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Owning the Right to Open Up Access to Scientific Publications

Lucie Guibault

6. Owning the Right to Open Up Access to Scientific Publications

by Lucie Guibault, Institute for Information Law, University of Amsterdam

6.1 Introduction

Innovative scientific research plays a crucial role in addressing global challenges, such as healthcare and environmental and security issues, while research in social sciences and the humanities occupies a key function in understanding emerging social phenomena. The speed and depth of scientific research, understood in its broadest sense, depends on fostering collaborative exchanges between different communities and assuring its widest dissemination. This, in turn, is fundamental for the constant evolution of science and human progress. Access to research output not only increases the returns from public investment in this area, but also reinforces open scientific inquiry. It encourages diversity of opinion, promotes new areas of work and enables the exploration of topics not envisioned by the initial investigators. Collaborative exchanges help avoid the unnecessary duplication of research and address some of the global health inequalities. Timely and cost-efficient access to scientific research, therefore, contributes to increasing general economic and social welfare.[1] More than any other kind of research, publicly funded scientific research constitutes an essential building block for further progress and innovation, one that is often seen as a collective good. For this reason, the common assumption is that, for the greater good of science and the public interest, publicly funded research should be made accessible without restriction. This principle of unfettered access also entails the freedom to use and reuse publicly funded scientific research.

In a world where public funding for university research is constantly shrinking and where the price of scientific journals is continuously increasing, providing researchers with the widest access possible to high quality peer-reviewed scientific material at low cost is a very difficult objective to attain indeed.[2] Several reports

1. OECD Principles And Guidelines For Access To Research Data From Public Funding, Paris, OECD, 2007; Communication of the European Commission on scientific information in the digital age: access, dissemination and preservation, COM(2007)56, Brussels, 14.2.2007.

2. Bargheer, M., Bellem, S. & B. Schmidt (2006), 'Kapitel 1: open access und Institutional Repositories – Rechtliche Rahmenbedingungen', in G. Spindler (ed.), *Rechtliche Rahmenbedingun-*

and studies conducted in Europe on scientific and scholarly publishing describe a situation where, under the traditional scientific publishing model, research institutions and university libraries commonly have to pay thrice for the material they produce: first, by offering academics the infrastructure to publish their articles; second, by subscribing to the journal in which their researchers' articles appear; and third, by paying remuneration for the right to reproduce these articles for research purposes or inside a student course pack.[3] The concentration in the publishing industry, which leaves fewer publishers with control over more titles, coupled with a constant journal price increase, has become a fact of life for librarians who must grapple with the problem of subscription cost increases far outpacing their serials budgets and the rate of inflation.[4] In addition to the increase in subscription prices, university libraries are also confronted with an inexorable growth of published knowledge, which in itself would be sufficient to break library budgets and cause access problems.[5]

It is against this background that the principles of Open Access (OA) are rapidly gaining ground among academic institutions and public funding agencies. In view of the major social benefits that are expected to flow from compliance with open access principles in the area of scientific and scholarly publication, several higher education institutions and funding agencies, in and outside the European Union, have expressed a strong commitment to their promotion and application, some even going so far as mandating OA publication of publicly funded research results.[6] The principles of Open Access have been enshrined in three declarations: the Declaration of the Budapest Open Access Initiative (February 2002), the Bethesda Statement on Open Access Publishing (June 2003)[7] and the Berlin Declaration on Open Access to Knowledge in the Sciences and Huma-

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gen von open access-Publikationen, Göttingen: Universitätsverlag Göttingen, Göttinger Schriften zur Internetforschung, Band 2, p. 4.

3. See: Dewatripont, M. et al. (2006), *Study on the Economic and Technical Evolution of Scientific Publication Markets in Europe*, Final Report, Brussels, European Commission, Directorate-General for Research, January 2006; British House of Commons, Science and Technology Committee, *Scientific Publications: Free for All?*, London, The Stationery Office Limited, July 2004.

4. Trosow, S.E. (2003), 'Copyright Protection For Federally Funded Research: Necessary Incentive Or Double Subsidy?', *Cardozo Arts & Ent. L.J,*. 22: 613-681, at p. 613.

5. Hunter, D (2005), 'Walled Gardens', *Washington and Lee Law Review*, 62: 607-640, at p. 615.

6. European Research Council, ERC Scientific Council Guidelines for Open Access, 17 December 2007. Available at: http://erc.europa.eu/pdf/ScC_Guidelines_Open_Access_revised_-Dec07_FINAL.pdf; Ministry of Higher Education and Research, *Open Access in France – A State of the Art Report April 2010*, Paris, 2010. Available at: www.heal-link.gr/SELL/OA_reports/FranceReport.pdf; VSNU, *Wetenschap voor iedereen toegankelijk*, Den Haag, 1 February 2010. Available at: www.vsnu.nl/Media-item/Wetenschap-voor-iedereen-toegankelijk-1.htm.

7. Meeting on Open Access Publishing, Howard Hughes Medical Institute in Chevy Chase, Maryland, 11 April 2003. Available at: www.biomedcentral.com/openaccess/bethesda/.

nities (October 2003).[8] Three essential objectives can be derived from these documents, namely those of free accessibility, further distribution and proper archiving of scientific and scholarly publications.[9] These aims can be achieved either through the creation of new 'open access' business models for scientific publishing, known as the 'Golden Road' or, in their absence, through the establishment of institutional repositories where all scientific and scholarly publications are to remain freely accessible, known as the 'Green Road'.[10] Despite growing attention to the merits of OA, this form of publishing has, so far, remained a marginal phenomenon.[11]

Whether scientific output is made available subject to restrictions or following the OA model, copyright law plays a decisive role in the way it is being disseminated and used by the scientific community. This is because the decision to publish an article and to attach conditions of use largely depends on who owns the copyright on the article, i.e. whether it is the scientific author, the research institute employing him, or the publisher as a result of a transfer of rights. By conferring on the copyright owner the power to decide how the rights are to be licensed and enforced, copyright law can serve either as a tool in the furtherance of the open access principles or as an impediment hereto. This chapter explores the different implications for the distribution of scientific works under an open access model of the initial ownership rules and of a subsequent transfer of rights to the research institution or publisher. In order to get proper insight to the issues at hand, part 2 gives an overview of the copyright rules on ownership in three European jurisdictions, namely the Netherlands, the United Kingdom and France, turning first to the rules on initial ownership, including the rules on employee creation, then to the rules on transfer of rights. The choice of these countries can be explained by the fact that their copyright laws present significant differences concerning the ownership and transfer of rights. Varying rules on initial ownership and subsequent transfers may, in the context of scientific research, lead to opposite results, depending, of course, on how the rights are exercised. Part 3 subsequently describes the open access scientific publishing process, after which it discusses the implications of the rules of ownership on the deployment of the open access model, with particular emphasis on the licensing conditions laid down in the Creative Commons Licenses. Finally, part 4 draws some conclusions

8. The Berlin Declaration was adopted in October 2003 under the auspices of the Max-Planck Society in Germany. Available at: http://oa.mpg.de/openaccess-berlin/berlindeclaration.html

9. Open Society Institute (2005), *Open Access Publishing and Scholarly Societies – A Guide*, New York: OSI, p. 6.

10. Budapest Open Access Initiative. Available at: www.soros.org/openaccess/read.shtml.

11. Björk B-C, Welling P, Laakso M, Majlender P, Hedlund T, et al. (2010), 'Open Access to the Scientific Journal Literature: Situation 2009', PLoS ONE 5(6): e11273. doi:10.1371/journal.pone.0011273.

on the extent to which the rules of copyright ownership are likely to influence the deployment of OA principles in the area of scientific and scholarly publishing.

6.2 Copyright Ownership in Scientific Works

Copyright ownership in a scientific or scholarly work is probably the most important factor that influences the decision of where to publish the article or the book and, subsequently, under which conditions other members of the scientific community and the general public can use it. Who owns the copyright of the work – the author, the research institution or the publisher? At the European level, one of the main areas of copyright law, which has yet to be fully harmonized, relates to the initial ownership of rights. So far, the rules relating to the initial ownership of copyright have been harmonized only with respect to software, databases and cinematographic works. For all other categories of works, the initial ownership of rights is determined by the law of each Member State. In some Member States, the rules may point to the author himself or, in others, to the research institution employing him. Although the author might be designated by law as the owner of the copyright on his work, he may still be required to transfer his rights to a third party: either to the university or research institution under his employment contract, or to the publisher. Just like the rules on initial copyright ownership, however, those relating to authors' contracts have not been subject to overall harmonization within the Community.[12] The European legislator has, until now, refrained from intervening on the issue of transfers of rights and of contractual agreements between authors and publishers, because contractual and civil matters have traditionally fallen under the exclusive competence of the Member States.[13] Member States may, therefore, have adopted certain protective measures to the benefit of authors regarding either the scope of transfer of rights or the formation, execution, and interpretation of contracts concluded with publishers.

6.2.1 Initial Ownership

The days when scientists and scholars worked in isolation of others, at their own cost and with their own equipment, are long gone. Nowadays, and especially in the science, technology and medical (STM) fields of research, the vast majority of scientists conduct research as part of their employment either with enterprises, universities, private or public research institutions or in the context of publicly or

12. Commission of the European Communities, *Communication from the Commission to the Council and the European Parliament on European Contract Law*, Brussels, 11 July 2001, COM(2001) 398 final, Annex 1, p. 38.

13. Hugenholtz, P. B. & L. Guibault with the collaboration of M. Vermunt and M. Berghuis, *Study on the Conditions Applicable to Contracts Relating to Intellectual Property*, report commissioned by the European Commission, ETD/2000/B5-3001/E/69, May 2002, p. 8.

privately financed research programs. In their situation as employees, researchers are capable of carrying out extensive scientific work without worrying about cost or equipment.[14] Whereas in principle, copyright law recognizes the natural person or group of natural persons who have created a work as the owners of the copyright on that work, the laws of some Member States have to cater for the economic interests of employers by conferring upon them the initial ownership of rights on works created by employees in the course of their employment. The question is whether the research carried out by a scientist or scholar in a university is to be qualified in France, the Netherlands and the UK as an employee creation and whether the copyright law in these countries contains provisions to deal with this situation.

In France, the first paragraph of article L. 111-1 of the Intellectual Property Code (IPC) states that 'the author of a work of the mind shall enjoy in that work, by the mere fact of its creation, an exclusive incorporeal property right which shall be enforceable against all persons'. The third paragraph of the same article confirms that:

> the existence or conclusion of a contract for hire or of service by the author of a work of the mind shall in no way derogate from the enjoyment of the right afforded by the first paragraph above, subject to the limitations laid down in this code. Subject to the same limitations, no derogation is made to the enjoyment of this same right, when the author of a work of the mind is an agent of the State, of a local authority, of a public establishment having an administrative character, of an independent administrative authority endowed with a legal personality or of the Bank of France'.[15]

The status of civil servants significantly differs in this respect from that of private sector employees, for this basic provision is now completed by article L131-3-1 IPC which reads as follows: 'To the extent strictly necessary to perform a public service mission, the right to exploit a work created by a public official in performing his duties or following instructions is upon creation, assigned automatically to the state'. Where the State does not engage in the commercial exploitation of the work created by its employees, article L.131-3-1 IPC confers a license of all rights necessary to carry out its normal activities.[16] On the other hand, where the State does engage in the commercial exploitation of the works created by its em-

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14. Von Moltke, B. (1992), *Das Urheberrecht an den Werken der Wissenschaft*, Baden-Baden: Nomos Verlag, UFITA-Schriftenreihe, p. 212.

15. *Code de la propriété intellectuelle*, art. L. 111-1 modified by Act nr. 2006-961 of 1 August 2006, O.J. F.R. 3 August 2006.

16. Cornu, M. (2002), *Les créations intellectuelles des agents publics et fonctionnaires de la recherche, de l'enseignement et de la culture*, CECOJI – CNRS, Programme Numérisation pour l'Enseignement et la

ployees, the State benefits from a right of first refusal.[17] This provision does not apply, however, in the case of scientific research activities carried out in a public establishment having a scientific and technological character or in a public establishment having a scientific, cultural, or professional character, where such research activities are the object of a contract with a private legal entity. In other words, for the commercial exploitation of works resulting from a research contract with a private legal entity, the State has no right of first refusal.

The question is then, whether the scientific personnel of French universities and research institutes fall under the category of agents of the State, in order to trigger the application of this provision. Several elements would lead us to think so, for example the wording of article L. 131-3-1 IPC, as well as the existence of a Decree on common statutory provisions applicable to researchers-teachers and on the specific status of university professors and conference masters,[18] when read in conjunction with article L. 911-1 of the Code of Education.[19]

In 2003, the French Ministry of Higher Education and Research issued a policy document entitled *Intellectual Property Charter* containing recommendations for the adoption of an intellectual property charter in public higher education and research establishments.[20] The charter aims at implementing mechanisms for the framing and encouragement of the dissemination and exploitation of the research results obtained in these establishments, alone or in cooperation with external parties, public or private, and notably with enterprises. The policy regarding the ownership of rights on academic publications such as books, articles, and lectures, or other similar works generated by staff is not very clear. In reference to subject matter protected by literary and artistic property, the charter mentions software and databases as two types of subject matter that can be useful to the research community. The charter then notes that for the specific case of software an institution may choose to distribute it under 'open' conditions, pointing to the General Public License (GPL) as the main way of doing so. Nevertheless, the charter does indicate that the ownership on these works would belong to the

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Recherche, Paris. Available at: www1.msh-paris.fr:8099/html/activduprog/ZeEtudes/Etudes_-Sommaire.asp?id=250

17. Conseil Supérieur de la propriété littéraire et artistique, *Rapport de la commission spécialisée portant sur la création des agents publics*, (prés. A. Lucas) (2001), Avis 2001-1 relatif à la création des agents publics, Paris.

18. *Décret n° 84-431 du 6 juin 1984 fixant les dispositions statutaires communes applicables aux enseignants-chercheurs et portant statut particulier du corps des professeurs des universités et du corps des maitres de conférences, Journal officiel du 8 juin 1984, Version consolidée au 01 septembre 2009*. Available at: www.legifrance.gouv.fr/affichTexte.do?cidTexte=LEGITEXT000006064492.

19. French Code of Education, art. L. 911-1 which reads as follows: 'Subject to the provisions of this Book, the statutory provisions of the Public Service of the State apply to members of the corps of officials of public service education'.

20. *Charte de la propriété intellectuelle par les établissements publics d'enseignement supérieur et de recherche*: Available at: www2.enseignementsup-recherche.gouv.fr/technologie/charte.pdf.

establishment, for it does specify that literary and artistic works enjoy copyright protection as of the moment of their creation and that the research personnel, including doctoral students and any person following a formation, must be made aware of the fact that they are not themselves the owners of the research results, but that these belong to the establishment for which they are working.

In this respect, the *Intellectual Property Charter* provides that in the case of research carried out in cooperation between public and private entities, where part of the costs are born by the research establishment, the principle to follow should be one of ownership by the establishment or, failing this, of co-ownership by the establishment and the industrial partner, accompanied by a negotiated deed of co-ownership. This document was meant to serve as a model for French higher education and research establishments in the development of their own intellectual property policy. A quick survey on the internet reveals that the request of the Ministry was well received and that universities did adopt a policy concerning the dissemination and exploitation of research results. However, most policies remain rather vague with respect to the question of who, between the scientific personnel or the institution, can disseminate and exploit the rights on academic publications generated by staff. [21]

Article 11(2) of the Copyright, Designs and Patents Act 1988 (CDPA) of the UK provides that 'where a literary, dramatic, musical or artistic work is made by an employee in the course of his employment, his employer is the first owner of any copyright in the work subject to any agreement to the contrary'. Nevertheless, the works created by the scientific personnel employed by British universities and research institutes form a special case. According to Cornish, the creative work of employed academics, undertaken in an environment (hopefully) devoid of any commercial interests, would probably give rise in the UK to copyright that initially belongs to the author and not to his institution.[22] This approach essentially derives from one pointed dictum in a case dating back to 1951, in which Lord Evershed indicated, on the subject of lectures, that it would be 'inconceivable' that lectures given by the great legal historian F.W. Maitland could belong to anyone other than himself as far as copyright was concerned, even though he was employed by Cambridge University to deliver the lectures to the students there.[23] In fact, since Lord Evershed's dictum, virtually no case law can be found in the

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21. See e.g. Alliance Paris Universitas, *Charte de la propriété intellectuelle.* Available at: http://apu2.admp6.jussieu.fr/index.php?option=com_content Institut National de la Recherche Agronomique, *Charte de la propriété intellectuelle.* Available at: www.inra.fr/les_partenariats/collaborations_et_partenaires/entreprises/politique/la_charte_de_la_propriete_intellectuelle_en_ligne.

22. Cornish, W. (1992), 'Works Made in Employment: the UK Position', in G.J.H.M. Mom & P. J. Keuchenius (eds.), *Het werkgeversauteursrecht*, Stichting Auteursrechtmanifestaties, Deventer: Kluwer, pp. 29-34, at p. 32.

23. *Stephenson Jordan v. McDonald & Evans*, (1951) 69 R.P. C. 10, at p. 22.

UK that would suggest otherwise. Moreover, a document published by Cambridge University confirms the continued application of this rule:

> [...] in British copyright law in general, there is a presumption that copyright in works made in the course of employment belongs initially to the employer. This is appropriate where what is created contributes to the employer's enterprise. Academic work in a university is based on very different assumptions. At their root lies the freedom to pursue lines of inquiry and to express opinions without fear or favour. In consequence it has been accepted by the Court of Appeal as 'both just and common sense' that university staff should own copyright in their works.[24]

In the same document, the authors explain why, in their opinion, it would inadvisable for a university to claim ownership of the rights on their employees' writings:

> If universities were to take over copyright ownership, they would be duty bound to set up administrative branches to handle the exploitation of the right, and these could only become alarmingly large bureaucracies. It is the current long-standing practice, rather than any legal definition of the 'course' of academic employment,[6] which settles the matter: in academic employment, the member of staff acquires copyright initially in his or her creative work.[25]

Accordingly, the current version of article 4 of the Cambridge University Regulations on intellectual property states that 'University staff are entitled to decide that the results of any research undertaken by them in the course of their employment by the University shall be published or disseminated to other persons to use or disclose as they wish in accordance with normal academic practice'.[26] As article 7 of the same Regulations specifies, the University staff member who creates a work in the course of his employment for the protection of which there is no need for any formal application at the time these regulations are approved, remains the owner of the rights on such a creation, subject to any third party rights to which he may have previously agreed. This applies in particular to copyright and moral rights in literary, dramatic, musical, and artistic works; copyright in software, notwithstanding that there may also be patentable results embodied in

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24. 'Report of the Joint Working Party on Copyright: Notice', *Cambridge University Reporter*, No. 5858, October 2001, § 4.1.1. Available at: www.admin.cam.ac.uk/reporter/2001-02/weekly/5858/20.html.

25. Ibid., § 4.1.2.

26. University of Cambridge, Chapter XIII of the University's Statutes and Ordinances, pages 978 -986. Available at: www.admin.cam.ac.uk/univ/so/pdfs/cso_4_ordinance13_964_993.pdf.

the software; copyright arising from authorship of a database; performers' rights; unregistered design rights; and rights over information (such as trade secrets and confidential know-how).

The Intellectual Property Policy of the University of Oxford is but one additional example taken from the UK. Statute XVI of Oxford University on Property, Contracts and Trusts comes across as being stricter than its Cambridge counterpart. Article 5 sets out that, unless agreed differently between the parties, the University will claim ownership of all intellectual property specified in section 6 of the statute which is devised, made, or created (a) by persons employed by the University in the course of their employment; (b) by student members in the course of or incidentally to their studies; (c) by other persons engaged in study or research in the University who, as a condition of their being granted access to the University's premises or facilities, have agreed in writing that this Part shall apply to them; and (d) by persons engaged by the University under contracts for services during the course of or incidentally to that engagement.

The intellectual property of which ownership is claimed comprises among other things, works created with the aid of university facilities including (by way of example) films, videos, photographs, multimedia works, typographic arrangements, and field and laboratory notebooks. However, the University will not assert any claim to the ownership of copyright in artistic works, books, articles, plays, lyrics, scores or lectures, apart from those specifically commissioned by the University.[27] In short, the author of a scientific or scholarly monograph or article remains the owner of the copyright on that work unless it has been specifically commissioned by the University, where 'commissioned works' are works that the University has specifically employed or requested the person concerned to produce, whether in return for special payment or not. However, except for where separately agreed between the University Press and the person concerned, works commissioned by the University Press in the course of its publishing business shall not be regarded as 'works commissioned by the University'.

In the Netherlands, article 1 of the Dutch Copyright Act grants the author of a literary, scientific or artistic work or his successors in title the exclusive right to communicate that work to the public and to reproduce it, subject to the limitations laid down by law. However, article 7 of the Act provides that 'where labour carried out by an employee consists in the making of certain literary, scientific or

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27. University of Oxford, Statute XVI: Property, Contracts, and Trusts, Statutes and Regulations, art. 5 to 7 (*Sections 16-20 are 'Queen-in-Council' statutes – see section 2 (3) of Statute IV.) Approved with effect from 1 October 2002.*
(Supplement (1) to Gazette *No. 4633, 9 October 2002) Amended with effect from 8 May 2003* (Gazette *Vol. 133, p. 1335, 29 May 2003), 10 June 2008* (Gazette, *Vol. 138, p. 1121, 22 May 2008) and 8 April 2009* (Gazette *Vol. 139, p. 932, 23 April 2009).* Available at: www.admin.ox.ac.uk/statutes/790-121.shtml#_Toc28143157.

artistic works, the employer shall be deemed the author thereof, unless otherwise agreed between the parties'. The application of this provision presupposes the existence of an employment relationship, characterized by the subordinate position of the employee and the payment of a salary. This would include persons employed by the national, provincial or local governments for example, but would, in all likelihood, exclude work carried out by students and apprentices.[28] The element of subordination is essential for the application of article 7 of the Copyright Act, for ,without it, the authors' rights remain with the natural person who created the work.

The ownership of rights on the fruits of the intellectual labour of academics and researchers remains a highly debated issue in the Netherlands.[29] Some have argued that Dutch universities do not own the rights on works created by academics and researchers, because in application of the principle of academic freedom there is no sufficient relationship of subordination between the employer and its employees.[30] Others maintain, relying on the legislative history, that article 7 does not only apply to people bound by a private contract of employment, but also to civil servants and employees of the State, province, local government and other public bodies. As such, professors in the employment of universities also fall within the scope of this provision.[31] In practice, a distinction is usually made between the academic material developed for purposes of teaching or specifically commissioned by the university and the academic material deriving from research activities. The first ones belong to the university, while the second belong to the author.

There has been an ongoing controversy in the legal literature over whether, as a consequence of this rule of ownership, the '*maker*', i.e. the employer or other legal entity, only acquires the economic rights in the work or whether he also acquires the moral rights in the work created by the employee. In the case of works created under employment, it is still unclear whether the moral rights belong *ab initio* to the employer or if they remain with the author. Most commentators seem to fa-

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28. Koelman, K. (2004), 'Brothers in arms: open source en auteursrecht', *Computerrecht* 5: 230-233, at p. 231.

29. Verkade, F. (1998), 'Akademische vrijheid bedreigd?', in P. B. Hugenholtz, J.J.C. Kabel & G.A.I. Schuijt (eds.), *Universiteit en auteursrecht – Wetenschappelijke informatievoorziening in een digitale omgeving*, Amsterdam: Otto Cramwinckel Uitgever, pp. 73-82.

30. Quaedvlieg, A. (2005), 'Aspecten van intellectuele eigendom', in C.J. Loonstra & W.A. Zondag (eds.), *Sdu Commentaar Arbeidsrecht*, Den Haag: Sdu Uitgevers, p. 1361; Schuijt, G., 'Nogmaals artikel 7 Auteurswet en de wetenschappelijke werknemers', Informatierecht/AMI 1999/7, pp. 101-109.

31. Mossink, W. (1998), 'Suggesties voor universitair beleid voor auteursrechten op wetenschappelijke publicaties', in P. B. Hugenholtz, J.J.C. Kabel & G.A.I. Schuijt (eds.), *Universiteit en auteursrecht – Wetenschappelijke informatievoorziening in een digitale omgeving*, Amsterdam: Otto Cramwinckel Uitgever, pp. 83-92, p. 85, citing the Explanatory Memorandum of the Proposal for an Act on Copyright, Parliamentary Debates, 1911/12, 227, No. 5, p. 13.

vour the first option.[32] On the other hand, it has been argued that a legal person is not in a position to exercise moral rights, since these rights are attached to the personality of a physical author.[33] At this point, only a decision of the Dutch Supreme Court could settle the issue definitely. To resolve this persisting uncertainty, article 1.22.1 of the Collective Labour Agreement of Dutch universities provides that the employee shall transfer the rights on his works to the employer in whole or in part if so requested, in order to enable it to make use of them in the context of fulfilling its statutory duties within a term to be established later.[34] The duties and responsibilities of universities are defined in article 1.3 (1) of the Act on Higher Education and Scientific Research (WHW): to provide university education, to conduct scientific research, and to pass on knowledge for the benefit of society.

Remarkably, while the legislation in the Netherlands and the UK might appear unambiguous, the relevant customs and practices indicate otherwise. As the authors of the JISC/SURF Foundation report on Institutional Copyright Policies point out, a 'policy on intellectual property ownership has implications for managing copyright in universities with respect to scholarly works'. Only few institutions have a set of detailed policies on copyright and its management.[35]

Although the French Code does not provide for a strict employee creation rule, French scientists and scholars would seem to find themselves in a similar position to that of their Dutch and British colleagues: the automatic assignment operated under the French Code of all rights necessary to allow the French research institution to carry out its normal activities is, to some extent, equivalent to the employee creation rule recognized under Dutch and British law, where the employer is deemed the initial owner of the copyright. When comparing the collective bargaining agreements concluded in the Netherlands and the UK between the scientific personnel and the universities with the French Intellectual Property Charter, university staff in the first two countries would seem to enjoy more free-

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32. Spoor, J.H., Verkade, F.W. & D.J.G. Visser (2004), *Auteursrecht*, 3rd ed., Deventer: Kluwer, p. 361.

33. Van Lingen, N. (2005), *Auteursrecht in hoofdlijnen*, 5e druk, Groningen: Martinus Nijhoff, p. 115. See also: Court of Appeal of The Hague, 14 October 1987, (*Rooijakkers/Rijkuniversiteit Leiden*), *IER* 1988, 28 (where the University is the initial owner of the rights under art. 7 DCA but where the issue of moral rights remain unclear); District Court of Utrecht, 24 December 2008, (*Berenschot Groep BV*), LJN: BG9124 (where the Court recognized a contractual obligation of the employer to name the employee as author).

34. Association of Cooperating Dutch Universities, Collective Labour Agreement (Cao) of Dutch Universities, 1 September 2007 To 1 March 2010, The Hague, VSNU, 2008. Available at: www.vsnu.nl/web/file?uuid=e8f892ff-48a3-4937-88ef-3d707bb16063&owner=30689d27-c794-4a77-a4b1-992689098 79a&contentid=102.

35. JISC and SURF Foundation, *Report on Institutional Copyright Policies in the Netherlands & UK*, Utrecht, SURF Foundation, 2006. Available at: www.surffoundation.nl/Auteursrechten/nl/landschap/relaties/auteurinstelling/ Documents/.

dom than their French counterparts, in that they can exercise the rights on their research results. The automatic transfer of rights effectuated through article L. 131-33-1 IPC, coupled with a vague university policy, might put the researcher employed by a French university or research institution in a slightly less favourable position than that of a freelance researcher, who at least can benefit from the protective measures in the IPC on transfers of rights.

In summary, although the laws of the UK, France and the Netherlands might designate the university as the initial owner of the copyright on works created by scientists or scholars in the course of their employment, in practice, the individual scientist or scholar would seem to enjoy a good degree of freedom in the exercise of the copyright on his work, especially in view of the rather vague university policies existing on the subject. In most cases, therefore, whether to publish his research results under open access terms or not will be the author's own decision.

6.2.2 Transfer of Rights

Even where the scientific author is legally considered to be the owner of the copyright on his work, he is often required, in practice, to transfer his rights to a publisher. Scientists and scholars traditionally enter into agreements for the publication of their work hoping to ensure its quality, accuracy, integrity, and broad distribution. The choice of a journal or publisher is most often dictated by concerns of reputation, peer-review process and impact ranking. Scientists and scholars will hardly ever choose a journal purely on the basis of the copyright ownership and open or closed conditions of dissemination. Nevertheless, the relationship between scientific authors and publishers are traditionally governed by individual contracts, in which the transfer of rights in favour of the publisher constitutes a key provision. In practice, publishers have the tendency to demand broad transfers of rights from authors, arguing that these give them the legal certainty necessary to make the required investment for the production and distribution of protected works.[36]

In the scientific and scholarly publishing sector, it is common practice for publishers to require that scientists sign individual agreements granting them a full transfer of rights. Access restrictions and publication agreements may prohibit faculty members from distributing their own work even to students and colleagues. Authors might even be restricted from reusing figures and tables from their own articles. Clauses such as the following are common occurrences in the scientific publishing world:

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36. See Hugenholtz, P. B. & L. Guibault (2004), *Auteurscontractenrecht: naar een wettelijke regeling?*, research report commissioned by the Ministry of Justice of the Netherlands (WODC). Available at: www.ivir.nl/publicaties/overig/auteurscontractenrecht.pdf.

> I hereby assign to the Publisher the copyright in the manuscript identified above (government authors not electing to transfer agree to assign an exclusive publishing and distribution licence) and any supplemental tables, illustrations or other information submitted therewith that are intended for publication as part of the manuscript (the "Article") in all forms and media (whether now known or hereafter developed), throughout the world, in all languages, for the full term of copyright, effective when and if the article is accepted for publication. This transfer includes the right to provide the Article in electronic and online forms and systems.[37]

The rights typically retained by the author might include the following:
- the right to use the Preprint or Accepted Author Manuscript for Personal Use, Internal Institutional Use and for Permitted Scholarly Posting; and
- the right to use the Published Journal Article for Personal Use and Internal Institutional Use.

However, in each case as noted in the definitions, these rights exclude commercial use or systematic distribution, absent an agreement with the Publisher.

The rights retained by the author are influenced by the characteristics of the scientific or scholarly publishing process, which tends to differ widely depending on the field of science concerned. In the production of scientific publications an important feature of publishing is the peer-review process, in which authors submit their manuscripts to an editorial board, which then sends the paper out to a panel of peers in the field who assess the paper's quality and methods. If they are satisfied, the paper will be published. The three publishing phases of an article consist of the pre-print, the post-print and the definitive version. A 'pre-print' of an article is to be understood as the work before it has been peer-reviewed, edited or prepared for publication by a publisher. A 'post-print' of an article is the version in the form accepted for publication in which the author has incorporated into the text the outcome of the peer review. The 'definitive version' of the article is the publisher's version, which includes further editorial refinement and preparations made by the publisher for producing the version for publication. In some cases the definitive version only differs from the 'post-print' in terms of the publisher's typographical layout and style. Scientific and scholarly publishers may authorize the making available of a 'pre-print' of the article through an institutional repository or the website of the scientific author. Often, publishers will only authorize the making available of an abstract of the paper and will demand the

37. Elsevier Journal Publishing Agreement. Available at: www.elsevier.com/framework_authors/pdfs/JPA_example.pdf.

removal of any previous version of the article from the author's homepage or other website.

In matters concerning the publication of scientific or scholarly articles, there is rarely any room for negotiation with respect to the terms of the contract. Generally, authors are confronted – as a pre-condition to the publication of their article – with the publisher's standard form agreement, according to which the author grants the latter a transfer of the rights on his work.[38] Scientific authors who refuse to sign the standard form contract effectively renounce seeing their article published in the possibly very prestigious journal concerned. Moreover, not only is the scientific publishing sector characterized by a high degree of market concentration, but, because of scientific reasons or considerations of prestige, authors often have the choice of only one or two journals for the publication of their article. As a result, the practice of presenting terms on a 'take-it-or-leave-it' basis is, inevitably, widespread.[39]

Such a broad transfer of rights as the one reproduced above may not even be valid according to the laws of some European Member States. In France, for example, authors benefit from some protection under the law against overbroad transfers of rights. Article L. 131-3(1) IPC states that the contract must enumerate each form of exploitation transferred and that the field of exploitation must be defined as to 'its scope and purpose as well as to place and duration'. This provision has been declared mandatory by the Courts on a number of occasions.[40] The sanction attached to the failure to fulfil these requirements is the relative nullity of the contract, which is deemed to be better suited to protect the interests of the author than the sanction of absolute nullity.[41] Moreover, article L. 131-6 of the IPC allows the transfer of 'the right to exploit a work in a form that is unforeseeable and not foreseen on the date of the contract', provided that two conditions are

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38. See e.g. the procedure followed by Elsevier for the publication of scientific articles. Available at: www.elsevier.com/wps/find/authorsview.authors/copyright#why. Elsevier defends the broad transfer of rights (for all media, including electronic use) laid down in the *Copyright Transfer Form* with the argument that it 'believes that by obtaining the exclusive distribution right it will always be clear to researchers that, when they access an Elsevier site to review a paper, they are reading a final version of the paper which has been edited, peer-reviewed, and accepted for publication in an appropriate journal'. This argument is difficult to reconcile with the fact that Elsevier grants the author 'the right to post a pre-print version of the article on Internet web sites including electronic pre-print servers, and to retain indefinitely such version on such servers or sites'. See also Hugenholtz, (2000), 'Auteur met Kluwer', NJB, p. 1105.

39. Hugenholtz, P. B. & L. Guibault (2004), *Auteurscontractenrecht: naar een wettelijke regeling?*, Ministry of Justice of The Netherlands, Center of Scientific Research and Documentation (WODC), p. 20.

40. Cour d'appel de Paris (4ème Ch.) - 1er juillet 1998 (*Editions Cercle d'Art c. Pierrel, et Ruiz-Picasso*), *RIDA* 1999/179, p. 390.

41. Hugenholtz, P. B. & L. Guibault with the collaboration of M. Vermunt and M. Berghuis (2002), *Study on the Conditions Applicable to Contracts Relating to Intellectual Property*, report commissioned by the European Commission, ETD/2000/B5-3001/E/69, p. 67 et seq.

met: first, the transfer must be explicit and second, the contract must provide 'participation correlated to the profits from exploitation'. French courts have ruled in a number of decisions that a contract pertaining to the transfer of rights with respect to 'unknown forms of exploitation', such as electronic rights, are null if they are not sufficiently explicit and if they do not provide for a proportional remuneration.[42] Whether a clause such as the one found in the Elsevier publishing agreement could be upheld under French law is, therefore, highly uncertain.[43]

By contrast, courts in the UK and the Netherlands would probably uphold the validity of such a clause. The British CDPA contains no provision restricting the transfer of rights in relation to scope, time or geographical territory. Thus, the parties are free to determine the scope of the transfer. In the Netherlands, article 2 of the Copyright Act merely states that 'the assignment shall comprise only such rights as are recorded in the deed or necessarily derive from the nature or purpose of the title'. Opinions are divided in the legal literature as to whether copyright can be assigned in its entirety and therefore cover rights in future forms of exploitation, but in all likelihood, a contract clause like the one quoted above would be held valid and enforceable in the Netherlands.

6.3 Open Access Publishing

The term 'open access' was first formally defined at a meeting in Budapest in early December 2001. Out of that meeting came the so-called Budapest open access Initiative[44] and 'open access' was defined as the:

> free availability of scientific literature 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 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.

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42. See: *Plurimédia*, Regional Court Strasbourg, 3 February 1998, *Légipresse* 149-I, p. 19 and 149-III, p. 22; *Le Progrès*, Tribunal de grand instance Lyon, 21 July 1999, *Légipresse* 166-I, p. 132 and 166-III, p. 156; and Court of Appeal of Lyon, 9 December 1999, *Légipresse* 168-I, p. 9 and 168-III, p. 7.

43. The issue of the validity under French law of a choice of law clause, pointing to US law inside the contract, is beyond the scope of this chapter.

44. Available at: www.soros.org/openaccess/oajguides/business_converting.pdf (23.08.2010).

To reduce the role of copyright to the mere protection of the author's moral rights of paternity and integrity would be to ignore a large part of the author's reality, however. The ownership of the economic rights on the work has a definite impact on the choice of the journal in which an article is to appear, whether it is OA or traditional and, in the latter case, whether a copy of the article can be deposited in an institutional repository.

As shown in the previous section, although the author is theoretically in a position to decide which journal he will submit his article to, the fact is that concerns of reputation, peer-review and impact ranking most often determine where he will publish. This, in turn, puts publishers in a very strong position to dictate the terms and conditions under which a work will be disseminated. Publishers who adhere to the OA principles are still few and far between; and the market for scientific and scholarly publishing is still dominated by profit making goals. In the following pages, I give a brief overview of the OA principles in the field of academic publishing, examining the 'golden' and 'green' roads of OA publishing. I then consider how copyright ownership influences the 'road' followed for the dissemination of the research results.

6.3.1 The Principles of Open Access

According to the Berlin Declaration on Open Access to Knowledge in the Science and Humanities, in order to qualify as an open access contribution, a scientific or scholarly article must satisfy the following two conditions:

1. First, the author and rights holder of the contribution must grant to all users a free, irrevocable, worldwide right of access to and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship, as well as the right to make small numbers of printed copies for their personal use.
2. Second, a complete version of the work and all supplemental materials must be deposited in an appropriate standard electronic format in at least one online repository using suitable technical standards that is supported and maintained by an academic institution, scholarly society, government agency, or other well-established organization that seeks to enable open access, unrestricted distribution, interoperability, and long-term archiving. In order to achieve this, researchers should deposit a copy of all their published articles in an open access repository and publish their research articles in open access journals where a suitable journal exists.

According to the Berlin Declaration, 'open access contributions' encompass all types of scientific or scholarly output, including original scientific research results, raw data and metadata, source materials, digital representations of pictorial and graphical materials and scholarly multimedia material. For the purposes of

this paper, 'open access contribution' includes any original document created in the course of research activities and giving rise to copyright protection and excludes any document created for teaching purposes, such as lectures, slide presentations, readers, etc. According to Velterop, open access is only real open access if:

> 1. The article is universally and freely accessible, at no cost to the reader, via the internet or otherwise, without embargo.
>
> 2. The author or copyright owner irrevocably grants to any third party, in advance and in perpetuity, the right to use, copy, or disseminate the article, provided that correct citation details are given.
>
> 3. The article is deposited, immediately, in full and in a suitable electronic form, in at least one widely and internationally recognized open access repository committed to open access and long-term preservation for posterity.[45]

As explained below, these principles can be transposed into reality following two complementary ways: the 'Golden road' and the 'Green road' of open access publishing.

6.3.1.1 The Golden Road

As the Berlin Recommendation of 2003 communicates, the 'Golden road' is the preferred way for the full deployment of the OA principles. This Recommendation states that 'in order to implement the Berlin Declaration institutions should: implement a policy to require their researchers to deposit a copy of all their published articles in an open access repository; and encourage their researchers to publish their research articles in open access journals where a suitable journal exists and provide the support to enable that to happen'.[46] Contrary to the traditional publishing model, which operates predominantly following the 'subscriber-pays' model, OA publishers are experiencing with the 'author-pays' model. Traditionally, authors submit articles to journals, usually free of charge, although sometimes the author is required to pay page charges or supplements for colour figures. The publishers then send the articles out for peer review. Those articles that are deemed to be of a sufficiently high standard are edited and published. The journal is then sold to readers, usually by means of a subscription. Commercial, learned and professional society and academic publishers all currently use

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45. Velterop, J. (2005), *Open Access Publishing and Scholarly Societies – A Guide*, New York, Open Society Institute, p. 6.

46. 'Recommendation in order to move forward', adopted by the delegates of the 'Berlin 3 open access' conference (Feb 28th - Mar 1st, 2005, University of Southampton, UK).

this model, although some of them are also experimenting with the 'author-pays' model.

The 'author-pays' model is an emerging publishing model. Authors or, more usually, their research funders pay to publish their article in a journal. The publishers send the articles out for peer review. Those articles that are deemed to be of a sufficiently high standard are edited and published. The journal is disseminated free of charge, primarily via the internet, although sometimes in paper form too. In some cases, the author or funder pays a submission fee in advance of the publication fee, in order to cover the administrative costs of processing his article, whether or not it is accepted for publication.[47] Together with supplemental materials and the open access licensing conditions, the complete version of the work will be made accessible in at least one electronic online archive. Such an archive can be maintained by academic institutions and federal or private organizations that subscribe to the principles of open access to and long-term archiving of publication material.

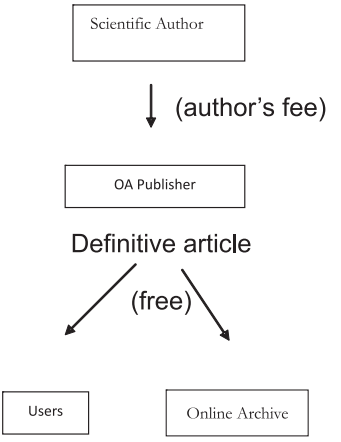

Figure 1: The 'Golden Road' of OA publishing

Among the more successful OA journal databases are the *Public Library of Science* (PLOS),[48] Biomed Central[49] and the open access alternative offered by Springer Open Choice Publishing.[50] Most OA journals are published in the fields of

47. British House of Commons, Science and Technology Committee, *Scientific Publications: Free for All?*, London: The Stationery Office Limited, July 2004.
48. See www.plos.org/about/openaccess.html.
49. See www.biomedcentral.com/info/about/copyright.
50. See www.springer.com/sgw/cda/frontpage/0,11855,5-40359-12-161193-0,00.html.

science, technology and medicine (STM). In the field of Humanities and Social Sciences (HSS), OA journals are slowly emerging in different academic sectors. One promising initiative is the European Commission funded project of Open Access Publishing in European Networks (OAPEN), for the OA publishing of monographs from the humanities and social sciences. The consortium of university-based academic publishers who make up OAPEN believe that the time is ripe to bring the successes of scientific OA publishing to the humanities and social sciences. The project aims to achieve a sustainable European approach to improve the quantity, visibility and usability of high-quality OA content. It will foster the creation of new content by developing future-oriented publishing solutions, including an online library dedicated to HSS. In order to expand the content of the online library and achieve critical mass, OAPEN will also aggregate content from other publishers in HSS.[51] To increase the accessibility and reusability of OA journals for the academic community, databases have been set up listing the OA journals themselves, together with the publisher's copyright policy.[52]

For publishers, the Golden Road of OA publishing is not an easy road to wander along, however: the success and long-term sustainability of an OA journal depends not only on the financial soundness of the business model on which it is based (following either the 'author's pay' model or another model), but also on aspects such as the reputation and the impact factor of each journal.[53] The expertise of the editorial board and the quality of the peer-review process play an equal, if not greater, role in an author's choice of the journal in which to publish than the amount of money the publisher asks to cover the author's fee. Besides quality and price, other factors, such as author awareness of OA as an option for publication and library cataloguing, can also influence whether the Golden Road of OA publishing will maintain its steady expansion in the market of academic publishing. For academic authors, the main difficulty in following the Golden Road lies in the price to be paid to cover the author's fee: if the grant money or any other source of financial support is insufficient to cover the fee, OA publishing is no longer an option for the author. This is why, in an effort to promote OA, a number of European funding agencies and scholarly societies are now committing funds to be used for the OA publication of research results.[54]

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51. See www.oapen.org/about_OAPEN.asp.

52. See Directory of Open Access Journal. Available at: www.doaj.org/; http://www.sherpa.ac.uk/.

53. See Craig, I. D., Plume, A. M., McVeigh, M. E., Pringle, J. & M. Amin (2007), 'Do open access articles have greater citation impact?: A critical review of the literature', *Journal of Informetrics*, 1(3): 239-248; and http://oad.simmons.edu/oadwiki/OA_journal_business_models.

54. See: European Research Council, ERC Scientific Council Guidelines for Open Access, 17 December 2007. Available at: http://erc.europa.eu/pdf/ScC_Guidelines_Open_Access_revised_-Dec07_FINAL.pdf; Ministry of higher Education and Research (2010), *Open Access in France – A State of the Art Report April 2010*, Paris. Available at: www.heal-link.gr/SELL/OA_reports/FranceRe-

6.3.1.2 The Green Road

The 'Green Road' of open access is an alternative, albeit indirect, route that produces a comparable end result to that achieved when publishers follow the 'Golden Road'. The 'Green Road' actually centres on self-archiving, where authors provide open access to their own published articles by making their own e-prints free for all. OA self-archiving is *not* self-publishing; nor is it about online publishing without quality control (peer-review); nor is it intended for writings for which the author wishes to be paid, such as handbooks or magazine articles. Open access self-archiving is for peer-reviewed research, written solely for research impact, rather than royalty revenue.

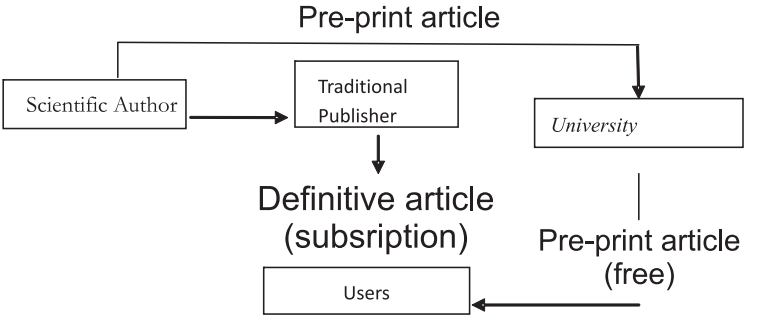

Figure 2: The 'Green Road' of OA publishing

An article published according to the 'Green Road', therefore, goes through all the steps of the traditional publishing process. The only difference is that a version of the article is deposited in the institutional repository. This version is available to the public free of charge. As Guédon points out, 'green' refers to publishers that allow some form of article 'self-archiving'. At times shades of green have been carefully distinguished: pale green limits 'self-archiving' to pre-prints only; dotted, or some form of mitigated green limits 'self-archiving' to post-prints; and solid green is reserved for publishers allowing both pre-print and post-print 'self-archiving'. Publishers that allow no form of 'self-archiving' are often described as grey publishers.[55]

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port.pdf; VSNU, *Wetenschap voor iedereen toegankelijk*, Den Haag, 1 February 2010. Available at: www.vsnu.nl/Media-item/Wetenschap-voor-iedereen-toegankelijk-1.htm.

55. Guédon, J.-C (2004), 'The "Green" and "Gold" Roads to Open Access: The Case for Mixing and Matching', *Serials Review* 30(4): 315-328. Available at: http://dx.doi.org/10.1016/j.serrev.2004.09.005; Guédon, J.-C. (2008), 'Mixing and Matching the Green and Gold Roads to Open Access – Take 2', *Serials Review*, 34(1): 41-51.

Compared to the Golden Road, the Green Road is, in my opinion, a necessary but second best solution for OA. Until all scientific and scholarly publications can be published in full OA, the Green Road offers at least free access to a version of the publications. There are, however, significant drawbacks to the Green Road: first, the publications deposited in the repository are rarely the definitive version of the articles as published in the journals or, if they are, their inclusion in the repository only occurs at the expiration of an embargo period, which varies from six to 18 months after publication. As a result, the repository contains works of all shades of green and grey, some of which (the pre-prints) are not peer-reviewed and cannot be cited accordingly. Second, the Green Road entails little or no monetary savings for the institutions: university libraries cannot give up their subscriptions to scientific and scholarly journals just because the researchers employed by their institution deposit their own articles in the repository. To do so would lead within the shortest time to highly incomplete collections in the university libraries. Third, publications deposited in institutional repositories are not very easy to find, even with the aid of a search engine.[56] When an article can be found, the conditions of use are not made clear. The only real expectation that the user can entertain is that the article will be accessible free of charge. In most cases, the user will be allowed to make a reproduction for private or educational purposes, based on the copyright legislation in his jurisdiction, rather than on explicit terms of use.

6.3.1.3 The conditions of use

The Green Road may well meet the three minimum OA requirements, namely free access, possibility to reuse and permanent archiving, but publishing an article along the Golden Road ensures a better access, reuse possibilities, visibility and 'findability' of research output on the internet. One important element that contributes to accentuating the difference in accessibility and ease of reuse between the two OA roads is the use of licensing conditions for the dissemination of scientific and scholarly publications. Only exceptionally will an institutional repository indicate, with the text of a license, under what conditions the articles, theses, and monographs put in the repository can be reused by third-parties.[57] This should

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56. A database of Open Access Repositories exists under the name OpenDOAR (www.opendoar.org/), but the individual articles deposited in these repositories can rarely be found directly through a Google search.

57. According to the 'Recorded Metadata Re-Use Policies – Worldwide' posted on OpenDOAR. Available at: www.opendoar.org/onechart.php?cID=&ctID=&rtID=&clID=&lID=&potID=2&rSoftWareName=&search=&groupby=pog.pogHeading&orderby=pog.pogID&charttype=pie&width=600&height=300&caption=Recorded%20Metadata%20Re-use%20Policies%20-%20Worldwide. 87% of the repositories worldwide have either 'unknown', 'unstated' or 'undefined' reuse policy. For the Netherlands only, out of the 48 repositories surveyed, 96% of them had either an 'unstated' or 'undefined' reuse policy.

not necessarily come as a surprise: since the collections of these repositories are composed of publications of all shades of green and grey, this means that the copyright was either assigned in full or licensed on an exclusive basis to the publishers and that the institutions involved (mostly university libraries) are not in a position to attach any terms of use to such material. By contrast, authors and publishers who choose to publish their articles and monographs directly as OA take care to attach the proper conditions of use on each work.

The Creative Commons (CC) licensing system is the most widely used set of licenses because it offers a series of easy to use, standardized and automated licenses that authors can affix to their work in order to indicate under which conditions it may be used.[58] Thanks to these licenses, it is no longer necessary for users to contact the rights holder prior to every use of the work to find out what can or cannot be done with the work. The work is, therefore, made available to everyone in accordance with the conditions of the chosen CC license. Besides the four core stipulations (Attribution, Non-Commercial, No-Derivatives and Share Alike), a number of fundamental principles lie at the basis of each CC license. Taking into account the conditions of the chosen license, the licensor grants the user a worldwide, non-exclusive, perpetual (for the duration of the applicable copyright) license to reproduce, display, perform, communicate and distribute copies of the work. All rights may be exercised in all media and formats whether now known or subsequently devised. The above rights include the right to make such modifications as are technically necessary to exercise the rights in other media and formats. In principle, all rights not expressly granted by the licensor are reserved. All CC licenses are irrevocable. This means that the moment the work is distributed under CC a license on the internet, the author can no longer change his mind or withdraw the license. In addition, the user is required to add a copy of, or the uniform Resource Identifier for, the applicable CC license to each copy of the work that he distributes, communicates or makes available to the public.[59]

It is also important to note that, in principle, the CC license system makes no distinction between digital and analogous works, nor between several types copyright relevant acts, such as the act of reproduction or communication to the public. Article 2 of each CC license provides that nothing in the license is intended to reduce, limit or restrict any uses free from copyright or rights arising from limitations or exceptions that are provided for in connection with the copyright protection under copyright law or other applicable laws. Moreover, the licensor may not

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58. The Digital Peer Publishing Licence (DPPL) was developed by a German group of scholars (see www.dipp. nrw.de), but in comparison to the Creative Commons Licenses, this one is hardly used. The same remark is true for the GNU Free Documentation License.

59. See the text of the Creative Commons Attribution 3.0 Unported License at: http://creativecommons.org/licenses/by/3.0/legalcode.

apply any effective technological measures to the work that restrict the ability of a recipient of the work to exercise the rights granted under the terms of the license.

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Like the articles posted on the PloS website, all articles published in BioMed Central database are distributed under a CC-Attribution license. BioMed's summary of the agreement states that 'anyone is free: to copy, distribute, and display the work, to make derivative works, to make commercial use of the work, under the following conditions: the original author must be given credit for any reuse or distribution; it must be made clear to others what the license terms of this work are'. In fact, a joint Creative Commons Nederland/SURFdirect report recommended the use of the CC-Attribution 3.0 License above all other licences or other combinations of CC licences.[60] The authors of the report explain their preference by saying that this license is the most attuned with international standards, as well as with the principles of OA, and that it puts the least obstacles on the further reuse of research results, while still requiring that proper attribution be given to the author and that derivative works be identified as such.[61]

6.3.2 Copyright Ownership and Open Access

Copyright ownership does play a determining role in the choice between the Golden, Green or Grey Roads to scientific or scholarly publishing. As demonstrated below, the scientific author, the research institute employing him, and the academic publisher often have drastically divergent opinions on issues as funda-

60. Keller, P. & W. Mossink (2009), 'Hergebruik van materiaal in onderwijs- en onderzoekomgevingen', Utrecht/ Amsterdam: Creative Commons Nederland and SURFdirect, p. 31. Available at: www.creativecommons.nl/downloads/090323SURFCC_Hergebruik_van_materiaal.pdf.

61. Article 3(b) of the license reads as follows: 'Subject to the terms and conditions of this License, Licensor hereby grants You a worldwide, royalty-free, non-exclusive, perpetual (for the duration of the applicable copyright) license to exercise the rights in the Work as stated below: b. to create and Reproduce Adaptations provided that any such Adaptation, including any translation in any medium, takes reasonable steps to clearly label, demarcate or otherwise identify that changes were made to the original Work. For example, a translation could be marked "The original work was translated from English to Spanish," or a modification could indicate "The original work has been modified."'

mental as the choice of the journal in which an article should appear, which version of the article should be deposited in the institutional repository, the extent to which an article may be further reproduced and distributed, and whether the making of derivative works should be authorized.

6.3.2.1 The scientific author

Section 2 above revealed that authors normally own the copyright in the usual academic forms of publication, including books, articles, and lectures, or other similar works, unless those works have been commissioned by a sponsor or by the university. In that case, the latter are the only ones entitled to decide if, when and where their scientific results will be published and under what conditions. Several factors can influence the decision of whether to publish under an open access model or through a traditional publisher. Among the reasons advanced to explain the limited number of articles published in OA journals is the lack of awareness among authors of which journals publish under OA conditions, as well as concerns regarding journal quality, which tend to take a higher priority in decision-making than the availability of OA.[62] Generally, authors look to journals primarily as a means of facilitating the dissemination of their work to as wide a community of their peers as possible, where it will be discussed, assessed and built upon. Publication also builds the reputation of both the author and his work within the academic community, with the system of peer review and impact factors contributing to this. Publication has the potential to enhance the reputation of the author, support applications for research funding and aid promotion prospects. Speed of publication is important, since it establishes who holds priority over the findings.[63] Being the first to publish in a field can be vital for building reputations of excellence and for attracting future funding.

Thus, authors will look for the publisher and the format in which all these considerations will be taken into account. An additional complicating factor is the fact that one article may have multiple authors who may not always see eye-to-eye on some of these issues. When authors do choose the Golden Road of OA publishing, the next step is to determine under which conditions of use the publication is to be disseminated. In some cases, think of PloS or BioMedCentral, the choice of the CC license is already made by the OA journal publisher. Other times, the author himself can decide whether he authorizes users to make a commercial use of his work or to make derivate works and whether such derivative works are to be disseminated under the same license terms or not. In the case of derivative works, some scientists and scholars may frown upon seeing their work incorpo-

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62. Schroter, S., Tite, L. & R. Smith, (2005) 'Perceptions of open access publishing: interviews with journal authors', *British Medical Journal*, 330:756 (2 April).

63. SQW Ltd., *Economic analysis of scientific research publishing – A report commissioned by the Wellcome Trust*, (2003) Cambridgeshire (UK): The Wellcome Trust p. 1.

rated and transformed into another work, while others would only applaud the idea, stating that 'those who collect the initial data see it being used in ways they had never dreamed of. The other users are able to do research that would have been impossible without publication of the data'. The community of scientific authors is not homogenous. The preferred conditions of reuse may vary from one scientist to another or least from one field to another. It may depend on the individual position of each scientist as much as it may depend on the customs of each sector. Some authors may choose a CC Attribution-NonCommercial-NoDerivatives combination with a view to preserving their reputation and the integrity of their work. On the other hand, being users of scientific publications themselves, a vast majority of authors may favour a more liberal combination of terms in the form of a CC Attribution license.

If publishing directly in an OA journal is not an option, then authors should at least follow the Green Road of OA publishing. This also means that in their contractual relations with publishers, authors should retain at least the rights necessary to self-archive a version of their article. Ideally, authors should also retain all other rights necessary for various scholarly purposes so that neither they nor their university needs to obtain permission from the publisher to use the articles in educational and research activities. To help authors guard themselves against overbroad transfers of rights to publishers, JISC in the UK and the SURF Foundation in the Netherlands have elaborated a model contract to be used when dealing with publishers. This contract does not operate a transfer of rights, but rather stipulates that the author grants to the publisher the sole license to exploit the rights enumerated in article 2.2 of the contract. More importantly, however, article 3 lists the rights that the author reserves to himself. This means that, in particular, he can exercise the following rights:

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Some of the rights reserved to the author under this agreement are no different from the exceptions on copyright provided for in the legislation of quite a number of countries. Nevertheless, since the agreement is to be governed by and construed in accordance with the country of residence of the author, it is indeed a safer approach to expressly stipulate them in the contract to avoid the risk that these acts are not covered by an exception in the country of residence of the author. This model contract is available in eight European languages for ease of use by authors working in European research institutions. The degree of use of this model license in contractual relations between authors and their publishers is unknown. It is safe to assume, however, that commercial scientific publishers will not be as generous to the author and his institution as this contract proposes and that only more idealist publishers will be willing to go along with this agreement.

6.3.2.2 The research institution

The main rationale behind the acquisition of the rights on their scientific or scholarly employees lies in the universities' wish to increase access to and use of ma-

64. See: SURF Foundation/JISC, 'License to publish'. Available at: http://copyrighttoolbox.surf.nl/copyrighttoolbox/authors/licence/.

terial produced in-house, while cutting costs for the production and dissemination of such material. Research institutions are negatively affected by the fact that, following traditional publishing practice, publishers insist that authors assign them exclusive rights of exploitation. Once they own the rights on the publication, they allow little or no exception for use of material in the teaching or other activities in higher education institutions, in general, or even in authors' own institutions.[65] Institutional repositories – or the 'Green Road' – are thought to be the solution to help improve access to journals. A more radical solution may be required in the long term, however, which may end-up following the 'Golden Road'.

So far, research institutions in the Netherlands, the UK and France do not appear to have been exercising the rights that they own pursuant to the corresponding copyright act, leaving the decision of where and how to publish to the sole competence of the author. To promote the Green Road to OA publishing, the idea was put forward to develop a university policy stating that researchers should grant the university a non-exclusive right to make their scholarly articles available on open access terms for non-commercial use. This system, implemented by, among others, Harvard University, allows anyone to view, download and use these articles, as long as they do not sell them. An opt-out provision allows university researchers to withhold these rights on a paper-by-paper basis.[66] The grant of a non-exclusive licence to the research institution for purposes of depositing the article in the library's repository may not solve all dissemination problems, however. Either such a license is unnecessary, because the author will have published his article in an OA journal, or it may interfere with the academic freedom of authors who wish to publish their article in a commercial journal for which a full transfer of rights or an exclusive license of rights is required by the publisher. One can only hope that the university policy will be a sufficient argument for authors to convince the publisher to adapt its contractual practice to accommodate it.

In support of institutional OA policy, research funding agencies have a central role in shaping researchers' and publishers' contractual practices. Following the lead of the European Research Council and other institutions, funding agencies should promote and support the publication of research results in OA journals or monographs or, if this cannot be reasonably achieved, the archiving of publications in open repositories, after a (possibly domain-specific) time period to be discussed with publishers. This archiving could become a condition for fund-

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65. 'Report of the Joint Working Party on Copyright: Notice', *Cambridge University Reporter* 17 October 2001, No. 5858, § 4.2.1. Available at: www.admin.cam.ac.uk/reporter/2001-02/weekly/5858/20.html.

66. Abelson, H. (2008), 'Open Access Publishing: The Future of Scholarly Journal Publishing', *MIT Faculty Newsletter*, XXI (2).

ing.[67] In the UK, the House of Commons recommended that public funding agencies require open access to publicly funded research through deposit of the publications in the authors' institutional repositories. Following the Berlin Declaration, several important research funding bodies have established policies urging their funded researchers to publish in open access journals, offering to pay the publication fees, if any, and/or to deposit their articles in an open access repository. This is exactly the aim of Bill H.R. 5037 that was recently presented in first reading before the American Congress. This Bill mandates Federal agencies to develop public access policies relating to research conducted by employees of that agency or from funds administered by that agency. Accordingly, each Federal research public access policy shall provide for:

> (1) submission to the Federal agency of an electronic version of the author's final manuscript of original research papers that have been accepted for publication in peer-reviewed journals and result from research supported, in whole or in part, from funding by the Federal Government;
> (2) the incorporation of all changes resulting from the peer review publication process in the manuscript described under paragraph (1);
> (3) the replacement of the final manuscript with the final published version if–
>
> (A) the publisher consents to the replacement; and
>
> (B) the goals of the Federal agency for functionality and interoperability are retained;
>
> (4) free online public access to such final peer-reviewed manuscripts or published versions as soon as practicable, but not later than 6 months after publication in peer-reviewed journals;
> (5) production of an online bibliography of all research papers that are publicly accessible under the policy, with each entry linking to the corresponding free online full text; and
> (6) long-term preservation of, and free public access to, published research findings–
>
> (A) in a stable digital repository maintained by the Federal agency; or
>
> (B) if consistent with the purposes of the Federal agency, in any repository meeting conditions determined favourable by the Federal agency, including free public access, interoperability, and long-term preservation.[68]

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67. Dewatripont, M. et al. (2006), *Study on the Economic and Technical Evolution of Scientific Publication Markets in Europe*, Final Report, Brussels, European Commission, Directorate-General for Research, Recommendation 1, p. 87.

68. Bill to provide for Federal agencies to develop public access policies relating to research conducted by employees of that agency or from funds administered by that agency, H.R. 5037, 111th CONGRESShttp://www.govtrack.us/embed/sample-billtext.xpd?bill=h111-5037&version=ih

These policies mainly focus on the Green Road of OA publishing. Nevertheless, they have raised publishers and learned societies' concerns about the potential threat to their existence and activities: they fear that as articles become freely available in open archives and as search, access and retrieval facilities are enhanced by search engines and interoperability, subscriptions will be cancelled, undermining the viability of their journals.[69]

6.3.2.3 The publisher

Traditional publishers currently own the rights to the vast majority of scientific articles and scholarly writings. As rights holders, their interest is typically one of remuneration, as the business of publisher obviously relies on its commercial success usually following the 'subscriber pays' publishing model. From their point of view, any article should be distributed – if at all – with a view to respecting their commercial interest. In other words, publishers would like to see an article deposited in an institutional repository strictly licensed only under a CC Attribution-NonCommercial-NoDerivatives license. No parallel distribution of the articles initially published in their journals should imperil the number of subscriptions to that journal sold to university libraries, research institutions or individual scientists. This is the reason advanced by many publishers so far for refusing the deposit of articles into institutional depositories, for subjecting the deposit of published articles to a several months embargo period, or for limiting such deposits only to the pre-print versions of articles. This is also the practice that the scientific and scholarly communities have been denouncing so vehemently.

If they venture on the road to OA, traditional publishers normally tend to apply a CC Attribution-NonCommercial with a view to preserving their commercial interests. In fact, this very strict combination of terms is believed to conform the least with the aims of the Creative Commons ideology. Whether it also fulfils the requirements of the Berlin Declaration is a good question. Arguably, this combination of terms may not fully satisfy the first rule laid down in the Declaration, which states that 'the author and right holder of such a contribution must grant to all users a free, irrevocable, worldwide, right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship, as well as the right to make small numbers of printed copies for their personal use'. Obviously, the restriction put in the Creative Commons license on the making of derivative works would conflict with the

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&nid=to%3Aih%3A3http://www.govtrack.us/congress/billtext.xpd?bill=h111-5037&version=ih&-nid=to%3Aih%3A3, 2d Session, April 15, 2010, sec. 4(b).

69. British House of Commons, *supra* note 3.

prescriptions of the Berlin Declaration. The distinction between commercial and non-commercial use in the Creative Commons licenses raises pressing questions not only in the scientific publishing sector, but also in several other sectors of the copyright industry where the licenses are used, because it leaves too much room for interpretation. For the purposes of an open access contribution would the 'responsible purpose' referred to in the Berlin Declaration include a commercial use? Would a pharmaceutical company's distribution, among thousands of physicians, of an OA scientific article promoting its product fall under such a 'responsible purpose'?

6.4 Conclusion

The rationale behind the promotion of OA publishing of scientific and scholarly works is that governments fund basic and applied research with the expectation that new ideas and discoveries that result from the research, if shared and effectively disseminated, will advance science and improve the lives of individuals and the welfare of society. Such effective dissemination is made all the more easy by the Internet, which enables this information to be promptly available to everyone. The question addressed in this chapter is who – out of the author, the research institution or the publisher – is in the best position to cater for the shared and effective dissemination of scientific and scholarly writings.

Although the copyright acts of the Netherlands, the UK and France designate the university as first owner of the copyright in their employees' work, so far it has been university policy to leave the exercise of the copyright in normal academic forms of publication (including books, articles, and lectures, or other similar works) to the authors, unless those works were commissioned by a sponsor or by the university. In that case, the sponsor or university are the only ones entitled to decide if, when, and where their scientific results will be published and under what conditions. Copyright ownership, therefore, plays a determining role in the choice between the Golden, Green or Grey Roads to scientific or scholarly publishing. In practice, the scientific author, the research institute employing him and the academic publisher often have divergent opinions on issues such as the choice of the journal in which an article should appear, which version of the article should be deposited in the institutional repository, the extent to which an article may be further reproduced and distributed and whether the making of derivative works should be authorized.

While the Green Road may well meet the three minimum OA requirements, namely free access, possibility to reuse and permanent archiving, the Golden Road ensures a better access, reuse possibilities, visibility and 'findability' of research output on the internet. The increased accessibility and reuse possibilities of OA journals and monographs can partly be explained by the fact that these publications are usually accompanied by a Creative Commons license, which ex-

presses the conditions under which the author or publisher allows the dissemination of their scientific and scholarly publications.