

ACCESS TO SCIENTIFIC WORKS
EXCLUSIVE RIGHTS AND FREE SCIENCE

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“The advancement and diffusion of knowledge... is the only guardian of true liberty.”
James MADISON, 4th President of the United States, Letter to George THOMSON
(dated June 30, 1825)
in *Letters and Other Writings of James Madison*, Vol. 3 (1816-1828), p. 492.

INTRODUCTION

§1. Tensions. Paradox. Unease. – Researchers rely on their peers' reflections when seeking to add their contribution to the edifice of knowledge: publications by scholars inspire others' work. Within the scientific community, publishers position themselves as essential intermediaries between researchers, who are simultaneously authors, publishing work in academic journals, and readers of their colleagues' publications. However, as Professor Antoine LATREILLE¹ comments, researchers have an ambivalent and almost “schizophrenic” relationship with intellectual property, torn between a desire to protect their own output and their assertions of entitlement to access and utilise others' scientific work freely. In legal terms, Article 27 of the Universal Declaration of Human Rights crystallizes this ambivalence into a “balanced formulation of ideal access to knowledge”²:

1. Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.
2. Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

1. Antoine LATREILLE, «L'appropriation des connaissances scientifiques à l'ère numérique», *Éthique publique*, 14 (2), 2012.

2. Jérôme VALLUY, «Libre accès aux savoirs et accès ouvert aux publications», *Revue française des sciences de l'information et de la communication*, 10, 2017.

However, far from striking such a balance, the scientific publishing market is permeated by a deep sense of unease: publishers are accused of moving away from their role as intermediaries who enable dissemination of knowledge and instead becoming brokers setting up contacts³ between researchers, who are sometimes purchasers and sometimes purveyors of knowledge.

The scientific publishing sector is in the throes of crisis today. This is evidenced by the success of the controversial SCI-HUB website which, although outlawed by American and French courts, remains the world's largest open-access scientific library, with almost 60 million articles in 2017.

§2. Summary of the problem. – Can copyright go hand-in-hand with the difficult process of liberalizing access to scientific works? In the face of the decline of commercial publishers and traditional scientific publishing houses (1), a transition is underway, based on new publishing models grounded in the notion of open access (2).

§3. Scientific works. – With a view to defining the scope of this study, in addressing the scientific works referred to *expressis verbis* in Article L. 112-2, 1 of the French Intellectual Property Code (hereinafter “IPC”), the analysis here will be limited to publications in the fields of science-technology-medicine (STM), and will thus not address the human and social sciences (HSS).

3. Meyer MORGAN, «Les courtiers du savoir, nouveaux intermédiaires de la science. *Knowledge brokers as the new science mediators*», *Hermès, La Revue*, 2010/2, n° 57, p. 165-171.

1 Traditional Scientific Publishing or the Crisis of Commercial Publishers

§4. Tasks fulfilled by scientific publishers. – Publishers are involved in the four fundamental roles of science communication: “certification, registration, dissemination and archiving”.⁴ The publisher’s role entails making a selection from the texts submitted for publication, publishing the selected articles, arranging for archiving and ensuring permanent access to the texts published.⁵

§5. Peer review system. – The role of certification, commonly referred to as “peer review”, is crucial: researchers in the field addressed by the manuscript in question (peers), organised as a peer review committee, evaluate each article’s quality to determine whether it can be published in a specialized journal, to which the author has generally chosen to submit his work due to the journal’s excellent reputation.⁶ This selection process ensures dissemination and recognition of scientific works considered to be “trustworthy” in terms of reliability of the results presented and the publication’s editorial quality.⁷

§6. Summary of the issues. – The publishing model that has held sway for centuries for publication of scientific works,⁸ a traditional vector for

4. André ROUCOUX, «Le peer review : un mal nécessaire?», *Revue de Louvain*, 2004, 146, p. 18.

5. Carine BERNAULT, *Open Access and Copyright*, «Création Information Communication» series, Larcier, 2016, §9.

6. Opinion of the CNRS Ethics Committee on discussion and oversight of scientific publications through social networks and the media, April 5, 2016, p. 3.

7. *Ibidem*, p. 3.

8. The first issue of the *Journal des Savants*, Europe’s oldest literary and scientific periodical, was published in 1665. A few months later, *Philosophical Transactions of the Royal Society of*

dissemination of knowledge, is now being tested in the courts (1.1) and faces economic challenges (1.2).

1.1 A Legally Contested Publishing Model

§7 Ownership of author's rights vis-à-vis a scientific publication. – While the researcher is indubitably the author of the scientific publication he has written (except in the case of a “multiple-author work”, i.e. written by several authors), does he also hold the author's economic rights *ab initio*? As a matter of principle, authorship ensures initial ownership of author's rights under French law, including cases in which the activity in question is carried out as part of the author's tasks at work, unless legal provisions to the contrary are stipulated (Article L. 111-1, paragraphs 1 and 3, IPC⁹). With reference to this latter point, it should be noted that Article L. 131-3-1, paragraph 1, IPC provides that “to the extent strictly necessary for performance of a public service mission, the right to exploit a work created by a public official in the exercise of his functions or in accordance with instructions received shall, from the outset, be assigned in full to the State”

In France, scientific research is generally funded by a public or private institution and researchers are remunerated for these research activities.¹⁰ In

London, the first international scientific journal to lay the foundation for the peer review principle, was also published.

9. Art. L. 111-1, para. 1, IPC: “The author of a work of the mind shall enjoy, solely by virtue of its creation, an exclusive and enforceable intangible property right in respect of that work”. Art. L. 111-1, para. 3, IPC: “The existence or conclusion of a contract of lease of work or service by the author of a work of the mind shall not derogate from the enjoyment of the right recognized by the first paragraph, subject to the exceptions provided for by this Code”.

10. Antoine LATREILLE, «L'appropriation des connaissances scientifiques à l'ère numérique», *Éthique publique*, 14 (2), 2012.

accordance with Article L. 111-1, IPC, researchers working in laboratories or in private companies' research and development departments hold the author's rights for their scientific works. Work produced by researchers and teacher/researchers linked to public institutions is assigned as of right to the State. However, in order to preserve the principles of freedom of research and independence of teachers, researchers and teacher/researchers (Articles L. 123-9 and L. 952-2 of the Education Code;¹¹ Article L. 411-3 of the Research Code¹²), these groups continue to hold author's rights for their scientific articles.

Ultimately, in both the public and private sectors, it is the researcher, who holds the author's economic rights, that will need to enter into a contract with a publisher to have his work published.

§8. Principle of the publishing model. – In the traditional model for dissemination of scientific publications,¹³ the researcher submits his manuscript to a publisher and simultaneously assigns his rights to the work to the publisher under the condition precedent¹⁴ that the publisher accept it for

11. Art. L. 123-9, Educ. C. "Universities and higher education institutions must provide the means for teacher/researchers, teachers and researchers to carry out their teaching and research activities in the conditions of independence and calm that are essential for reflection and intellectual creation".

Art. L. 952-2, Educ. C. "Teacher/researchers, teachers and researchers shall enjoy full independence and freedom of expression in the exercise of their teaching and research activities."

12. Art. L. 411-3, Research C. "The statutes guarantee the independence of the scientific process."

13. Opinion of the CNRS Ethics Committee (COMETS) on free access to scientific publications, 29 June 2012.

14. Art. 1304, para. 2, Civil Code: "A condition precedent gives rise to an obligation without any further stipulations."

publication. Irrespective of whether the publisher is based in a country that recognises the author's rights system prevalent in mainland Europe or in a country that adopts the Anglo-Saxon copyright system, a scientific publishing contract always stipulates assignment of all economic rights, on an exclusive basis, without financial compensation, for the whole world and during the entire period for which the author's rights remain valid.

§9. Standard-form contracts. – Scientific publishing contracts are standard-form contracts,¹⁵ imposed by publishers on researchers, who are obliged to enter into a contract to disseminate their research work through publication of articles¹⁶ (publish or perish). As a result, non-negotiable standard clauses on assigning author's rights, which are on occasion not necessarily compatible with French law, have been incorporated into publishing contracts. For example, the transfer-of-rights clauses for publications submitted to the publishers ELSEVIER, JOHN WILEY & SONS and ACS PUBLICATIONS state:

ELSEVIER, Journal Publishing Contract, Assignment of Author's Rights:

"I hereby assign [*to the publisher*], on an exclusive basis, the author's rights in the manuscript [...] as well as in all figures, illustrations or other materials submitted for publication as an integral part of the manuscript

15. Art. 1110, para. 2, Civil Code: "A standard-form contract is a contract that contains a set of non-negotiable clauses, determined in advance by one of the parties".

16. Jean MARTIN (Chairman), Sophie-Justine LIEBER (Rapporteur), Report of the Commission of the High Council for Literary and Artistic Property (CSPLA) on orphan works, 19 March 2008, p. 38: "[...] the author must use a publisher to disseminate his work, even if he receives no direct benefit from its dissemination, as is the case with most university work, in particular scientific literature published in journals".

(hereinafter “the Article”). This assignment of author’s rights means that I assign [*to the publisher*] the exclusive right to publish and reproduce the Article, or any part of the Article, in hard copy, electronically and in any other form and on any other medium (whether now known or developed subsequently), in any language, worldwide, for the duration of validity of author’s rights, as well as the right to authorize third parties to do the same, with effect from the date on which the Article is accepted for publication. This includes the right to enforce the rights assigned hereunder vis-à-vis third parties.”

JOHN WILEY & SONS, Copyright Transfer Agreement (CTA), *Copyright* (A):

“The Contributor assigns to the Owner, during the full term of copyright and any extensions or renewals, all copyright in and to the Contribution, and all rights therein, including but not limited to the right to publish, republish, transmit, sell, distribute and otherwise use the Contribution in whole or in part in electronic and print editions of the Journal and in derivative works throughout the world, in all languages and in all media of expression now known or later developed, and to license or permit others to do so.”

ACS PUBLICATIONS, Journal Publishing Agreement, *Copyright* (Section I):

“The Corresponding Author or designee below, with the consent of all co-authors, hereby transfers to the ACS the copyright ownership in the

referenced Submitted Work, including all versions in any format now known or hereafter developed. If the manuscript is not accepted by ACS or withdrawn prior to acceptance by ACS, this transfer will be null and void.”

§10. Summary of the issues. – Are the scientific publishing contracts concluded with French researchers valid in terms of substantive law? Having questioned whether these contracts are compatible with French law on author’s rights (1.1.1.1), it should be noted that the internationalisation of scientific publishing affords scope to circumvent protective provisions in domestic law by applying legislation from abroad (1.1.2).

1.1.1 Protection under French law for authors of scientific works

§11. Law that protects authors. – The current system of French law on author’s rights, which is essentially based on the 11 March 1957 Bill, aims to provide a high level of protection for authors. In the case of utilization contracts for works of the mind, special law on “author’s contracts” derogates from the ordinary law of contracts by enacting specific provisions concerning both substantive issues (prohibition on global assignment of future works, principle of proportional remuneration) and formal matters (requirement of written form, principle of strict interpretation of assignments, specific nature of digital publishing).

§12. Stumbling blocks. – By definition, a scientific publishing contract stipulates how the researcher’s rights to the manuscript he submits

for publication are assigned to the publisher (Art. L. 132-1, IPC).¹⁷ While the requirement of written form, a formality required *ad probationem*, has become widely established, other specifically French requirements are omitted from scientific publishing contracts, which pay scant heed to the principle of strict interpretation of assignments or the specificities of digital publishing. In addition, in terms of domestic law, it is questionable whether non-remuneration of authors is lawful (see below, §15).

§13. Digital publishing. – As stipulated in the ordinance of 12 November 2014,¹⁸ assignments of author's rights for paper and digital publications respectively must be stipulated in two separate, distinct sections within the same publishing contract (Art. L. 132-17-1, IPC).¹⁹ This specificity of digital publishing is ignored by scientific publishers who stipulate provisions addressing the two categories of assignment in one fell swoop: "I assign [...] the exclusive right to publish and reproduce the Article, or any part of the Article, in *hard copy*, *electronically* and in any other form [...]" (ELSEVIER, see above) or "The Contributor assigns to the Owner [...] the right to [...] use the Contribution in whole or in part in *electronic* and *print* editions of the Journal [...]" (JOHN WILEY & SONS, see above).

17. Art. L. 132-1, ICC: "A publishing contract is a contract by which the author of a work of the mind or his successors in title assigns, under specified conditions, to a person called a publisher the right to manufacture or have manufactured copies of the work in large numbers or to produce it or have it produced in digital form, on condition that the publisher shall ensure its publication and distribution".

18. Ordinance No. 2014-1348 of 12 November 2014 amending the provisions of the Intellectual Property Code relating to the publishing contract.

19. Art. L. 132-17-1, ICC: "Where the purpose of the publishing contract is to publish a book in both printed and digital form, the conditions for the assignment of exploitation rights in digital form are determined in a separate part of the contract, under penalty of nullity of the assignment of these rights".

§14. Legality of the absence of remuneration. – Generally, scientific publishers do not remunerate authors.²⁰ While assignment of rights may occur free of charge,²¹ as establishing a price does not constitute the essence of the publishing contract (Art. L. 122-7, para.1, IPC),²² waiving the right to remuneration is a provision imposed by the publishers. Researchers, who cannot run the risk that their work will not be published, consent to this enforced non-payment.²³ The absence of a financial consideration arises due to the deliberate omission of any pricing provisions in the publishing contract.

Does this lack of remuneration lead to reclassification of the assignment contract as tantamount to a contract of donation, which would be subject to its own rules of validity?²⁴ More precisely, does free assignment of the author's economic rights constitute a donation, the validity of which is dependent upon execution of an authenticated deed (Art. 931, Civil Code)? While the idea was put forward in support of a 1987 Versailles Court ruling,²⁵ it failed to gain ground. Although the assignment is indeed free/without recompense in the sense that the researcher waives financial consideration, it is not per se free/without recompense, as publication of the researcher's article in the

20. Emmanuel PIERRAT, «Les relations entre éditeurs et chercheurs», *Cahiers Droit, Sciences & Technologies*, 2010, 3, p. 75.

21. For an overview of the debate on non-payment in author contracts: Tristan AZZI, «La cession à titre gratuit en droit d'auteur», *RIDA 03/2013*, n°237, p. 91; Michel VIVANT, «La pratique de la gratuité en droit d'auteur», *RLDI 2010*, 60, p. 59.

22. Art. L. 122-7, para. 1, IPC. "The right of representation and the right of reproduction are transferable free of charge or against payment".

23. For an attack on this lack of remuneration imposed on the author: Christophe CARON, *Droit d'auteur et droits voisins*, "Manuels" series, LexisNexis, 5th ed., 2017, §427; Frédéric POLLAUD-DULIAN, *Le droit d'auteur*, coll. «Corpus Droit Privé», Economica, 2nd ed., 2014, §1418.

24. Pierre-Yves GAUTIER, *Propriété littéraire et artistique*, «Droit Fondamental» series, PUF, 10th edition, 2017, §530.

25. Versailles, 20 January 1987, *D. 1988*, summ. 207.

publisher's specialized journal constitutes a cause (purpose) for the researcher's contractual undertaking.

The lack of remuneration of the author in a publishing contract must therefore be considered lawful.

1.1.2 Potential circumvention of French law due to internationalization of scientific publishing

§15. International publishing contracts. – Scientific publishing plays a part in one of the aims of research, sharing of knowledge, through publication of articles or books that give formal expression to researchers' results. In this respect, the globalisation of research,²⁶ along with the development of digital technology (cf. *infra* 1.2), has led to more globalised relations between national researchers and major international publishers. The new international scenarios that arise as a result of this mean that the law applicable to the publishing contract must be determined, and is not necessarily French law, and likewise there is a need to identify which jurisdiction will apply in the event of a dispute. Consequently, "French author's rights is only one [*legal system*] among several"²⁷ and its noble principles, which protect the author's interests, may not be applicable if they are superseded by enforcement of foreign legal provisions.

26. Gérard FUSSMAN (ed.), *La mondialisation de la recherche. Competition, cooperation, restructuring*, «Conferences» series, Collège de France, 2011.

27. Michel VIVANT, Jean-Michel BRUGUIÈRE, *Droit d'auteur et droits voisins*, «Précis» series, Dalloz, 4th ed., 2019, §18.

§16. Explicit choice of the parties. – In accordance with the principle of contractual autonomy, if a foreign element is involved, the law applicable to the contract (*lex contractus*) and the competent jurisdiction are those explicitly stipulated by the parties. As the publisher is in a position of strength vis-à-vis researchers, the publisher is able to impose the options he prefers. However, in this respect, it is customary for scientific publishing contracts to mention neither the applicable law nor the competent jurisdiction.

§17. Substantive law of the publishing contract. – In accordance with the 2008 “Rome I” Regulation,²⁸ which substantially amended the provisions of the 1980 Rome Convention,²⁹ if a choice is not made by the parties and if the publishing contract remains silent on this point, the law applicable to the contract is that of the country where the party required to effect the characteristic performance of the contract has his habitual residence (Art. 4, §2, “Rome I” Regulation). In terms of law on author’s rights and picking up on the work of German expert Eugen ULMER,³⁰ it is held that the characteristic service to be performed must be deemed to have been performed by the assignee when he enters into an obligation concerning use of the work and by the right-holder in the absence of such an obligation.³¹ However, since the publishing contract could be analysed as an assignment of rights for the

28. Regulation (EC) No 593/2008 of the European Parliament and of the Council of 17 June 2008 on the law applicable to contractual obligations (Rome I)

29. Rome Convention of 19 June 1980 on the law applicable to contractual obligations.

30. Eugen ULMER, *Intellectual Property and Private International Law* (Study commissioned by the Commission of the European Communities), “Studies” series, Cultural Sector Series No. 3, Office for Official Publications of the European Communities, 1980, Nos. 76 and 77.

31. André LUCAS, «Droit international privé et droit d’auteur», *Cah. propre intell.* 2010, vol. 22, 3, p. 761.

purposes of exploitation thereof (Art. L. 132-12, IPC)³², the applicable law is that of the country where the scientific publisher, assignee of the author's economic rights, has established its central administration (Art. 19, "Rome I" Regulation), i.e. the law of the place where it has its head office.³³

Consequently, since the major scientific publishing houses are based outside France, generally elsewhere in Europe or in the United States,³⁴ the law applicable to the substantive aspects of the contract is never French law (unless, of course, the publisher is based in France.)³⁵ Subject to foreign law, the French researcher cannot benefit from the specific substantive rules pertaining to protection of the author under French law.

§18. Formal law of the publishing contract. – Strict formal requirements under French law also ensure protection of authors (*see above*). However, when a foreign element is involved, the formal validity of the scientific publishing contract may as an alternative be governed by the law applicable to the substantive matters or to the law of the place where the contract was concluded.³⁶ What happens if the contracting parties are in different countries, such as the researcher assigning his rights when submitting a manuscript in electronic form on the publisher's website? The "Rome I" Regulation specifies

32. Art. L. 132-12, ICC: "The publisher is required to ensure permanent and continuous exploitation and commercial distribution, in accordance with the practices of the profession."

33. Comparable in domestic law with Articles L. 210-3 and L. 210-6 of the Commercial Code and Article 1837 of the Civil Code

34. ELSEVIER in Amsterdam, The Netherlands, JOHN WILEY & SOUND in Hoboken, New Jersey, USA, SPRINGER SCIENCE + BUSINESS MEDIA (formerly SPRINGER-VERLAG) in Berlin, Germany, TAYLOR & FRANCIS in Abingdon-on-Thames, UK, ACS PUBLICATIONS in Washington, USA, etc.

35. E.g., the scientific publisher DUNOD based in Malakoff, France.

36. According to the adage *locus regit actum*.

that for contracts concluded between absent parties, the parties may observe the formal requirements accepted in either of the countries where they are located (Art. 11, §2, “Rome I” Regulation). Nevertheless, in cases where no provisions on this point are included in the contract, the current tendency is to opt for the law applicable to substantive issues to ensure that the contract will be governed by a single legal system.³⁷

Ultimately, regardless of the connecting criteria used, a scientific publishing contract that derogates from formal requirements stipulated in French law can remain valid because it complies with the law of the country in which the publisher is established.

§19. Public-order legislation. – As famously articulated by Phocion FRANCESKAKIS, public-order legislation is legislation “the observance of which is necessary to safeguard the political, social and economic organization of the country”.³⁸ It is so essential that it is immediately applicable, since the court does not take into account the *lex causae*, i. e. the law designated by the conflict-of-laws rule.³⁹ In law on author’s rights, the 1991⁴⁰ *Huston* ruling conferred the status of public-order legislation on the right to claim authorship of the work and the right to respect for the integrity of the work (Art. L. 111-

37. Mélanie CLÉMENT-FONTAINE, *L’œuvre libre*, «Création Informatique Communication» series, Larcier, 2014, §85.

38. Phocion FRANCESKAKIS, “Conflicts of Laws (General Principles)”, *Rep. internat.* Dalloz, 1st ed., §137.

39. Tristan AZZI, “Conflicts of laws: the law applicable to copyright”, *GAPI*, Michel VIVANT (ed.), Dalloz, 2nd ed., 2015, study n° 12, p. 163.

40. Civ. 1st, May 28, 1991, *Huston*, No. 89-19.522 and No. 89-19.725.

4, para. 2e, IPC).⁴¹ However, since moral rights are the “keystone”⁴² of French law on author’s rights, categorisation as public-order legislation must apply more generally to all its attributes, thus including the right of disclosure, the right to claim authorship of the work, the right to respect for the work and the right to reconsider. However, the judge may apply only the public-order legislation of the forum in question. It therefore seems essential to determine whether the French court can have jurisdiction in the event of a dispute (in particular for violation of the author’s moral rights) in order to assess the scope of protection for French researchers who are parties to an international scientific publishing contract.

§20. Competent jurisdiction. – Traditionally, if a clause conferring jurisdiction is not included in the contract, jurisdiction lies with the court where the defendant has his habitual place of residence: in French common law, this is provided by extending Article 42 of the Code of Civil Procedure to the international legal order and, where appropriate,⁴³ applying Article 4 of the “Brussels I bis”⁴⁴ Regulation. However, European Union law offers an alternative specifically for contractual matters: the competent court may be that of the place where the obligation in question has been or is to be performed (Art. 7, §1, Brussels I *bis* Regulation). This rule concerning jurisdiction,

41. Art. L. 111-4, para. 2 (2), IPC: “However, no attack may be made on the integrity or authorship of these works”.

42. Frédéric POLLAUD-DULIAN, *Le droit d’auteur*, «Corpus Droit Privé» series, Economica, 2nd ed., 2014, §2061.

43. In principle, the Brussels I bis Regulation is applicable when the defendant is domiciled in one of the Member States of the European Union. Under Art. 63, legal persons are domiciled where their registered office, central administration or principal place of business is located.

44. Regulation (EU) No 1215/2012 of the European Parliament and of the Council of 12 December 2012 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (Brussels I bis)

which has given rise to extensive Court of Justice jurisprudence, is complex to implement: first, the obligation to be performed must be identified⁴⁵ (e.g., the obligation to publish or, more generally, to utilize the scientific work) and second, the place of performance of that obligation must be identified⁴⁶ (or, as part of a globalized scientific research system, stipulated as signifying the whole world). As the obligations arising from a scientific publishing contract are enforceable anywhere in the world, very often the courts of the country in which the defendant's habitual place of residence is located declare themselves competent in accordance with this general rule.

1.2 A publishing model faced with economic challenges

§21. Summary of the issues. – Criticism of the traditional publishing model is based on sometimes prohibitive prices for subscriptions (1.2.1) as well as on the way researchers are evaluated by inappropriate indices (1.2.2).

1.2.1 Prohibitively priced subscriptions

§22. Price. – As holders of author's rights, the publishers of academic journals set their prices, and subscription fees for scientific journals have been rising remorselessly for over two decades.⁴⁷ However, digitalization of formerly

45. ECJ, 6 Oct. 1976, *De Bloos*, C-14/76, *Rev. crit. DIP*, 1977, 761, note Pierre GOTHOT and Dominique HOLLEAUX; ECJ, 15 Jan. 1987, *Shenevai*, C-266/85, *Rev. crit. DIP*, 1987, 798, notes Georges DROZ.

46. CJCE, 6 oct. 1976, *Tessili*, C-12/76 ; *JDI*, 1977, 702, note Jean-Marc BISCHOFF and André HUET.

47. Aaron S. EDLIN and Daniel L. RUBINFELD, "Exclusion or efficient pricing? The "big deal" bundling of academic journals", *Antitrust Law Journal*, 72, pp. 128-159; for scientific journals in chemistry and physics, the authors note an increase in subscription prices of more than 600% between 1984 and 2001.

paper-based journals and publication on the Internet has led to a significant reduction in marginal costs, which has had little or no impact on the rates charged.

§23. Contractual practices. – Digital technology has also enabled the emergence of new contractual practices that were not well suited to publishing print versions of journals: publishers now offer access to bundles of journals with a subscription fee for the whole package. Research organizations are thus forced to subscribe to a set of journals, whereas only a few academic journals are regularly consulted by researchers.

§24. Impact on scientific research. – These additional accessibility costs hinder research: scientists - teachers, researchers and students - struggle to access publications when research organizations, in particular university libraries, cannot afford for some or all of the requisite subscriptions to journals.

The economics of this publishing model raises numerous questions, even more so when research is financed by public funds: “the investments made are public, assumed by the State, but the profits are private, benefiting a handful of publishing houses.”⁴⁸

1.2.2 Inadequate evaluation of researchers

§25. Essential journals. – The research results that a researcher publishes are presumed to be of a certain quality as a function of the academic journal

48. Opinion of the CNRS Ethics Committee on relations between researchers and scientific publishers, June 30, 2011.

in which his work appears. In other words, the scientific journal's reputation reflects on the author and his work. Nowadays, a researcher's worth is measured in terms of his reputation and is determined by the reputation of the journals in which he publishes. In this system, traditional journals are generally held to be more reputable than new journals with an open-access strategy.⁴⁹ Some traditional journals, considered indispensable, even have a real "aura" in the scientific community⁵⁰.

§26. Impact factor. – A scientific journal's reputation is measured by means of an indicator, called the impact factor, which corresponds to the average number of citations for each article published in the journal over the previous two years. Researchers thus aspire to publish in academic journals with a high impact factor that are held to be visible and reputable but that do not, generally speaking, provide free access to published articles.

However, a journal's reputation is built over time. Making reputation the yardstick for evaluating researchers leads to promotion of existing publishing models, i.e. traditional journals. However, when a field of study emerges in a scientific field, publications may appear in a small journal that is not classified precisely because it is new, which becomes the communication medium for that field and for dissemination of new, often intellectually stimulating, ideas.

49. As FRONTIERS, with a strong network of more than 100,000 researchers for peer review, i.e. review of publications by peers.

50. The scientific community views *NATURE* as the most prestigious generalist scientific journal.

2 Scientific Publishing in Transition and the Incursion of Open Access

§27. Principle. – The open access model came into being in response to some scientific publishers' at times excessive practices (see above, 1.2). It is based on three non-binding international declarations, which are dubbed the “3 Bs” (Budapest in 2002, Bethesda and Berlin in 2003). Pursuant to the Budapest Declaration (Budapest Open Access Initiative), the purpose of open access is: “to accelerate research, [...] to enrich teaching, [...] to make [scientific] literature as useful as it can be and [...] to lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge”.

§28. Definition. – According to the “3 Bs”, open access is defined by two essential elements: (i) free access to the scientific work and (ii) the possibility of free utilisation of this work.⁵¹ The definition in the Budapest Declaration explicitly spells this out:

“By “open access” to this literature, we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint

51. Carine BERNAULT, «Le rôle du droit d'auteur dans le développement de l'*open access* via les archives ouvertes», in Mahmoud BEN ROMDHANE (ed.), *Proceedings of the international conference «Libre accès et recherche scientifique, Vers de nouvelles valeurs»*, Tunis, 27-28 November 2014, Éditions de l'Institut Supérieur de Documentation, 2014, p. 157.

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.”

§29. Summary of the issues. – In the light of researchers’ demands, scientific publishing is being transformed at breakneck speed. Publishers can currently adopt several approaches to guarantee free access to scientific works (2.1), but enactment of legal provisions may lead to imposition of an institutional publishing model (2.2).

2.1 Publishing models for free access to scientific works

§30. Summary of the issues. – Like any church, open access has several denominations:⁵² the green “self-archiving” model or Green Open Access (2.1.1) and the golden “author-pays” model or Gold Open Access (2.1.2).

2.1.1 The Green Open Access Model

§31. Definition. – Reflecting (once again) the Budapest Declaration, the green open access model entails providing researchers with “digital reservoirs”⁵³ designed to hold their scientific works. In May 2015, there were more than 2,800 open archives worldwide.⁵⁴

52. As articulated by Michel VIVANT and Jean-Michel BRUGUIÈRE.

53. Carine BERNAULT, *Open Access and Copyright*, «Création Information Communication» series, Larcier, 2016, §36.

54. Kathleen SHEARER (ed.), *Promoting Open Knowledge and Open Science*, Report of the Current State of Repositories produced by Confederation of Open Access Repositories (COAR), 21 May 2015, p. 4.

§32. Case study: mandatory deposit of doctoral theses (1). – In France, since the 25 May 2016 decree establishing the national training framework and procedures for awarding national doctoral diplomas, the system of “Thesis Reporting and Archiving” (STAR) set up by the Bibliographical Agency for Higher Education (ABES) has become compulsory.⁵⁵ This is a system for depositing and archiving doctoral theses electronically. The minimal cost, however, remains the responsibility of the university to which the doctoral student is attached. This “one-stop shop” system helps ensure that doctoral theses are widely distributed, exhaustively inventoried and conserved permanently.

This new decree put an end to the confusion that previously prevailed. In this context, an earlier decree of 7 August 2006 on deposit of theses stated that “the establishment at which the thesis is defended shall ensure access to the thesis” and that “posting of the thesis on the Internet is subject to authorisation by the newly designated doctor” (Art. 11). In other words, unless authorized by the author, each digital thesis could only be consulted at the university where the doctoral student had defended it, whereas the paper thesis could be distributed freely across borders. However, another decree of the same date, relating to doctoral-level education, provided that “after the defence, the thesis *shall* be disseminated within the entire university community” (Art. 20); it thus provides for much broader scope and is in keeping with the spirit of modernization of thesis deposition. In practice, the potential ban on distribution beyond the institution where the thesis was defended has proven a thorny issue for librarians.

55. <http://www.abes.fr/Theses/Applications-pour-les-theses/STAR>

The French system of compulsory deposit of doctoral theses has been supplemented, at the request of the Ministry of Higher Education and Research, by a search engine specifically dedicated to theses. Inaugurated in summer 2011 and soberly named “thèse.fr”, its objective is twofold: to ensure visibility of ongoing research and promote dissemination of theses defended since 1985. That means that a real showcase dedicated to highlighting doctoral theses has been established.

§33. Case study: mandatory deposit of doctoral theses (2). – The European equivalent of the STAR system is DART-Europe.⁵⁶ It consists of a partnership of libraries or consortia of research libraries working together to improve access to all theses that are deposited in Europe. Today, DART-Europe provides access to electronic theses from several hundred European universities. Theses archived on STAR are also accessible via this portal, which boosts their visibility. Greater connectedness, which scientists are so keen to achieve, is beginning to take shape through these information channels, allowing improved access to these works, which are sources of pioneering information that is vital for research.

2.1.2 The Gold Open Access Model

§34. Definition. – Pursuant to the 2003 Budapest Declaration, the golden open access model aims both to create “a new generation of journals[...] committed to open access” and to “help existing journals that elect to make the transition to open access”. These journals must be accessible to all, free of

⁵⁶. <http://www.dart-europe.eu/About/info.php?lan=fra>

charge, available in their entirety,⁵⁷ and have exactly the same characteristics as traditional journals in terms of editorial quality and peer reviewing of scientific works submitted for publication⁵⁸. In 2015, the *Directory of Open Access Journals* (DOAJ) listed over 10,000 journals in 136 countries that had opted for the golden publishing model of open access.⁵⁹

§35. Economic model. – However, these open-access journals require the author to pay publication fees to the scientific publisher: these are the Article Processing Charges (APC), unilaterally stipulated by the publishers, thus providing no safeguards for researchers against potentially excessive charges.⁶⁰

2.2 Towards a legally imposed publishing model?

§36. Summary of the issues. – As free and universal access to scientific publications allows dissemination of knowledge, European (2.2.1) and French (2.2.2) public authorities seek to regulate the new publishing models that have emerged from the crisis in traditional scientific publishing.

57. Carine BERNAULT, *Open Access et droit d'auteur*, coll. « Création Information Communication », Larcier, 2016, §52.

58. Paul THIRION, *L'Open Access en Belgique francophone*, BICfB study commissioned by university rectors and F.R.S.-FNRS, May 2012, p. 6.

59. Steven HARNAD, "Optimizing Open Access Policy", *Serial Reviews*, 2015.

60. Jean-François BACH and Denis JÉRÔME (presented by), *Les nouveaux enjeux de l'édition scientifique*, Institut de France, Académie des sciences, 24 June 2014, p. 28.

2.2.1 European provisions

§37. European Research Area (ERA). – Scientific research is one of the competences shared between the European Union and the Member States (Articles 170 to 190, TFEU). In the Treaty on the Functioning of the European Union, the European Research Area (ERA) is described as an area “in which researchers, scientific knowledge and technology circulate freely” (Art. 179, TFEU).

§38. Horizon 2020 Programme. – On 1st January 2014 the 7-year Horizon 2020 funding programme was launched under the aegis of the European Research Area. It was inaugurated in France by the then Minister of Higher Education and Research, Geneviève FIORASO, who stressed that “in an interdependent and interconnected world, research policy can no longer be carried out on the national level alone; that is the whole point of an ambitious European framework programme for research, which is itself part of a global framework, as is our national policy”. Horizon 2020, with a €79 billion budget earmarked over its 7 years, brings together the European Union’s research and innovation programmes. Its priorities include scientific excellence and building world-class research infrastructure accessible to all researchers. That makes clear that the programme will of necessity address the vital issue of open access.⁶¹ Indeed, as well as providing research funding, Horizon 2020 also stipulates that there must be free access to publications resulting from the research it has helped to finance, with financial penalties

61. European Commission, *Final report of public consultation on Science 2.0/Open Science*.

imposed for non-compliance.⁶² All beneficiaries of Horizon 2020 funds must therefore provide free online access for any user to scientific publications presenting the outcomes of their project. This obligation applies to all peer-reviewed publications relating to results generated by the beneficiary. However, it is not stated anywhere that the researcher must publish his or her results; that decision is taken at the researcher's discretion. The programme thus avoids forcing researchers to make novelty-destroying disclosures that would eradicate any chance of obtaining industrial property rights to protect their research results.

2.2.2 French legislation

§39. Spirit of the Law for a Digital Republic. – In France, the Law for a Digital Republic (LRN), initially proposed by the Secretary of State for Digital Affairs, Axelle LEMAIRE, has made significant progress concerning open access. Promulgated on 7 October 2016, the text is structured around several key strands, including promoting data circulation and knowledge dissemination.⁶³ With these concerns in mind, the legislator has endeavoured to find a “new and fairer balance between the interests of the research world and the publishing sector”⁶⁴ by allowing researchers to publish in open-access publications despite having granted exclusivity to a publisher.

62. Council of the EU, *Council Conclusions of 27 May 2016 on the transition to an open science system*.

63. See the explanatory memorandum to Law No. 2016-1321 of 7 October 2016 for a Digital Republic. Strikingly, during the drafting of the law, the draft text was submitted for public review via an online platform, which made it possible to incorporate input from Internet users.

64. Cf. the impact study accompanying the law.

§40 Obligation to allow researchers to publish in open-access publications. – More specifically, Article 30, LRN, consolidated in Article L. 533-4, Research Code, provides that scientific writings resulting from research activity financed mainly from public funds and published in a periodical that appears at least once a year may be made publicly available online free of charge by their authors, after a maximum period of six months following their first publication, even if the author has granted exclusive rights to his or her scientific work to a publisher. This provision falls under the aegis of public policy and any clause to the contrary shall be deemed invalid. However, to avoid any unreasonable prejudice to the interests of publishers, the article specifies that scientific works published in open-access publications may not be exploited under the aegis of commercial publishing activity.

§41. Analysis. – This provision does not constitute an exception to author’s rights as the researcher may opt not to avail himself of the statutory option available to him and may choose not to allow free access to his publications.⁶⁵ Some authors have proposed assimilating this provision to a “kind of scientific easement on the work”⁶⁶ but examining this point would entail digressing to examine the concept of easement, which does not apply to intangible property. Reconciling free access to scientific publications with the exclusive nature of author’s rights is rather much more about addressing infringement of authors’ and publishers’ contractual freedom. It is probably important to consider that the LRN establishes, echoing the model in the German system,

65. On qualification of exceptions to author’s rights: see Christophe CARON, *Droit d’auteur et droits voisins*, “Manuels” series, LexisNexis, 5th ed., 2017, §300.

66. On easement: cf Michel VIVANT, Jean-Michel BRUGUIÈRE, *Droit d’auteur et droits voisins*, «Précis» series, Dalloz, 4th ed., 2019, §785.

an unassignable secondary exploitation right (“*Zweitverwertungsrecht*”): there are statutory limits concerning the scope of the rights over his publication that a researcher may validly assign to the publisher.

CONCLUSION

§42. – In 2015, after 21 months of negotiation, the AXEL SPRINGER group (Germany’s largest press group, based in Berlin) signed the “Springer Compact” contract with the MAX PLANCK INSTITUTE (an organisation conducting basic research), thus giving researchers access to over 2,000 journal titles, as well as an open-access publication right for their articles in more than 1,600 of the publisher’s journals.⁶⁷ This was a pilot operation for SPRINGER, preparing its transition to a new sustainable model combining open-access publishing and free access to traditional journals. Such agreements, which are difficult to negotiate and remain rare, reveal the tension between the cost of subscriptions, researchers’ needs and the idea that scientific knowledge should be accessible to everyone.

§43. – The scientific community does however agree that the traditional publishing system is running out of steam, with the exception of these rare “pilot projects”. The advent of illegal sites, such as SCI-HUB and LIBGEN, both operating from Russia and offering free access to tens of millions of scientific articles and books, is the most sensitive evidence of this. These sites see themselves as part of the Free Culture movement, promoted by Lawrence LESSIG, the American lawyer behind the Creative Commons licenses.

67. <https://www.mpg.de/9709881/oa-max-planck-society-springer>

Members of this movement advocate in particular the idea that author's rights/copyright should not violate the public's fundamental freedoms. Moreover, they misuse monopolies granted by author's rights by creating so-called free *sui generis* licences to authorize precisely the uses that author's rights prescribe by default.

§44. – In this frantic quest for freedom of access, some activists are violating the legal framework imposed upon them. On March 7, 2019, scientific publishers ELSEVIER and SPRINGER won a case they had brought to court. The Paris Regional Court obliged the main Internet service providers, namely ORANGE, SFR, BOUYGUES TELECOM and FREE, to block access to SCI-HUB and LIBGEN. The judgment states that suppliers must take “all appropriate measures to prevent access from French territory” to these sites for one year. Furthermore, SCI-HUB is not a first-time offender: in 2015, Alexandra ELBAKYAN, founder of the site, was prosecuted and convicted by a federal court in New York for hacking ELSEVIER's content. SCI-HUB was subsequently forced to close down, but rapidly re-appeared under a new domain name. Again in 2017, SCI-HUB and LIBGEN were ordered to pay ELSEVIER \$15 million. Advocates of these platforms point out that publishers take advantage of a very lucrative market by charging researchers to publish as well as charging readers, especially since the research in question is partly funded by public money.