the service they provide to publishers.*

***Proposal 10**: Approve or at least publish non-compulsory, standard clauses that comply with copyright to promote the conclusion of general agreements.*

***Proposal 11**: Ensure researchers are fully informed about the procedures for publishing their articles, including information on copyright-specific issues.*

***Proposal 12**: Make the conclusion of an agreement between publishers and authors standard practice, as provided for in principle under Article L. 131-2 of the French IPC.*

***Proposal 13**: Strengthen initiatives for tackling piracy, by focusing on meeting researchers' as-yet unmet expectations for accessing publications. Where applicable, organizing rightholders*

in an association could lead to better use of the dereferencing tool provided for under Article L. 336-2 of the French Intellectual Property Code and ensure it is effective.

***Proposal 14**: Initiate discussions on creating a collective protection tool for scientists' copyright, related to the redistribution of profits generated by scientific publications for the benefit of scientific communities.*

***Proposal 15**: Integrate the role of documentation services, including their heritage and preservation aspects, to find a solution which, while taking the various business models into account, provides a lasting return on publishing costs they helped fund through subscription or other models.*

***Proposal 16**: Promote a more balanced approach in European discussions that favours model diversity, without a single, binding model.*

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