The Influence and Presentation of Open Access in the General Media

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Introduction

For the past thirty years, a debate between academia and publishers had been changing academic publishing, a market with a business model that had remained stable for several centuries. From the first science journal in 1665 until the 1970s, the norm was that institutions and individual readers paid for the journals in order to read them.[1] The internet changed this traditional business model. Now, science journals can be shared through the world wide web, lowering the printing and distribution costs to almost nothing. Before the internet, journal costs were rising at an incredible rate. Many scholars believed that all scientific publications, together with other academic work, should be accessible for the public. However, the high subscription rates for science journals prevented this, which sparked a debate about the high costs for science journals as libraries and other research institutions struggled to pay for them. With the internet, advocates of Open Access now also argue that journals should be openly accessible to a wide audience on the internet for free, because of the low costs of publishing online. However, the effort to increase public access to all scholarly output is a very complicated process, with several replacement models in circulation and an ongoing debate on which one is best, and is still not finished. The effort to change academic publishing was coined the Open Access movement at the beginning of the 2000s.

The media have actively reported on this movement since the 1990's, shedding light on the power play happening between academia and the commercial science publishers. With the complex nature of Open Access, it is interesting to study how the media reflected the debates and issues surrounding Open Access. The involvement of multiple stakeholders would have made it more complicated to correctly portray the numerous facets of Open Access. Therefore, this thesis will analyse how the media covered expert opinion on Open Access and how that related to its progress. To narrow down the focus, this thesis will study two different ways in which the media coverage of expert opinion could have been involved in Open Access: Open Access policy in the United Kingdom and the narrative the media created around its coverage of expert opinion. Open Access policies were chosen to show how the media coverage of Open Access could have been involved with an important aspect of Open Access progress, and because studies have shown how public opinion, in and outside of

[1] J.C. Guédon, *In Oldenburg's long shadow: Librarians, research scientists, publishers, and the control of scientific publishing* (Washington, DC: Association of Research Libraries, 2001).

the media, can often influence the creation of a policy.[2] Studies into media framing have shown why studying the media's narrative about Open Access is also important to understanding the media's coverage of expert opinion, as they depicted the influence media narratives could have on people's opinions and actions through the specific framing of an event.[3]

This thesis will focus on the time frame 2000-2015, following the Open Access movement from its beginning to the first UK government action taken to support Open Access. This time period is interesting as it will provide more insight into the formative years of Open Access and how the media played a role in it. The year 2000 is taken as the starting point because it is acknowledged as the beginning of the steady annual growth of Open Access journals.[4] Such journals existed before 2000, but because their growth was small and most only ran for a small period, their presence within the market was significantly better after 2000. The internet was also better developed by this time, better suited to spreading information with the open Web and the use of the PDF. The growing presence of the Open Access journals also meant more people became aware of the movement and began discussing it on a public level. As this research focusses on Open Access in the media, the movement gaining strength after 2000 indicated a larger chance of Open Access appearing in the media as well, with its media presence growing alongside the numbers of Open Access journals.

The choice to have 2015 as the hard limit of the research was based on the review phases the Research Councils United Kingdom (RCUK) had set for its new Open Access policy based on the findings of the report of a committee presided by dame Janet Finch, titled *Accessibility, Sustainability, Excellence: how to expand access to research publications* (from now on named the *Finch report*). These phases were announced in 2012, the same year that the government of the United Kingdom announced its acceptance of the *Finch Report* and its support for the Open Access ideal. As a non-departmental public body, the RCUK cannot be seen as a direct agent of the government. Nevertheless, as the United Kingdom's main research councils, their influence and importance can be acknowledged as just a slight step

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[2] Soroka, Stuart N. "Media, Public Opinion, and Foreign Policy." *Harvard International Journal of Press/Politics*, 8.1 (2003), pp. 27–48; Ibid. and Christopher Wlezien, *Degrees of Democracy: Politics, Public Opinion, and Policy* (New York: Cambridge University Press, 2010); Ibid., 'Opinion–Policy Dynamics: Public Preferences and Public Expenditure in the United Kingdom', *British Journal of Political Science*, 35(4) (2005), pp. 665-689.

[3] David H. Tewksbury and Dietram A. Scheufele, 'News framing theory and research', *Media Effects: Advances in Theory and Research*, ed. by Jennings Bryant and Mary Beth Oliver (New York: Routledge, 2008), pp. 17-33 (p. 19). https://doi.org/10.4324/9780203877111; R. M. Entman, 'Framing: Toward clarification of a fractured paradigm', *Journal of communication*, 43/4 (1993).

[4] M, Laakso, P. Welling, H. Bukvova, L. Nyman, B.C. Björk and T. Hedlund, 'The development of open access journal publishing from 1993 to 2009', *PLoS ONE*, 6/6 (2011), pp. 1-10.

down from the government's authority. The RCUK stated that it would review the impact of their new Open Access policy in 2014 and adjust it accordingly.[5] Therefore 2015, the year the 2014 review was published, was chosen as the end of the study as this provided the opportunity to assess how the media attention potentially affected the Open Access policy through a review session.

Before the government issued its Open Access plan in 2012, this study considers the Research Councils United Kingdom as the highest officials regarding the Open Access movement. Back in 2002, the RCUK was created to act as an umbrella council to all the different research councils in the United Kingdom.[6] The seven research councils of the United Kingdom cater to different academic disciplines, like the arts, humanities, science, and technology, and fund important research pertaining to their individual subjects. However, the RCUK and its councils are not part of the government. As has been mentioned before, the RCUK is a non-departmental public body, which, according to the website of the government of the United Kingdom, means that it 'has a role in the processes of national government, but is not a government department or part of one'.[7] This is why the Open Access policies and documents published by the RCUK were not seen as official government actions. Despite their being sponsored by a government body, their decisions remained separate from the government and its influence.[8] This is why the government's first action to the support Open Access in 2012 was so monumental and unprecedented. With the RCUK, the government did not need to support Open Access by publicly demanding it; the fact that they did support it only proved the growth and impact Open Access had achieved by then.

In 2018, the RCUK was replaced by the United Kingdom Research and Innovation, the UKRI, through the Higher Education and Research Act 2017. This act added two more councils to the seven ones that were governed by the RCUK, namely Innovate UK and Research England.[9] However, because this research does not go beyond the year 2016, this paper will refer only to the RCUK and its original seven research councils. The RCUK is also the reason why the United Kingdom was chosen as the geographical focus of this thesis. The early involvement of the RCUK in the Open Access movement provided a higher chance of

[5] Research Councils UK, *RCUK Policy on Open Access and Supporting Guidance*, 2012. <https://www.ukri.org/wp-content/uploads/2020/10/UKRI-020920-OpenAccessPolicy.pdf>.
[6] Wikipedia, 'Research Councils UK', https://en.wikipedia.org/wiki/Research_Councils_UK (14 February 2023).
[7] Government of the United Kingdom, 'Public bodies', https://www.gov.uk/guidance/public-bodies-reform (14 February 2023).
[8] United Kingdom Research and Innovation, 'Our relationship with the government', https://www.ukri.org/about-us/how-we-are-governed/our-relationship-with-the-government/ (14 February 2023).
[9] Government of the United Kingdom, 'Higher Education and Research Act 2017', https://www.legislation.gov.uk/ukpga/2017/29/contents/enacted (14 February 2023).

media involvement and a longer time span over which to analyse Open Access policy and the influence public opinion might have had on the process.

Method and approach

The aim of this research is different to what has been done earlier within this field of study, concerning the beginning of Open Access. In 2009, Laakso et.al. completed a study on the beginning of Open Access called 'The development of open access journal publishing from 1993 to 2009'. The study provided an insight into the early development of Open Access journals from 1993 to 2009, dividing these years into three different phases of progress. Laakso et.al. named the first seven years, 1993 to 1999, the 'Pioneering phase' as Open Access journals were often created by scholars, not publishers, who worked on the journal for free and published on technically simple platforms, often relying on university web services they could use without cost. The second phase, 'Innovation', 2000 to 2004, saw the creation of Open Access publishers and repositories, such as the Public Library of Science and BioMed, along with new business models for Open Access journals such as the article processing charge. The last phase the article recognised is the 'Consolidation phase' from 2005 to 2009: this phase brought steady growth, a set infrastructure, a growing number of Open Access mandates, the acceptance of open access licenses, and even the entrance of established commercial publishers into the market with their own (hybrid) open access journals.[10] These phases are an interesting way with which to approach the formative years of Open Access, and this thesis agrees with the three phases, which is why it based its choice on 2000 as the starting year for this study. However, the focus and scope of this research are fundamentally different to what has been done by Laakso et.al.. Laakso et.al. wrote their report on the years 1993 to 2009 and chose to analyse the progress of Open Access journals to their present time. This research is done fourteen years later and chose to set the time limit to a couple of years before the present, focussing on the years 2000 to 2015. This way, the conclusions that can be drawn from this research are more definitive because the impact is already a few years old and therefore easier to define and analyse. And, most importantly, the development phases of Open Access only refer to the development of the Open Access journals, whereas this study centres the media's coverage of expert opinion on Open Access.

[10] Laakso, Welling, Bukvova, Nyman, Björk and Hedlund, 'The development of open access journal publishing from 1993 to 2009'.

There are different Open Access 'colours' open to an author or publisher. Each colour stands for a different type of business model for Open Access publishing.[11] The Green and Gold Open Access models will be mentioned most frequently within this research. This is because the early policies and debates around Open Access only focussed on Gold and Green as the main business models, with Diamond and the mixed model Hybrid as temporary solutions during the transition period. The following definitions and common practices of the Open Access colours are indicative of their meaning in 2000-2015, which may differ from their current characterisations. Green Open Access represents the self-archiving model, this model is the one most similar to the traditional publishing model. With Green, authors still publish their articles through commercial publishers and their journals, but they also publish their articles on an online repository that is open to the public. They often publish these self-archived articles under an embargo period, meaning that it will be available only after a certain amount of time has passed since its official publication within a journal to accommodate the publisher's aim for sales revenue.[12] Whether an article is published under embargo often depends on the policies of the publisher or of the funding body that funded the author's research.[13]

The Gold model changes the way with which the publishing costs are funded. With the current traditional publishing method, the business model is toll-access, meaning that the reader pays to access the journal or article. With Gold, the responsibility of finding funds to cover the cost is shifted towards the author. The published articles are free for the reader because it has been funded through an APC, an article processing charge, that is paid by either the author or the author's institution or funding agency.[14] The Platinum model, also called the Diamond model, is a slightly different version of Gold, only with Platinum the publishing costs are paid by an external party and not by the author's institution or funding agency.[15] The most controversial model is the Hybrid business model. With the Hybrid model, authors have the choice to make their article Open Access by paying an APC. This creates a hybrid journal wherein some content is free to the public while the rest has to be paid for. The reason why this can be controversial is due to the opportunity to 'double-dip' by publishers, meaning that

[11] R. Anderson, *Scholarly communication: What everyone needs to know* (Oxford: Oxford University Press, 2018).
[12] Ibid.
[13] Peter Suber, *Open access* (Cambridge, Massachusetts: MIT Press, 2012).
[14] Anderson, *Scholarly communication*.
[15] Ibid.;
IOP Publishing, 'What is a platinum open access journal?', https://publishingsupport.iopscience.iop.org/questions/what-is-a-platinum-open-access-journal/ (20 February 2023).

they can be paid twice for the same article, first by the author to publish it and make it Open Access, and the second time by the reader to access it. Subscription costs vary per subscriber, so it is very difficult to know when publishers are double-dipping with their hybrid journals.[16]

Three chapters will analyse how the media coverage of expert opinion on Open Access relates to Open Access and its policy in the United Kingdom. The first two chapters will focus on the relation between the RCUK Open Access policies of 2005 and 2013 and the instances of public opinion of stakeholders in media platforms such as newspapers, magazines, and blogs. The blogs were found and accessed through internet search engines such as Google, while the newspaper and magazine articles were mainly found and accessed through several newspaper databases. To gather the articles for all three chapters, several media outlets were searched through databases for articles reporting on events or topics related to Open Access. I searched the databases for titles mentioning anything related to Open Access, and then read all of the found articles to collect ones that matched my criteria. Examples of newspapers that contained relevant articles were *The Guardian*, *The Times Higher Education Supplement*, and the magazine *The Economist*, and were searched using the following databases, accessed through the Leiden University Catalogue: The Economist Historical Archive, Factiva, and ProQuest Historical Newspapers. The Economist Historical Archive contains all of the articles and other texts published in the magazine *The Economist*, from the year 1843 to 2020. ProQuest and Factiva contain several newspapers, including *The Guardian* and *The Times Higher Education Supplement*. The main difference between ProQuest and Factiva is that ProQuest only offers articles up to the year 2003, while Factiva is regularly updated with contemporary articles. Some of the search terms that were used were 'Open Access', 'Open Science', 'Elsevier', 'science journals', and words related to specific events such as the publication of the *Finch Report*, 'Scientific publications: Free for all?', and the government's responses to these publications. As this was the method used for all three chapters, several articles will feature in multiple chapters.

In chapter one, the RCUK's relevance will be explained in more detail, the status of Open Access from 2000 until 2004 will be shown, and then the first Open Access policy of 2005 will be discussed together with the reactions to that policy from stakeholders in the media. Chapter two will continue the narrative of Open Access in the media from 2006 to 2012, the year when the *Finch Report* was published and the new RCUK Open Access policy was announced. Both chapters will compare the instances of expert opinion in the media to

[16] Anderson, *Scholarly communication*.

the two Open Access policies and their reviews to see whether they echo the statements made in the media, as that could indicate that the policies and their reviews were influenced by such statements. Chapter three will explore how expert opinions in the media from the previous two chapters could have potentially been influenced by the media's narrative on Open Access. It will do this via a detailed analysis of several newspaper articles that showcased their framing qualities and depicted their combined narrative. This narrative will also be compared to other reports on Open Access events to see how accurate it was. The possible impact of this narrative will then be discussed using examples from the previous chapters to deepen the understanding of how the media's portrayal of expert opinion could have had an influence on Open Access.

Chapter 1: The Discourse between Experts and Stakeholders on the RCUK Open Access Policies I– 2000-2005

The Research Councils UK has been presented in the introduction to this thesis as the second-most influential official body concerning the progress of Open Access. The next two chapters will discuss the policies on Open Access that the Research Councils UK implemented in 2005 and 2013. This chapter will give more information about the period leading up to the first Open Access policy and how the first RCUK Open Access policy was received among the important stakeholders of academic publishing as reported in the media. To gather all kinds of media articles, the internet was scoured for media outlets that reported on Open Access as described in the introduction. Once promising outlets were found, such as the *SPARC Open Access Newsletter*, *The Guardian*, and blogs written by academics involved in Open Access, these were searched for articles and posts mentioning the RCUK's Open Access policies. In the articles that were found, opinions given by important stakeholders on the RCUK open access policies were gathered to see whether the policies and their reviews would show a connection between the media and the policies. This connection will be discussed within the next two chapters.

To better understand the information given in the next two chapters, a short explanation about the different stakeholders of science publishing and their reactions to the policy will be given. The stakeholders featured in this thesis are academics, publishers, universities, research libraries, research funders, and institutions that represent these stakeholders. As will be seen in chapter one and two, the focus of stakeholders concerning the Open Access policies were divided. Stakeholders from academia were focussed on the specific clauses of the policy, while stakeholders from the publishing industry were focussed on the research behind the policy and its impact. So, what will be seen is academics and research libraries reacting to certain details about the policy that they believed were lacking in strength, clarity, or practicality, and publishers, journals, and institutions that represent publishers questioning whether the impact of specific qualities of the policy, or the policy as a whole, would have negative consequences. The explanation for the difference in focus of these stakeholders were found in the reasons given for their specific reactions. Stakeholders from academia were in favour of the Open Access policy as it would help spread science to a larger audience, and stakeholders from the publishing industry were restrained in their

enthusiasm for the policy as they were concerned that it would negatively impact the quality of the goods they sell, which in turn would negatively impact their business.

1.1. The Research Councils UK

To arrive at a better understanding of the Councils' position and their importance within the market of research funding a detailed explanation of their history, governance, and function will be given. Since the Research Councils UK has been reorganised into the United Kingdom Research and Innovation (UKRI) in 2018, their website is no longer active. Yet within the web archive of the United Kingdom government, several archived instances of the old website can be found, which have been used to gather the information given below.[17]

Most of the individual research councils predate the creation of the Research Councils UK in 2002, with some councils having been around for decades such as the Medical Research Council which had its origin in 1919.[18] The Research Councils UK, generally referred to as the RCUK, was created to unite the separate research councils and improve their working relationship. Through this collaboration, the RCUK wished to 'enhance the overall performance and impact of UK research, training and knowledge transfer'.[19] The RCUK was led by the RCUK Executive Group, consisting of the council's lead executives. The relationship between the RCUK and the councils was supported through the RCUK Strategy Unit which had members dispersed through all of the research councils to promote cross-council relationships and collaboration.[20] As an umbrella organisation, the RCUK did not supplant the individual lead councils of each research council; these still had their chief executives who remain independent and responsible for the public funds allotted to their respective councils.[21] The RCUK was the largest public funder of innovation and research, with the UKRI as their successor.[22] A list of the organisations that the RCUK funded was not found on the council's old website, but the UKRI website did provide a section on the main organisations that receive funding from them. As the successor of the RCUK, the UKRI

[17] The website of the UK government web archive: https://www.nationalarchives.gov.uk/webarchive/.
[18] UK Research and Innovation, 'History of MRC', <https://www.ukri.org/about-us/mrc/who-we-are/our-history/> (11 April 2023).
[19] The National Archives, 'RCUK Aims & Organisation', <https://webarchive.nationalarchives.gov.uk/ukgwa/20101112204458/http://www.rcuk.ac.uk/aboutrcuk/org/default.htm> (11 April 2023).
[20] Research Councils UK, *Delivery Plan 2010-11 RCUK Integrated Activities*, 2009. <https://webarchive.nationalarchives.gov.uk/ukgwa/20101112204013mp_/http://www.rcuk.ac.uk/cmsweb/downloads/rcuk/publications/DeliveryPlan_2010-11.pdf>.
[21] The National Archives, 'RCUK Aims & Organisation'.
[22] UK Research and Innovation, 'Our vision', <https://www.ukri.org/about-us/our-vision-and-strategy/our-vision/> (11 April 2023).

is not that different in terms of mission and function, therefore the information it gives on who receives their funds can apply to the RCUK as well. Examples given by the UKRI on who it funds are individual researchers, universities, businesses, non-governmental institutions, and bodies of the NHS, the national healthcare service of the United Kingdom. This list proves how influential the RCUK was, and the UKRI remains, within the domain of research funding. Therefore, the RCUK's support for the Open Access movement was very beneficial for the progress and reputation of Open Access publishing within the United Kingdom. The government had little influence and no leadership position within the RCUK, as the Council was a non-departmental public body, meaning they had a role in national government but, due to its legislation, could keep its operation removed from the Minister's influence. The most important role the government had within the RCUK was that the Secretary of State for Business, Innovation and Skills appointed its council members.[23]

1.2. The BBB Open Access declarations and 'Scientific Publications: Free for all?'

I will argue that activity related to the Open Access movement from 2000 to 2004 motivated institutions such as the House of Commons Science and Technology Committee and the people behind the BBB Open Access declarations to take action to further the cause of Open Access or investigate it in more detail. From 2000 onwards, researchers instigated boycott attempts to enforce Open Access from the publishers. An example of this was the attempted boycott of subscription journals in 2001 by researchers to push publishers into making their journals Open Access. The people behind this boycott sent an open letter to publishers, a letter that was signed by 32,362 people worldwide, but in the end the effect on publishers was minimal. The instigators of the boycott did not stop once it failed: they were the founders of the Public Library of Science and started publishing their own Open Access journals.[24] The reason why the boycott attempt failed was credited to the 'publish or perish' culture, where researchers can only further their careers through publishing articles in journals, which made many researchers, especially the younger ones, hesitant to take part in the boycott.[25] Another attempt from researchers to fast-track Open Access came in 2003 from two American scientists who were outraged by the high cost of Elsevier's prestigious journal *Cell Press*. The

[23] The National Archives, 'Governance', <https://webarchive.nationalarchives.gov.uk/ukgwa/20101112204719/http://www.rcuk.ac.uk/aboutrcs/governance/default.htm> (11 April 2023).
[24] The open letter can be read on the following website: https://plos.org/open-letter/.
[25] Donald MacLeod, 'Publishers damned – free online science service challenges established journals', *The Guardian*, 7 January, 2003.

University of California paid Elsevier 8 million dollars for *Cell Press* in 2002, and in 2003 Elsevier asked even more money for the journal. This inspired the two scientists to act, and they called their colleagues to boycott Elsevier to go against their 'excessive subscription fees and profiteering at the expense of the academic community'.[26] These two examples sketched the public situation of the Open Access movement in the early 2000s. Researchers that supported the movement were becoming bolder and more impatient in their campaigning for open scientific communication. It was clear something needed to be done for Open Access as these short campaigns that tried to bring about change through force were not effective. Eventually, instead of boycotts, researchers began organising conferences on the topic of Open Access, which led to the BBB Open Access declarations.

The Budapest Declaration, published in 2002, is the text in which the term 'Open Access' was coined, giving a name to the movement that was started in the previous decade. The Budapest Declaration was the first of three declarations, signed by representatives of academia and publishers, that called for all to support Open Access and make research available to everyone. The other two were called the Berlin and Bethesda declarations, and together they are known as the BBB Open Access declarations.[27] These were the first publications which called for governments, libraries, publishers, etcetera, to recognise Open Access as a relevant goal and help to achieve it. These publications coincided with the decision of the government to partake in the Open Access discussion when, at the end of 2003, it was known that a report by the House of Commons Science and Technology Committee would be published on the matter of Open Access to academic articles.[28] When the report, called 'Scientific Publications: Free for all?', was published in 2004, its contents were very similar to what the BBB Open Access declarations called for. The report advised the government of the United Kingdom to take action to support Open Access and create a government-appointed central body to oversee these changes. It recommended that government funders, like the Research Councils, mandate that their funded researchers publish their work Open Access and that all universities create repositories for their researchers to deposit their publications in, free to the public. The report was mostly focused on Green Open Access, as the Committee saw repositories as the first step towards Open Access. The report mentioned that eventually the traditional publishing model would need to

[26] Nigel Hawkes, 'Boycott 'greedy' journal publishers, say scientists', *The Times*, 10 November, 2003.
[27] Open Access Working Group, 'Definition of Budapest compliant open access', <https://access.okfn.org/definition/2/index.html> (11 May 2023).
[28] Richard Wray, 'Reed Elsevier at risk as MPs look into science publishing market', *The Guardian*, 12 December, 2003.

be changed, maybe to the Author-Processing Charge business model. However, the report recognised that such inherent changes in the publishing process would need to be further investigated before they could be implemented. It, therefore, recommended to the government that they formulate a future strategy for these changes because at that time the government was ill-equipped to realise a permanent change for all stakeholders.[29]

1.3. The first RCUK policy on Open Access

The above events demonstrate how 2000 to 2004 could be seen as the years of Open Access campaigning, which resulted in the government of the United Kingdom showing enough interest in the movement to warrant an investigation by its Science and Technology Committee. The report advised the government to involve itself with Open Access and support it. However, in November of 2004, the government issued a response to the Committee report wherein they concluded that they would not be taking the advice given by the Committee and would refrain from mandating Open Access. That the government would not support Open Access in this way was a setback for its advocates. However, the report was a success despite the refusal because the RCUK, also mentioned in the report, did decide to accept the Committee's advice and mandate Open Access. In June of 2005, the RCUK published its 'Position Statement on Access to Research Outputs' containing their first policy that mandated Open Access publishing. Their position on Open Access was based on four main principles, the statement explained. The RCUK supported Open Access because it wished to improve research in the United Kingdom, which would in turn benefit the economy and society. These four principles were, in summary: public access, quality assurance, efficiency, and preservation. The RCUK was obligated to ensure these four principles, according to its statement, and it supported Open Access because it would help achieve and maintain these principles. The new internet-based publication models Open Access championed would help gain public access to all publicly funded research outputs; Open Access publishing could also assure quality through peer review, just like subscription-based journals; Open Access could, through Green Open Access, offer an efficient and cost-effective manner with which to make research public; and because Open Access publications

[29] House of Commons Science and Technology Committee, 'Scientific Publications: Free for all?', 2004. <https://publications.parliament.uk/pa/cm200304/cmselect/cmsctech/399/399.pdf>.

could be accessed through a digital format, it ensured long-time preservation for its publications.[30]

Further on in the document, under the heading 'E-print repositories', the details of the policy were illustrated. The policy stated that all researchers funded by the RCUK and that had access to an online repository were obligated to deposit a copy of their funded research in an institutional or subject-based repository or make it accessible through one. The RCUK did not specify when this deposit should happen. The policy allowed authors to choose the repository, and stated that the funding agreement would also cover any charges involved with publishing in an Open Access journal should the author choose to do this, as publishing in such a journal was not mandated.[31] The RCUK chose to focus on Green Open Access which refers to publication through a repository instead of the Gold route which is publication through an Open Access journal. The policy was also good for publishers as the lack of a deposit deadline allowed them to implement their own embargo period on the RCUK-funded papers they accepted. Overall, this policy was a major step forward for the Open Access movement because the number one funder in the United Kingdom regarding innovation and research had mandated that all the researchers and institutions receiving their funds should publish their work in an online institutional repository open to the public. The effect of the policy was already seen in 2006 with the substantial growth of repositories and the articles deposited in them and a 26 percent increase in Open Access journals.[32]

1.4. Stakeholders on the Open Access policy

Among the different stakeholders of the academic publishing market, the reactions towards the RCUK policy were mixed. Two researchers, Peter Suber and Stevan Harnad, were especially vocal with their doubts about the new policy. They believed it did not reach its full potential and were worried about the lack of a deposit deadline and about clauses in the policy that described the situations where an author did not have to publish Open Access. [33] Peter Suber, firstly, expressed his concerns about these clauses in the *SPARC Open Access Newsletter* published by the Scholarly Publishing and Academic Resources Coalition, better

[30] Research Councils UK, *RCUK Position Statement on Access to Research Outputs*, 2005. <http://openscience.ens.fr/ABOUT_OPEN_ACCESS/DECLARATIONS/2005_01_15_UK_ResearchCouncils_Statement_on_OA_to_Research_Outputs.pdf>.
[31] Ibid.
[32] Peter Suber, 'Open access in 2006', *SPARC Open Access Newsletter*, 2 January, 2007. <http://nrs.harvard.edu/urn-3:HUL.InstRepos:4729246> (4 June 2023).
[33] For more information on Peter Suber and Stevan Harnad and their affiliation with Open Access, see Appendix A.

known by its acronym SPARC, a non-profit organisation that has advocated for Open Access since it was founded in 1998.[34] Suber was, and remains to this day, highly active in the Open Access movement.

In the *SPARC Open Access Newsletter* edition published on July 2 2005, Suber started his reaction to the policy with an explanation of why he was enthusiastic about the policy before discussing the parts that worried him.[35] He was happy with the policy because it mandated Open Access publishing instead of requesting it; the policy applied to all publicly funded research and was not limited to certain research subjects; it gave the authors flexibility regarding which repository they could use for their work; and it offered to pay the Open Access fees asked for by several Open Access journals. However, the praise stopped when Suber criticised an exception that allowed authors to not deposit their articles when there were copyright or licensing issues. Suber believed that publishers would use this exception of copyright and licensing, which the RCUK used as a vague term for agreements made with the publisher which have nothing to do with copyright or licensing, to create new embargo rules that restricted the author when it came to depositing an article in a repository.[36] In chapter three, a further analysis will be done into why academics like Suber appeared to distrust the actions of publishers in relation to Open Access.

Suber elaborated on why this exception had no connection to actual copyright and licensing issues in a reply he gave to Stephen Pincock who wrote an article for *The Scientist* on the RCUK Open Access policy. Suber published his full reply to the question of what his thoughts were on the sentence 'in accordance with copyright and licensing arrangements'[37] in an e-mail he sent to the SPARC Open Access Forum. In this e-mail, he stated that the clause did not clearly explain to publishers and authors 'who may do what or who may block whom from doing what'.[38] The comment reflected on how publishers could only reject articles that have to be published Open Access, or they could delay the deposit. However, Suber claimed they had 'no valid objection based on copyright law or a licensing contract'[39] because the agreement with the publisher was made after the funder's contract had been signed. A researcher needs to get funded first, before the research can be done and can be written about.

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[34] SPARC, 'Who We Are', <https://sparcopen.org/who-we-are/> (12 April 2023).
[35] Peter Suber, 'Issue #87', *SPARC Open Access Newsletter*, 2 July, 2005.
<https://dash.harvard.edu/bitstream/handle/1/3967549/suber_news87.html> (12 April 2023).
[36] Suber, 'Issue #87'.
[37] Research Councils UK, *RCUK Position Statement on Access to Research Outputs.*
[38] Peter Suber, 'RCUK policy on open access', 2005.
<https://www.southampton.ac.uk/~harnad/Hypermail/Amsci/4605.html>.
[39] Ibid.

Suber ended his argument with the conclusion that the clause about copyright and licensing was superfluous if this part of the RCUK policy only wished to express recognition of the fact that publishers had the right to only publish what they wish under their terms. If not, then the clause needed further explanation as in its current state it only invited confusion.[40]

The second exception in the policy that worried Suber stated that authors did not have to deposit their articles if they did not find a suitable repository. In 2005, there were not yet as many repositories available as there are now. In the SPARC newsletter, it was mentioned that only 55 institutional repositories existed in the United Kingdom at that time. Thus, Suber concluded that it would be very easy for an author to not find a suitable repository, which made this exception easy to achieve. In an article in *The Guardian*, Stevan Harnad also commented on this exception, but he was less sceptical than Suber, as Harnad believed that with this policy the number of repositories would grow in the United Kingdom. He acknowledged the problem this exception posed but believed that with time it would become harder to not find a suitable repository and that the United Kingdom would have 'the world's ''fullest'' open access archives'.[41] Compared to Suber's reaction to the repository clause, Stevan Harnad was more critical of the fact that the new RCUK policy did not include a deposit deadline for the authors. *Information World Review*, a monthly newspaper tailored for people that use and produce electronic and scientific information,[42] reported on the new publication made by the RCUK in 2006, in which the council updated their 2005 version of their position statement on access to research outputs. Harnad commented on the fact that the RCUK had not added a deposit deadline, criticising the policy when he said that '[n]one of this is specific enough to be a clear, effective mandate'.[43]

Three library bodies – the Society of College, National and University Libraries (SCONUL), the Chartered Institute of Library and Information Professionals (CILIP), and the Consortium of Research Libraries (CURL) – echoed Harnad's and Suber's statements in a joint letter that they sent to the RCUK.[44] Their joint letter was published in its entirety by *M2 Presswire*, a press release distribution network, which was used to access the letter for this thesis. In the letter, the library bodies were supportive of the policy and appreciated the effort the RCUK put into improving research communications, however, there were two main and one smaller point of critique. The minor criticism they made was about the Author Processing

[40] Ibid.
[41] Donald MacLeod, 'Research councils back free online access', *The Guardian*, 29 June, 2005.
[42] Information Today Inc., 'Information World Review', <https://www.infotoday.com/iwr.htm> (13 April 2023).
[43] Mark Chillingworth, 'RCUK fails to time stamp open access', *Information World Review*, 10 July, 2006.
[44] For more information on these organisations, see Appendix A.

Charge (APC) model, they doubted its viability but because the RCUK was willing to cover those costs there was time to test the model, something the library bodies believed was necessary. Their two main points of criticism were the lack of a deposit deadline and the copyright and licensing clause. Just like Harnad and Suber, the library bodies believed that these two points posed clear problems for the execution of the policy as researchers that published their work two years after publishing were still in compliance with the policy (they recommended a deposit deadline of three months), and publishers could change their copyright transfer agreements to prevent authors from uploading their work onto an online repository.[45]

The concerns Harnad, Suber, and the library bodies had regarding the repository and copyright exceptions were valid. That the RCUK already mandated Open Access in 2005 was commendable, but the strength of the policy was lacking. As none of the research councils was forced to adopt the policy and each was allowed to create their own Open Access mandates, with the seventh and final council adopting one only in 2009, this general policy could have been more forceful. The easily-reached exceptions severely weakened the policy, which in turn could have inspired the Open Access mandates of the councils to also include exceptions such as these. The collective belief of the above stakeholders that publishers would exploit these exceptions to their benefit could be indicative of a possible early prejudice towards publishers and their reluctance to support Open Access and comply with the policy. In chapter three, a possible reason behind academia's distrust of publishers and the prejudice of publisher against Open Access will be analysed and discussed.

The Association of Learned and Professional Society Publishers (ALPSP), a representative of the publishers, had also voiced their opinion on the new Open Access policy.[46] Three articles in *The Guardian*, the *Financial Times*, and *Information World Review* reported on a statement made by Sally Morris, Chief Executive of the ALPSP, in which she claimed that self-archiving would have negative consequences for society journals. In *The Guardian,* it was said that the ALPSP argued that self-archiving would lead to a significant drop in subscriptions which would be detrimental to the publishers they represent.[47] In the *Financial Times,* both the ALPSP and commercial publisher Reed Elsevier voiced their concerns about the effects of the policy on academic publishing. The ALPSP worried about

[45] 'Library bodies unite in response to Research Councils UK Consultation; Key library bodies respond to consultation on access to research outputs', *M2 Presswire*, 12 September, 2005.
[46] For more information on the ALPSP, see Appendix A.
[47] Richard Wray, 'Publish university science for free, urges web creator', *The Guardian*, 30 August, 2005.

the status of the society journals and Reed Elsevier – an international publishing conglomerate with the largest journal revenues in the market and currently a profit margin of 37 per cent –[48] warned that the policy would cause a decrease in quality and productivity which would harm the scientific record.[49] The Royal Society repeated Reed Elsevier's warning.[50] An article from *Information World Review* reported on the position statement of the Royal Society on the RCUK Open Access policy. In the statement, the Society warned against changing the publishing models, because change will be too fast for it to be helpful. It called for funders to do a proper investigation before mandating Open Access. Like Elsevier, the Royal Society argued that introducing new publishing models would prematurely harm productivity as it could lead to the closure of existing peer-reviewed journals and journals based on new publishing models could prove not to be sustainable in the long term.[51] These are two examples of the bias publishers and other doubters of Open Access held against Open Access, namely that it lacked peer review, an editing process, and a proper business model which would affect the overall quality of research. In *Information World Review,* Sally Morris said that because these self-archived articles were easier to find on websites such as Google Scholar, journals would be damaged because people would know that the content could also be accessed for free. The article mentioned that Morris and the RCUK would meet to discuss the new policy and that she would request a delay in the implementation of the policy so that any potential damage caused by the mandate could be assessed.[52]

Both *The Guardian* and *Financial Times* gave rebuttals to these claims by referring to a letter Stevan Harnad and Sir Tim Berners-Lee, the inventor of the World Wide Web and a chair at Southampton University for the School of Electronics and Computer Science, had written in response to these claims. In the letter, the research topic of physics was used as an example to prove that self-archiving would not lead to a drop in subscriptions, as the habit of self-archiving had been used in physics for several years. The letter then explained that learned societies had experienced no drop in subscriptions for physics journals, despite the act of self-archiving.[53] Furthermore, Harnad and Berners-Lee claimed that self-archiving would benefit all stakeholders because the increased visibility online archiving would bring would in

[48] Claudio Aspesi and SPARC, 'Research Companies: Elsevier', *Landscape Analysis* (SPARC, 2019). <https://infrastructure.sparcopen.org/landscape-analysis/elsevier> (13 April 2023).
[49] Clive Cookson, 'Scientists reignite open access debate', *Financial Times*, 31 August, 2005.
[50] For more information on the Royal Society, see Appendix A.
[51] Mark Chillingworth, 'Royal Society warns of OA 'disastrous consequences', *Information World Review*, 9 January, 2006.
[52] Ibid., 'ALPSP and academics fight it out over RCUK IR rules', *Information World Review*, 12 September, 2005.
[53] Wray, 'Publish university science for free'.

turn benefit their journals.[54] Harnad and Sir Tim made a sound argument, however, that self-archiving was successful in one discipline will not vouch for it being well received in other disciplines.

The RCUK reviewed its policy in 2006, but they made it clear in a publication that they were confident about the policy and so decided to not change their position statement.[55] Stevan Harnad commented on this in the *Information World Review* article mentioned earlier, he criticised the RCUK's stance on their policy as they supported their decision to not name a deadline for when an author should deposit their work. Despite the criticism the RCUK received on its policy before it published their review, it did not change it. It can therefore be concluded that the points made by Stevan Harnad, Peter Suber, SCONUL, CILIP, and CURL were not taken into consideration and had no effect on the policy in 2006. A possibility is that the RCUK chose to listen to the publishers instead, who had spoken about their doubt about the policy and the possible negative consequences it could have on them and research in general, and therefore decided to not change the points of the policy that, according to the researchers and library representatives, benefited the publishers. However, the RCUK did not delay the implementation of their policy, which was requested by Sally Morris, the chief executive of the ALPSP, which could argue that the RCUK did not listen to the publisher's critique either.

In summary, the stakeholders from academia believed the policy to be a good step towards supporting Open Access, but several points could be improved to strengthen it. Firstly, there should be a deadline in the policy for when authors need to have uploaded their work onto an e-print repository. Secondly, the clause about the copyright and licensing agreement needed to be altered or removed. Thirdly, the exception that allowed authors to waive the policy when they did not find a suitable repository needed to be reconsidered as the low number of repositories in the United Kingdom allowed for the exception to be easily made, and, lastly, self-archiving and other forms of Open Access publishing needed to be further investigated to see whether they would harm the existing level of research quality and the publishing market as a whole. The publishers were mostly critical of the period between the policy's announcement and its implementation, wishing for more time to investigate the possible consequences of the policy, and that the focus on Green would harm journal

[54] Cookson, 'Scientists reignite open access debate'.
[55] The National Archive, 'Research Councils UK publishes update of position statement on access to research outputs',
<https://webarchive.nationalarchives.gov.uk/ukgwa/20101112204920/http://www.rcuk.ac.uk/aboutrcuk/publications/policy/20060628openaccess.htm> (16 April 2023).

subscriptions. One more feature that repeated itself was the apparent distrust of publishers by academics, their criticism of the policy was often joined by or also based on what they believed the publishers would do with a certain clause in the policy. While these concerns had little to no effect on the policy review in 2006, the joint focus of the experts from academia on the same policy clauses showed that the media accurately reflected the main concerns academia held about the policy.

Chapter 2: The Discourse between Experts and Stakeholders on the RCUK Open Access Policies II – 2006-2015

In the previous chapter, the period leading up to the first RCUK Open Access policy, the policy itself, and the reactions from the stakeholders to the policy were discussed. This chapter shall continue the subject of the RCUK policy and how expert opinion in the media could have influenced the policy. First, the chapter will discuss the period between the publication of the short policy review in 2006 and the draft of the new RCUK Open Access policy published in 2012. This will include the publication of the *Finch Report* and the government's response to it. Then it will summarise the new Open Access policy and examine how the opinions of the stakeholders from the previous chapter have influenced the policy. Finally, the chapter will see how the reactions from the stakeholders to the new policy might have featured and had an impact on the policy review the RCUK held in 2014.

2.1. Open Access from 2006 to 2012 and the Finch Report

The period between the two Open Access policies of the RCUK marked a rapid growth in Open Access articles and actions to support the movement. The displeasure with the rising journal costs that restricted access to scientific information was shown through three actions undertaken by researchers, all reported on in an article published by *The Economist* in February of 2012 called 'The price of information'. The first act of protest happened in 2006 when an entire editorial board of the mathematics journal *Topology*, published by Elsevier, resigned due to the high prices Elsevier asked for its journals. One year later, the second act of protest happened at another big commercial publisher. Just like what happened with Elsevier, the publisher Springer also had an entire board of one of their mathematics journals, *K-Theory*, quit because of the same concerns.[56] The third action, and the focus of *The Economist* article, was another boycott attempt. History repeated itself when, just like before the first RCUK Open Access policy, an academic researcher called for a boycott of the publisher Elsevier. However, it appeared that this boycott was more successful than the ones in the early 2000s. At the start of 2012, mathematician Timothy Gowers stipulated the reasons for his boycott of Elsevier to inspire others to take similar action. Fellow mathematician Tyler Neylon was inspired by Gowers' blog post and created an online pledge which promised that

[56] 'The price of information', *The Economist*, 4 February, 2012.

the people who signed it would not submit their papers to, and would not edit articles of, Elsevier. This pledge gained the attention of researchers world-wide, with more than 2,700 of them also signing the pledge. Gowers' reasons for boycotting Elsevier were because he did not support the high journal costs the international publisher asked for and its bundling practices where, to access one publication, libraries were forced to obtain a set of journals that also included journals they did not want. Another reason Gowers gave was related to the Open Access situation in America. At that time, a bill came before America's Congress called the Research Works Act 'that would forbid the government requiring that free access be given to taxpayer-funded research'.[57] Gowers also decided to boycott Elsevier because the publisher supported this sort of anti-Open Access legislation.

Another interesting development in America regarding the Open Access movement was the creation of the Partnership for Research Integrity in Science and Medicine, PRISM for short. In 2007, the Association of American Publishers (AAP) started the coalition to lobby against 'the growing movement trying to force not-for-profit and commercial publishers to turn over published articles to the federal government for free online access'.[58] British newspapers also reported on this action of the AAP, one article by the *Information World Review* was called 'Open access is branded "junk science" by US lobby' in which it was also mentioned that supporters of Open Access in the United Kingdom were dismayed because this campaign would spread the wrong kind of information.[59] It appeared that the people behind PRISM wished for the same situation as in the United Kingdom, where the government did not involve itself with the Open Access movement. Open Access' media presence increased between 2006 and 2012, in part due to these actions undertaken by researchers.

Another reason for its rise in public awareness was explained by research done into the subject of Open Access publishing. In 2012, an article was published on the growth of Open Access publishing by Mikael Laakso and Bo-Christer Björk, both scholars who often write about Open Access, called 'Anatomy of open access publishing: a study of longitudinal development and internal structure'. The article described how, from 2000 to 2011, Open Access articles and journals portrayed a significant rise in numbers. It is important to note, however, that their research was limited to the journals recorded in the databases they

[57] Ibid., p. 74.
[58] Rachel Deahl, 'AAP Tries to Keep Government Out of Science Publishing', *Publishers Weekly,* 23 August, 2007.
[59] Mark Chillingworth, 'Open access is branded 'junk science' by US lobby', *Information World Review*, 3 September, 2007.

consulted, which often did not contain journals from disciplines outside of STEM or in other languages than English. Compared to 2004, where it was estimated only 79,253 articles were published in 2,368 Open Access journals (both full-Open Access and hybrid journals), both the number of Open Access articles and journals had tripled in size by 2011. The article reported that in 2011 the estimated amount of Open Access articles was 340,130, which were published in 6,713 Open Access journals.[60] In addition to growing the awareness of the movement, the rise in articles and journals that were Open Access also showed how the landscape of Open Access changed from 2006 to 2012. Several institutions were still weary of Open Access, but unlike before 2006 and the Open Access policy, the movement now had the numbers to prove it was successful and sustainable long-term.

The RCUK changed its policy six years after their short review in 2006, coinciding with the moment the government acknowledged the Open Access movement when they accepted the *Finch Report*'s findings in 2012. In 2011, science minister David Willets created the Working Group on Expanding Access to Published Research Findings, also known as the Finch Committee, tasked with researching how to increase access to research publications and to create a strategy to that end.[61] In July 2012, David Willets accepted the findings of the *Finch Report - Accessibility, Sustainability, Excellence: how to expand access to research publications* in a letter to the head of the committee, Dame Janet Finch. The *Finch Report* provided a strategy with which the United Kingdom could support Open Access. As opposed to the report by the Science and Technology Committee published in 2004, the *Finch Report* advocated for Gold Open Access. Its advice was built around implementing Gold Open Access, and to make each key stakeholder's role in the strategy clear and the transition smooth the report gave each stakeholder their own list of actions.[62]

The decision of the government to listen to the *Finch Report* was unprecedented and cemented Open Access in the academic publishing market. However, that the government would accept this report was not guaranteed. As has been mentioned earlier, in November of 2004 the government decided not to act after the Science and Technology Committee report recommended it. The Committee's report is like that of the Finch Committee as it also recommended actions that stakeholders could do to support Open Access, but the report the

[60] Michael Laakso and Bo-Christer Björk, 'Anatomy of open access publishing: a study of longitudinal development and internal structure', *BMC Medicine*, 10 (2012). <https://doi.org/10.1186/1741-7015-10-124>.
[61] Stephen Curry, 'The Finch Report on open access: it's complicated', *Reciprocal Space*, 18 June, 2012. <https://occamstypewriter.org/scurry/2012/06/18/the-finch-report-on-open-access/> (16 April 2023).
[62] The Working Group on Expanding Access to Published Research Findings, - *Accessibility, Sustainability, Excellence: how to expand access to research publications*, 2012.

government published as their response was not enthusiastic. An article published by *VNUnet Newswire*, a newspaper focussed on publishing news about IT developments, wrote about this report. In the article, the conclusion that was taken from the government's reaction towards the Committee report was that the government believed that the Open Access movement was temporary and had already started to decline. The government had based this argument on the fact that since 2001, fewer new open access journals were being launched each year. From 63 new Open Access journals to 30 in 2003, a trend that had continued into 2004.[63] However, by 2011 this situation had changed. The article by Laakso and Björk showed the growth of Open Access articles over the course of eleven years. Both the rise in Open Access numbers and the rising awareness and acknowledgement of Open Access over the last six years discussed above prove that one of the reasons why the government chose to support the *Finch Report* in 2012 was because the movement proved itself to be a permanent fixture in academic publishing, repudiating the government's early belief that it was a temporary movement.

2.2. The new RCUK Open Access policy

In July 2012, the government published their response to the *Finch Report*, and in March of 2012, the RCUK published the draft of its new Open Access policy. With its new policy, implemented in April 2013, the RCUK updated the 2005 policy and changed four key points. The first key change of the new policy was the shift in focus from Green Open Access to Gold. As opposed to the 2005 policy that mandated only Green Open Access, this new policy mandated Gold Open Access as well. In essence, authors could choose which Open Access model they used, whether it was Green or Gold. However, the focus of the policy was mainly on the Gold model and it guided authors towards the decision for Gold in a subtle manner. The second key change was that there were finally deadlines stipulating when an author must have deposited their work onto an e-print institutional repository. The deadlines differed per subject, with STEM (science, technology, engineering and mathematics) articles needing to be deposited within six months of publication, and arts, humanities, literature and management articles within twelve months of publication. This change showed the influence of Stevan Harnad, CURL, CILIP, and SCONUL when they voiced their concern about the old policy due to its lack of a deposit deadline. Without a deposit deadline, an author was still in compliance with the policy when they published their work on an Open Access platform two years after it was originally published in a journal. The above stakeholders did not believe that

[63] Bobby Pickering, 'Open Access publishing on the decline?', *VNUnet Newswire,* 12 November, 2004.

this policy reached its full potential due to the easy loophole. Thankfully, the RCUK acknowledged these concerns and made the new policy more forceful in that regard. Despite the focus being on Gold Open Access, the RCUK incorporated the deadlines needed to improve the mandate on Green Open Access. The third key change to the policy was that the Author Processing Charges would now be funded through the author's research institution, supported by block grants given by the RCUK. Where before the APC's were covered within the RCUK's research fund to the author, the RCUK had decided to lay that responsibility with research institutions and universities who received their block grants. The fourth and final key change in the new policy was that now data was also included in the policy. Where the former policy only focussed on free access to research articles, the new policy was also dedicated to making research data available to the public through mandating the Creative Commons Attribution license, in short the CC-BY license, that allowed the re-use of article's contents.[64]

Another part of the policy that proved the opinions of the stakeholders were considered when drafting the policy was not a change, perse, but the noticeable absence of two clauses. Peter Suber voiced his concerns about the clause that excepted authors from complying with the Open Access mandate if no suitable repository could be found. Due to the low number of repositories in the United Kingdom at the time, Suber considered this exception too easily met. Suber and the library bodies also criticised the clause about copyright and licensing agreements. The library bodies were concerned that publishers could prevent authors from depositing their work on a repository by changing their copyright transfer agreements, and Suber argued that this clause was redundant because the contract with the funder comes before that of the publisher, so publishers who did not wish to publish articles Open Access could simply refuse the articles. The draft of the new policy had no such clause, or any situation where an author was allowed to waive the Open Access mandate, which renders it likely that the RCUK acknowledged Suber's and the library bodies' comments.

The influence of the publishers is less notable in the policy, but their presence can be argued for. For instance, the time between the publication of the first draft of the policy in March 2012 and when the policy came into effect in April 2013 can be attributed to the complaints by the ALPSP. When the first Open Access policy was published, Sally Morris of the ALPSP wanted to delay the implementation of the policy to allow publishers time to

[64] Research Councils UK, *Research Councils UK Policy on Access to Research*, 2012. <https://webarchive.nationalarchives.gov.uk/ukgwa/20120718083529mp_/http:/www.rcuk.ac.uk/documents/documents/RCUK%20_Policy_on_Access_to_Research_Outputs.pdf>

investigate the possible effects of the policy. This would allow them time to prepare for and warn others about any negative consequences. The previous policy was first published in June of 2005 and came into effect in October of 2005. Four months were not enough time, according to the ALPSP, to prepare for the changes. That the first draft of the new policy was published 13 months before implementation could have been because of Morris's comments.

The influence of the publishers may have been small in the first draft published in March of 2012, but the final version published in July 2012 did contain a change that could be attributed to publisher influence. The policy was met with dismay when the revised version included new embargo periods for Green Open Access that were implemented to smooth the transition period, that was estimated to last around 5 years. Instead of the original 6 to 12 months, Green embargo periods were now allowed to be 12 to 24 months for the work of authors without access to APC funding.[65] This change could be attributed to the reactions of publishers and their organisations to the first draft of the policy. The Publishers Association, the organisation that represents publishers in the United Kingdom, announced in a statement their intention to resist the new policy of the RCUK, as was reported by *The Times Higher Education Supplement*.[66] They expressed their disappointment with the policy and how it did not acknowledge publisher's interests and their contribution to scholarly communication. They claimed that the RCUK had given no evidence for their 6 and 12 month embargoes and that the policy did not mention topics such as peer review, sustainability, and 'no practical policy for funding (…) open access'.[67] Michael P. 'Mike' Taylor, an advocate for Open Access and a vertebrate palaeontologist, also argued that the newly revised policy was changed due to the publishers in his blog *Sauropod Vertebra Picture of the Week*, SVPOW in short. He called the first draft of the new Open Access policy 'exemplary', but criticised the RCUK for the removal of 'all its progressive promises without consultation — except, evidently, with the publishers to whom it so cravenly capitulated'.[68] He claimed that the RCUK listened more to the publishers than to people and organisations such as him who advocated for shorter embargoes and praised the first draft. In another blog post, he provided a timeline of the changes to the new RCUK policy and detailed how each change could be attributed to the lobby practices of publishers as all these changes weakened the policy

[65] Research Councils UK, *RCUK Policy on Open Access and Supporting Guidance*.
[66] Paul Jump, 'Publishers cry foul over RCUK access plans', *The Times Higher Education Supplement*, 22 March, 2012.
[67] Ibid.
[68] Michael Taylor, 'Why did RCUK betray us to barrier-based publishers?', *Sauropod Vertebra Picture of the Week*, 17 June, 2013. <https://svpow.com/2013/06/17/why-did-rcuk-betray-us-to-barrier-based-publishers/> (28 April 2023).

further. In addition to the longer embargoes introduced in July 2012, the RCUK announced in November of 2012 that it would only fund APC's for less than half of all the Gold Open Access articles, and in January of 2013 it revealed that their embargoes would not be enforced.[69] Though Taylor is often harsh towards publishers in his blog, and quick to blame them for any setbacks the Open Access movement suffers, the points he made in regards to the changes made to the RCUK's policy were valid. The first draft of the policy was remarkable in its support for both Gold and Green Open Access and strong in its enforcement, the difference between the first draft and the eventual policy is therefore striking. The short embargoes disappeared, APC support was diminished, and the embargoes were no longer mandated. That all these changes were fortuitous for publishers is hard to ignore, which validates the argument that the final draft of the new RCUK policy was influenced by publishers.

2.3. Stakeholders on the new Open Access policy

Seven months after the release of the RCUK's first draft of the new policy, the chair of the RCUK's Research Outputs Network Mark Thorley posted an article on the official blog of the RCUK called 'RCUK Open Access Policy – Our Preference for Gold'. As the title reveals, the blog post discussed the RCUK's choice to focus on Gold Open Access instead of Green, the previous focus. He stated that the RCUK based its preference for Gold on the first of the four Open Access principles on which they built their 2005 policy: public access. Thorley explained that the RCUK believed that the public would find the distinctions between, for example, pre-prints and post-prints that accompany Green Open Access hard to understand and would struggle to find the articles. They believed that journals were the easiest and most efficient way to open the research papers to the public. Another argument for Gold Open Access Thorley mentioned is that for people to be able to re-use this research and its data most efficiently is to have it protected by a CC-BY licence the RCUK requires when paying an APC. However, this could be easily arranged if the RCUK had included in its policy the requirement that Green Open Access articles should also be published with this license. Thorley's weakest argument is his claim that Gold offered the means with which to spread research as widely as possible. An argument that is easily debunked by the fact that Green Open Access offers the exact same opportunity. Gold, according to the RCUK, would spread

[69] Michael Taylor, 'The progressive erosion of the RCUK open access policy', *Sauropod Vertebra Picture of the Week*, 22 February, 2013. <https://svpow.com/2013/02/22/the-progressive-erosion-of-the-rcuk-open-access-policy/> (28 April 2023).

the research information faster because of the lack of embargo periods. Which is technically true, but with Green Open Access authors can also upload pre-print versions of their work before it is even published. Which proves that, in some instances, Green Open Access is faster than Gold. However, it can be argued that preprints have a different status than published articles due to their not having gone through the peer review and editing process provided by publishers. Which is why the publication of preprints may not have been deemed as official and therefore not considered by the RCUK in their assessment. The RCUK also supported Gold because it believed that an APC business model was the most effective long-term sustainable way with which to fund OA publishing. It was considered more straightforward to use than Green, where a request to the author was needed to access a copy of their work when it was not directly available in repositories, which can become unmanageable when more than one-hundred people request this of the author at the same time.[70]

The comments under this blog post were not questioning the RCUK's preference for Gold but were sceptical of the reasons why the RCUK supported Gold Open Access more than Green. Taylor commented under the blog post with arguments like the ones made above. As was said earlier in response to the argument about the CC-BY license required with Gold, Taylor also argued that Green Open Access articles could be published on a repository under the CC-BY license, as he had done himself. Taylor argued that the arguments given for Gold over Green appeared to be based on the Green and Gold mandates of the RCUK policy instead of on the actual qualities of each Open Access model. Taylor also made the same argument against the RCUK's statement that Gold is the best model with which to spread research articles as widely as possible, namely that Green could be just as efficient in spreading research and that Gold Open Access sometimes also included an embargo.[71] Taylor and the other comments under the blog post appear to have the same consensus: that the RCUK should reconsider its Green Open Access mandate and make it stronger. The RCUK's preference may have been for Gold, but during the transition period there should be more attention to Green as well to optimise the shift towards Open Access. Especially because the RCUK's reasons for Gold had more to do with the weak clauses of its own Green mandate than with the actual properties of Green Open Access. The people who commented under

[70] Mark Thorley, 'RCUK Open Access Policy – Our Preference for Gold', *RCUK Blog*, 24 October, 2012. <https://webarchive.nationalarchives.gov.uk/ukgwa/20130105114415/http:/blogs.rcuk.ac.uk/2012/10/24/rcuk-open-access-policy-our-preference-for-gold/> (16 April 2023).
[71] Michael Taylor, 24 October, 2012. In Mark Thorley, 'RCUK Open Access Policy – Our Preference for Gold', *RCUK Blog*, 24 October, 2012. <https://webarchive.nationalarchives.gov.uk/ukgwa/20130105114415/http:/blogs.rcuk.ac.uk/2012/10/24/rcuk-open-access-policy-our-preference-for-gold/> (24 April 2023).

Thorley's blog posts were mostly academics, like Taylor. Stevan Harnad shared the opinion that the increased support of Green Open Access would be more advantageous. He already expressed his concern for the focus on Gold Open Access in the *Finch Report*. His argument, that featured in *The Times Higher Education Supplement*, was centred on the fact that Gold Open Access was more expensive than the free Green alternative. He argued that the United Kingdom could at that time not afford the high costs that Gold and APCs would bring. The costless Green option was the better mandate to support, a mandate that was now under threat by the preference for Gold of the *Finch Report*, according to Harnad.[72] One month after the publication of this article, the final version of the RCUK Open Access policy was published, and Harnad's statement that the Green mandates were threatened the *Finch Report* was realised. In a paper written for the conference *Digital Research 2012*, Harnad exclaimed that the RCUK's focus on Gold Open Access was a 'fatal flaw'[73] because it forced authors to choose the Gold route when a suitable one was available. As he argued with the publication of the *Finch Report*, it was unwise to promote the expensive option over the free option when the funds that pay for these APC's were scarce. Harnad also mentioned a loophole that he believed publishers would use to enforce authors to choose the Gold route, with or without the option of a CC-BY license, which was the most profitable option for them. According to Harnad, publishers could change their Green policy so that it no longer conformed to the RCUK's demands of a suitable Green route which then forced authors to choose their Gold route.[74] For example, a publisher could change their Green embargo from 24 months to 26 months and have a Gratis Gold option (without CC-BY license), which could force authors to choose the Gold route. Authors were mandated by the RCUK policy to choose Libre Gold (with CC-BY license) over other options, even a suitable Green route. So, Harnad argued that the above example could be used by publishers who did not wish to offer a Libre Gold option.

Peter Suber made the same point in his *SPARC Open Access Newsletter*.[75] He said that Green Open Access was strongly advocated for by academics, and that, while Gold was also accepted, it was acknowledged that Green would have been the better focus of the policy during the transition period. One academic even refuted the publisher's right to comment on

[72] Paul Jump, 'Open access may require funds to be rationed', *The Times Higher Education Supplement*, 21 June, 2012.
[73] Stevan Harnad, 'How and Why RCUK Open Access Policy Needs Revision', in conference *Digital Research 2012* in Oxford, United Kingdom, September, 2012, p. 1.
[74] Ibid.
[75] Peter Suber, 'Issue #165', *SPARC Open Access Newsletter*, 2 September, 2012. <http://web.archive.org/web/20140216021149/http:/legacy.earlham.edu/~peters/fos/newsletter/09-02-12.htm> (9 May 2023).

Green embargoes. Michael Taylor gave his reason for why Green embargoes should be free of publisher's influence in his blog post '*All* Green-OA embargoes are iniquitous'. Taylor argued that any embargo period placed on a Green OA article that had not been altered by a publisher was not warranted. He claimed that because publishers did not contribute or add value to an accepted article, essentially had no part within the writing process, the publisher did not have the right to intervene when the author wished to upload that version of the article. If publishers feared that people would no longer want to pay for the value they add to the article, such as the typesetting, editing, copy-editing, and formatting, then, according to Taylor, they were 'saying that the value they add is inadequate'.[76] His argument, in summary, was that embargoes can only be placed on articles that the publisher contributed to. Suber expressed another concern in his *SPARC Open Access Newsletter*. He mentioned that authors were irate because the RCUK policy limited their freedom when it mandated that if a journal did not have an acceptable Gold or Green option, an author had to choose a new publisher. However, Suber argued that a policy focussing on Gold was already restricting the author's freedom, because only 30% of journals were Open Access, and only 12% of journals were libre Open Access, thus seriously altering the list of publishers authors could choose from.[77] This was why all Open Access mandates were Green, and none solely Gold, as that would leave a paltry list of publishers open to RCUK-funded authors. Suber believed the *Finch Report* made a mistake in believing that all Open Access journals asked for an APC and to argue for Gold, because the RCUK policy would have subscription journals turn Hybrid and previously no-fee Open Access journals start collecting APC fees to profit from this new income supported by the RCUK.[78] With Taylor's contribution, the main point made by the academic researchers was that Green should have received more attention by the policy, and that publisher's influence on the Green embargoes was unwarranted and damaged the strength of the policy in addition to strengthening the Gold mandates which were mostly only advantageous for the publishers.

Scholars teamed up to advance their request for stronger mandates and attention for Green Open Access. In January 2013, they sent a letter to the government that expressed their concern about 'the cost of article fees for gold open access'[79] and how their researchers 'fear

[76] Michael Taylor, '*All* Green-OA embargoes are iniquitous', *Sauropod Vertebra Picture of the Week*, 15 March, 2013. <https://svpow.com/2013/03/15/all-green-oa-embargoes-are-iniquitous/> (9 May 2023).
[77] Suber, 'Issue #165'.
[78] Ibid.
[79] Paul Jump, 'RCUK takes open-access green targets off fast track', *The Times Higher Education Supplement*, 7 February, 2013.

that the rationing of article fees will inhibit their freedom to publish when and where they want'.[80] One representative from the University College London was especially prolific in his comments on the new RCUK Open Access policy and the *Finch Report* when he wrote his own opinion piece and featured in several articles of *The Times Higher Education Supplement*. David Price, vice-provost for research at University College London, commented on the *Finch Report* in his opinion piece 'Don't deal in a debased currency - go green' published in *The Times Higher Education Supplement*. In his opinion piece, Price argued that Green Open Access should have gotten more attention in the *Finch Report* and that the report incorrectly concluded that Gold was the best route with which to gain full Open Access. He used arguments that proved that Green was the least expensive option, and that with Green Open Access and national licensing a 100 percent of research articles would be accessible within the United Kingdom, while, with Gold Open Access, the world outside of the United Kingdom would gain access to 6 percent of British research articles. Price also mentioned that the University College London saw a significant increase in uploads on their repositories and the great value that Green Open Access brought to scholarly communication.[81]

He repeated this sentiment in other articles of *The Times Higher Education Supplement*. In one article called 'RCUK takes open-access green targets off fast track', Price claimed that the focus on Gold Open Access 'runs counter to the immediate national interest'.[82] He also criticised the RCUK for knowing that the new policy was not ideal when the RCUK announced a 'regime of relaxed enforcement'[83] for its Open Access policy. In another article called 'Is RCUK's open-access cash a 'reckless' road to ruin?' Price critiqued the RCUK's funding for Open Access. Price commented on the fact that Gold is more expensive than Green, and Green would have therefore been the more economical option. Moreover, according to Price, the RCUK was not providing enough funding to support the Gold route but had also not included all the people of academia in its funding. Price was critical of the RCUK's choice to not fund PhD students and only fund 80 percent of article fees because the RCUK incorrectly assumed additional funding would be easily found.[84] A representative from the University of Oxford agreed with David Price. Ian Walmsley, pro-vice chancellor for research, was also concerned about the high costs of Gold Open Access.

[80] Ibid.
[81] David Price, 'Don't deal in a debased currency - go green', *The Times Higher Education Supplement*, 5 July, 2012.
[82] Jump, 'RCUK takes open-access green targets off fast track'.
[83] Ibid.
[84] Paul Jump, 'Is RCUK's open-access cash a 'reckless' road to ruin?', *The Times Higher Education Supplement*, 15 November, 2012.

He estimated that the costs the University of Oxford paid for publishing could rise with 350 percent, a cost that would probably negatively impact research. Walmsley continued his critique of the Gold route when he called the shift to Gold 'a marginal improvement on what already exists'.[85] The statement also showcased Walmsley's support of Green Open Access as it implied that the Gold route was only slightly better than Green, with Green as the preferred option as it came without the additional costs.

Publishers appeared to believe the RCUK had not adhered enough to the *Finch Report*. Academics expressed their concern for the policy's clause that had authors choose Gold over Green, while publishers praised the focus on Gold but also said that the emphasis on Gold was not as strong as it should have been. A spokeswoman for the Publishers Association criticised a statement made by an RCUK spokeswoman who said that authors could also choose Green and the shorter embargo period even if APC funding was available at the author's organisation. The spokeswoman of the Publishers Association claimed that authors should always choose Gold when the option is available to them. She argued that short embargoes should only be an option when the publisher did not offer Gold. Richard Mollet, a chief executive of the Publishers Association, stated that all short embargo periods were at odds with the *Finch Report* and the Open Access policy of the government.[86] History journals were also displeased with the Green embargoes, as was reported in an article by *The Times Higher Education Supplement*. They demonstrated this through adopting a policy that did not comply with that of the RCUK. Twenty-one history journals had joined forces and announced their new policy on Open Access in an open letter that could be found on the website of the Institute for Historical Research. In this letter they disclosed that they would offer Gold Open Access but without the CC-BY license, and that their Green option involved an embargo of 36 months. Their arguments against the RCUK's policy on Gold and Green Open Access publishing were based on their conviction that the CC-BY license would legitimise plagiarism and that the short embargoes would damage the sustainability of their journals as their subscription numbers would decline.[87]

Taken together, it appears that publishers and academic researchers and institutions were directly opposite each other when it concerned the new RCUK policy. Academic researchers and institutions both critiqued the shift from Green Open Access to Gold by the

[85] Ibid., 'Finch's open-access cure may be 'worse than the disease'', *The Times Higher Education Supplement*, 28 June, 2012.
[86] Ibid., 'Root-and-branch confusion over green', *The Times Higher Education Supplement*, 14 March, 2013.
[87] Ibid., 'Journals nail colours to the mast in revolt over RCUK open-access policy', *The Times Higher Education Supplement*, 20 December, 2012.

RCUK and lamented the revised policy that allowed longer embargo periods during the transition period. Publishers, however, praised those very same facts and claimed that the RCUK had still not honoured the *Finch Report* enough and that the short embargoes implemented after the transition period would not be feasible. In chapter three, this constant repetition of academics versus publishers in the media when discussing Gold and Green Open Access will be further analysed. In his *SPARC Open Access newsletter*, Suber presented a reason why publishers adhered to the *Finch Report* when complaining about the RCUK policy, as did an anonymous pro vice-chancellor who was interviewed for a *Times Higher Education Supplement* article. They both alluded to the theory that the *Finch Report*'s findings were in favour of the publisher's wishes because the publishers were the best-represented stakeholders in the Finch Committee. Suber argued for this theory because one-third of the Finch Committee existed out of publishers, with no Open Access publishers present. Both Suber and the pro vice-chancellor deemed that the mission of the *Finch Report* and its conclusion had catered more to the wishes of the publishers than of the other stakeholders within the Committee.[88] This is a compelling argument as to why the *Finch Report* chose to support Gold Open Access instead of Green, like the report by the House of Commons Science and Technology Committee did in 2004. Publishers were best represented by only a small percentage, however, as the actual numbers of the Finch Committee members counted five publishers out of sixteen members, with four researchers and two librarians. Nonetheless, the fact that the *Finch Report* was fully in support of Gold Open Access while many researchers and academic institutions were against this shift does imply that the publishers had the upper hand in the writing and investigative process of the *Finch Report*.

2.4. The 2014 review of the RCUK Open Access policy

At the end of 2014, the RCUK performed a review of the implementation of its Open Access policy implemented in April 2013. It asked the important stakeholders, such as publishers, universities, and research funders, to submit written evidence on their experience with the implementation of the policy. The review covered the period from the policy's implementation until the 31st of July 2014, 16 months in total, and was published in March of 2015. More than 80 submissions were received by the RCUK for the review, however, the consensus of the review panel was that the timing of it left too small a window for sufficient

[88] Suber, 'Issue #165';
Jump, 'Finch's open-access cure may be 'worse than the disease''.

evidence to be gathered and to do a thorough investigation of the results of the policy. Many institutions had trouble with gathering the information or did not have enough evidence to do a proper review. The panel in charge therefore decided that only recommendations and clarifications about the policy would be given at this stage. Any real changes to the policy would be made following the next review of the policy based on the recommendations given in this review and when enough evidence has been gathered to support them. The impact that will be studied here will thus be of a less direct nature as the manner with which the instances of public opinion of the stakeholders were featured in, and might have impacted the recommendations of, the review will be explored.

The first stakeholders that were discussed were the higher education institutions and the learned societies. The positive effects of the policy, according to the higher education institutions, were that more articles were published as Gold Open Access that previously were not and that Open Access was put at the forefront by the policy, opening the conversation more widely. The learned societies found that Gold was the best way with which to transition to Open Access, especially with their hybrid journals. An interesting observation is that, when compared to the comments made on the new policy by representatives of higher education institutions in the media, no comment is now made on how Green would have been a better Open Access model to focus on than Gold. Despite its significant presence in the media, the debate on Gold versus Green did not feature in the review, which shows that it did not influence, or was not included, in the evidence send to the review panel by higher education institutions.

As was reported in the review, both academia and publishers encountered the same struggles that the new policy brought with it, namely the differences between the humanities and social sciences and STEM disciplines. While STEM benefits from short embargoes, the arts, humanities and social sciences experience the opposite. Two representatives of those disciplines, the Royal Historical Society and the Political Studies Association, have expressed their concern that there had not been enough research done into their publishing market to warrant the 6-12 month embargoes the RCUK wished to implement after the transition period. Their argument for longer embargo periods for their articles was that their articles were most often read more than two years after its publication. The shorter embargoes therefore prevented any profit they could make on those articles. Furthermore, the policy prevented British authors from publishing in prestigious journals not based in the United Kingdom that had embargo periods that did not conform to the RCUK's policy, a concern also shared with

the British Academy and the Society for French Studies.[89] This part of the review reflected the actions and opinions of the history journals, when they published a joint response to the new policy on the website of the Institute of Historical research in which they rejected the embargo periods of the RCUK and announced their own embargo of 36 months. It can thus be said that the discontent over the short embargoes of the policies did influence the evidence that the higher education institutions and learned societies gathered for the review. Unlike the Green versus Gold debate, this concern had a bigger impact on the stakeholders and their experience with the implementation of the policy.

Next to feature were the publishers. They had reported to the RCUK that their experience of adapting to the Open Access policy had gone well. Elsevier, especially, had informed the RCUK that it counted 125 full Open Access journals. The new policy was clearly a success for the publishers and inspired them to take action to support Open Access. The Publisher's Association added to this with the information that 75 percent of journals in the United Kingdom offered an Open Access option, with 96 percent of those journals offering a Green option with an embargo period up to 24 months. Moreover, the International Association of STM Publishers included in their evidence that among their members they witnessed a rise in hybrid journals and full Open Access journals.[90] Despite their earlier disappointment with the policy because it did not mandate Gold enough, the evidence publishers gathered for the review did not contain these complaints to such an extent that the panel considered it to be relevant for the review. To read that publishers improved their own Open Access practices is opposite to what was implied in the media, where, as has been seen in this chapter and chapter one, it appeared as if the publishers only put effort into preventing Open Access and were reluctant to partake in it. The reason behind the difference between what is reported in the media and the actual actions of publishers will be further analysed in chapter three.

Based on the evidence provided by the stakeholders, the panel decided on several recommendations for the improvement of the policy in the future and further clarification on the existing policy. In total there were thirty recommendations divided into six different topics, such as embargoes, block grant, and licenses. Only five recommendations will be discussed here because not all thirty were relevant for this chapter. The first is

[89] Research Councils UK, *Review of the implementation of the RCUK Policy on Open Access*, 2015. <https://webarchive.nationalarchives.gov.uk/ukgwa/20180201181756mp_/http://www.rcuk.ac.uk/documents/documents/openaccessreport-pdf/>.
[90] Ibid.

recommendation 1.9, here the panel recommended that monographs should be further investigated to include them within a future review of the policy. This recommendation can be said to have been influenced by the concerns raised by the arts, humanities and social sciences who complained that there had not been enough research into their publishing market. Therefore, the decision to further investigate the monograph before implementing it in the review can be seen as a consequence of the concerns raised by institutions such as the history journals. The second is recommendation 2.4 which clarified that during the transition period authors were free to choose between Gold and Green Open Access, so authors did not have to choose Gold when that was an option. In this instance, the influence of the Green versus Gold debate that the new policy sparked was finally detected. This recommendation proved that the panel did acknowledge the concerns about the larger focus on Gold and decided to ensure that either of the two Open Access models were eligible options according to the RCUK. The third and fourth recommendations, 3.1 and 3.2, counselled that the discussion around embargoes should be delayed to a future review of the policy when there will be more evidence, and that the RCUK 'should work with researchers and institutions to help to remove any confusion in relation to embargo periods'.[91] This recommendation again showed the influence the arts, humanities and social sciences had on the review. Their complaints about the embargoes and the lack of knowledge of the RCUK policy about their specific publishing needs were at the forefront of this review and of what should be focussed on for the next one. The fifth and final is recommendation 4.2 which explained that the CC-BY license was mandated and therefore any articles not published with the license were in breach of the policy. This recommendation echoed the statements made by Peter Suber and Stevan Harnad, who were concerned that the publishers would take advantage of the policy and force authors to choose Gold options that did not include the CC-BY license through changing their Green route. This recommendation, together with 2.4, addressed the concerns raised by Suber and Harnad about the focus on Gold and the possible loopholes of the policy by removing the indication that an author should always choose Gold over Green and to prevent publishers from publishing RCUK-funded research as Gratis Open Access.

The review did feature some aspects of the public opinions stated by several stakeholders which in turn influenced its recommendations. The most salient stakeholders were the ones representing the publishers and authors of arts, humanities and social sciences articles. Whereas the 2005 and 2013 policy and the comments on those policies focussed

[91] Ibid., p. 28.

mostly on the issues surrounding STEM authors and publishers, this review focussed largely on the issues of arts and humanities publishers and how future reviews and policy changes should include these disciplines on an in-depth level. This marked an important shift in the process of Open Access. Other stakeholders which were well presented but not specifically mentioned were the researchers. Peter Suber and Stevan Harnad's wishes were indirectly acknowledged in the recommendations of the review but not elsewhere. Publishers wished for more Gold in the policy, but instead the review stated that both Green and Gold were acceptable options and that it was a free choice. However, because the embargoes and monographs would be better investigated after the concerns raised by the people from the arts, humanities and social sciences, publishers in general were well presented in the review.

In summary, the first draft of the 2013 RCUK Open Access policy showed signs of influence from the expert opinions covered in the media through its early announcement in early 2012, the addition of deposit deadlines, and the lack of exceptions. Its final version again showed signs of influence from expert opinion in the media through the lengthened embargo periods and that the embargos were no longer enforced. The 2013 policy appeared, when compared to what was expressed in the media, to have been most influenced by the wishes of the publishers. A theory from academics as to why the publishers had so much influence on the policy was that they were the best-represented stakeholders in the Finch Committee for the *Finch Report* upon which the 2013 policy was based. This echoes the sentiment of the previous chapter where academics were also suspect of publisher's actions. The reactions from experts towards the final 2013 policy were dominated by the policy shift from a Green focus to a Gold one, with the underlying pressure for authors to choose Gold over Green options. Academics were yet again arguing for a stronger Green mandate, while publishers were saying that the Gold mandate was not strong enough. The Green vs. Gold debate was reflected in the 2014 review of the policy on a small scale, despite its strong presence in the media, through one of the recommendations given in the review that said authors were free to choose between Gold and Green. The review showed the most influence from expert voices that only had a small presence in the articles analysed for this chapter, namely from stakeholders from the arts, humanities and social sciences. They were represented in the media through the history journals that resisted the new Green embargo periods. The recommendations that can be considered as stemming from their expert opinions were the ones that recommended more investigation into monographs for the next policy and delayed the conversation about embargo periods to a later date so more research could be done together with input from stakeholders such as institutions and researchers.

Chapter 3: The Open Access Narrative of the Media

The last two chapters have focussed on the expert voices covered by the media about Open Access, through the RCUK's Open Access policies. The importance of the media in relation to Open Access is compounded in this chapter. Whereas before the media had a complementary role as the tool used to spread opinions and ideas on Open Access, this chapter will show that the media used those same opinions and ideas of experts to create their own portrayal of Open Access in scholarly publishing. This chapter will analyse the expert opinions in the newspapers and magazine from the previous chapters to establish that together they formed a narrative which could have influenced Open Access. For Open Access, the opinions from stakeholders and experts were important for its formative years as was seen in chapter 1. The British government did not support Open Access in 2004 as it believed it would be a temporary movement. Furthermore, as will be seen in this chapter, several persons within the publishing industry did not support Open Access because they were of the opinion that the movement wished to replace publishers within the publishing process, or remove them from it. And what will also be demonstrated within this chapter is that some academics did have that conviction, that to replace or remove publishers would be the best course of action. This chapter will investigate whether the opinions of these stakeholders could have originated or been influenced by the media's narrative of Open Access in scholarly publishing through analysing the articles on Open Access the newspapers published and which stakeholders they chose to interview and represent in those articles.

From more than twenty articles that were found through the method described in the introduction, twelve articles published between 2000 and 2014 were selected for this chapter based on the impression they gave on a first reading. This step was important as I got a variety of articles and a first glance did not tell me whether an article would be useful or not. Therefore, attentively reading all the articles I got from my database query was essential to gathering the right sort of articles. I focussed on the words the articles used, their captivating headlines, the people who were interviewed or mentioned, and the conclusions included in the article, literal or implied. The articles that were most salient in their narrative framing, without a detailed analysis of its framing components, were selected in order to keep the total number or articles low to match the scope of this chapter. The articles that were selected all reported on the Open Access movement, some through specific events and others on a more general level. Articles that showed framing on a lower level were not taken into consideration. These

articles could have given another insight into the framing activities of the media, however, as I got the impression that they all portrayed the same narrative I did not believe this to be detrimental to the analysis.

The selected articles were then analysed in detail on the following aspects: headline, included images (if any), main text, conflict, responsibility of conflict, persons involved, and language use. Tables were created to present the result of the analysis and were constructed in such a way to illustrate the articles' framing qualities in a succinct and clear manner to complement the additional description and analysis.[92] This method was chosen to give detailed examples of the subtle and obvious ways media articles portray framing and how, often unconsciously, a reader can be pushed towards a certain conclusion or opinion. After the discussion of these articles, their narrative will be compared to other reports on Open Access to see how factual the media narrative really was. Finally, the possible effect the narrative could have had on the movement will be discussed using examples of scenarios related to events that have already been discussed. However, to prove that these scenarios were what happened is not the point of this chapter as that would be very difficult, maybe even impossible, to argue. The goal is to prove the likelihood of those scenarios using examples from this thesis to give tangible evidence of the possible influence the media narrative had upon Open Access.

3.1. The conflict between academics and academic publishers

3.1.1. Articles by journalists

The articles discussed below were analysed as one component to find their combined narrative. The first four articles to be discussed were published in the magazine *The Economist* and newspaper *The Guardian*. The main instance that connects these articles is the conflict the articles conveyed and that three of the four included pictures whereas the articles in figure 2 did not have pictures included (insofar as could be retrieved). Where the articles in figure 2 focussed on a specific phenomenon, these articles also included in some manner the whole of the Open Access debate. Published in 2001, 2003, 2005, and 2012, these articles reported on the status of Open Access at that time and the main conflicts which arose from it. Each of the twelve articles used certain language and described the situation in such a way to steer its readers to one conclusion. The conflict they created is one between the academics and

[92] The framing qualities and tables were based on and inspired by the method of the following Master thesis: Kweku Ndamah-Arthur, *Framing Effects in News Paper Reports* (Tilburg: Tilburg University, 2018), pp. 10-13.

the publishers. According to their combined narrative, academia and the publishers were directly opposite each other in this matter. With universities and their scientists arguing for Open Access and calling for change, and with the publishers in disagreement with the wishes of Open Access and its advocates and were also often given the blame for the conflict. A short overview of the articles and their main components that convey framing can be found in figure 1.

	1. 'Journal wars' (2001)	2. 'Scientists take on the publishers in an experiment to make research free to all' (2003)	3. 'Publish university science for free, urges web creator' (2005)	4. 'Brought to book' (2012)
Headline	Indicates strife by describing Open Access as a war over journals.	Implies a dispute between scientists and publishers.	The involvement of the creator of the web implies the importance of the subject.	Uses the idiom to imply someone needs to account for his conduct.
Picture	Two men in scrubs with medical masks around their necks and an angry look on their faces. Accompanied with the text: 'doctors are dismayed'.	Person with two journals, Nature and Science, in front of a door with danger markings and half a sign that reads 'this door … kept loc', presumably reading: 'this door is kept locked'.	—	Older man in a suit, with an antique printing press and a profit chart in the background. The profit chart first rises dramatically before showing a steep decline. The man is looking towards busy and excited men in lab coats engaged with laptops.
Conflict	Scientists want publishers to use the internet to give better access to research, to provide access to articles after an embargo period. Publishers refuse because they do not believe that these other forms of publication will cover their expenditures.	Scientists and research libraries want free access to research for everyone, but Publishers are reluctant and keep raising their prices.	Publishers are hindering the progress of Open Access because they believe it will affect the quality of science publications. Academics are not happy and have judged publishers in a letter sent to the science minister and the RCUK.	Academia wishes for all research to be Open Access, but the shift towards that situation is difficult due to publisher's monopoly on science publications and academic's reliance on journals for their career.

Responsibility	Both sides are responsible for this conflict.	Subtly points towards publishers.	ALPSP, a representative of publishers.	Publishers.
Language	'wars' and 'trump card'.	'take on'; 'challenge'; 'conflict'; 'rip-off prices'.	'attack'.	'revolution'.

Figure 1: short summary of the framing qualities of articles which reported on the progress of Open Access.[93]

The conflicts depicted in each article are remarkably similar. Each article's main message was that researchers, universities, research libraries and other representatives of academia wished for the implementation of Open Access, and that the publishers always stood in their way. The description of these conflicts are indicative of framing in the manner with which they are told. Academia was always described as bringing a challenge or revolution to publisher's doorsteps with their innovative ideas for science publishing. The language used to describe this aided in the narrative that publishers and researchers were directly opposing one another, using words such as 'wars', 'revolution', 'challenge', and 'attack' to refer to actions taken by both sides. Another part of their combined narrative was to put publishers on the wrong side of the conflict. Excluding 'Journal wars', the other three articles gave the responsibility of the conflict to the publishers. This was not done in direct words, but through the text. In addition to the words used, the goal of the scientists was often more discussed than the reasoning of the publishers for why they did not wish to directly implement Open Access. In 'Scientists take on the publishers in an experiment to make research free to all' published in 2003 by *The Guardian*, the representatives from academia pointed the responsibility of the conflict towards the publishers with their wording. The article reported on the new Open Access journal of the Public Library of Science and had academics explain why Open Access journals were needed. The introduction of the article started this with their description of the new journal as a 'revolution' and 'an unprecedented challenge to the publishers that lock away the valuable findings of research'.[94] The academics who were quoted in the article echo the sentiment in the introduction. They believed that the current publishing system was 'not fair'; did not serve the community as its focus lies in 'generating huge profits'; and that it was an irrational system as academics do all the work and give it to

[93] See Appendix B for the full articles and images.
[94] David Adam, 'Scientists take on the publishers in an experiment to make research free to all', *The Guardian*, 6 October, 2003.

the publishers for free only for them to 'sell it back to us at these rip-off prices'.[95] The use of words such as 'lock away', 'not fair', 'rip-off prices' did not put the publishers in the best light.

The article 'Publish university science for free, urges web creator' published in 2005 by *The Guardian*, reported on the letter sent by eight academics in response to the efforts by the ALPSP to slow down the progress of Open Access. The article gave the ALPSP the responsibility of the conflict as they did not give evidence to support their claim that Open Access would lead to a 'disastrous scenario'[96] with low-quality science papers. It did this through stating the evidence the academics put forward in their letter of the success of self-archiving in physics, making the ALPSP's concerns appear as baseless fear mongering used to hinder Open Access. In 'Brought to book', published in 2012 by *The Economist*, publishers were given the responsibility of the conflict through the article's description of commercial publishers. Their power over academia and how they generate such huge profits was explained, together with the goal of Open Access and the progress the movement had made as it recently gained the support of the government of the United Kingdom. According to the article, the monopoly the publishers hold over scientific publications was now slowly being challenged with the advancement of Open Access, while portraying publishers as big powerful businesses against a change that influenced their high profits. This was reinforced through the last concluding sentence: 'If scientific publishers are not trembling in their boots, they should be'.[97]

The moral argument of academia was referenced in 'Scientists take on the publishers in an experiment to make research free to all', when it was said, in relation to the implementation of Open Access journals, that researchers needed to choose 'between their career and their conscience'.[98] This referred to the publish or perish culture academics struggle with, where they need to publish in journals to advance their academic careers. To phrase this as choosing between their career and their conscience, the article implied that the choice for Open Access was morally superior, indirectly insinuating that the actions of commercial publishers were immoral according to academia. The imagery of the pictures included in the articles aided the narrative that publishers appear to be the 'bad guy' in these scenarios. The best example is from the image in 'Brought to book'. The description in figure

[95] Ibid.
[96] Wray, 'Publish university science for free, urges web creator'.
[97] 'Brough to book', *The Economist*, 21 July, 2012.
[98] Adam, 'Scientists take on the publishers in an experiment to make research free to all'.

1 of the image conveys the impression the readers of that article would have gotten of the situation, enhanced by the reading the article. The man, presumably a publisher, operated an antique version of a printing press, communicating the idea that commercial publishers were outdated. The profit chart on the wall, with its high rise and then dramatic fall, indicated the end of publisher's high-priced journal subscriptions and the start of free online access to all research, exciting the research community to which the publisher is a witness from his seat behind the printing press. This rather morose picture, combined with the text of the article which explained the monopoly publishers had on science articles and the publish and perish culture, painted publishers in a bad light while researchers were heralded as revolutionists.

	1. 'Government "obstructs science access"' (2004)	2. 'Keep science off web, says Royal Society' (2005)	3. 'Publisher "threat" to open access' (2009)	4. 'Research intelligence - We're not paying that much!' (2010)
Headline	Not supporting Open Access is described as obstructing access to science	Implies the Royal Society is wholly against online publishing and self-archiving.	Indicates that publishers are wholly against Open Access	Signifies the fact that academia is done paying extraordinary prices for research
Conflict	The MPs behind the 2004 report 'Scientific Publications: Free for all?' are angry at the UK government for not supporting Open Access as their report advised.	RCUK supports self-archiving, but the Royal Society believes it will lead to the demise of journals and wish for more investigation into the subject before implementation.	Academics believe that Elsevier will undermine Open Access with their proposed PDF repository for research articles.	To inspire publishers to half their planned price increases, JISC published a study into the cost of peer review if scientists asked money for it.
Responsibility	Article implies the government and the Department of Trade and Industry for listening to the publishing lobby.	Subtly points towards the Royal Society.	Academia for misunderstanding Elsevier's goals, or Elsevier for trying to control repositories	Publishers, by charging high prices and planning to increase them while library budgets are dwindling.
Language	'obstructive'; 'powerful publishing lobby'; 'victory'.	'thinly veiled attack'.	'threat'; 'undermine'; 'new tactic'; 'battle'.	'pushing back'; 'resistance'; 'threatened'; 'kitty got claws'.

Figure 2: short summary of the framing qualities of articles describing specific Open Access events.[99]

The articles in figure 2 portrayed the same narrative in relation to more detailed events within Open Access. The articles reported in detail on several events connected to Open Access such as the response of the government to the 2004 House of Commons report on science publishing and the JISC study of the cost of peer review. These four articles portrayed the afore mentioned narrative of publishers versus academia best through the people and institutions that featured in their stories. Each of the articles portrayed a different battle between publishers such as Elsevier and the Royal Society and people from academia such as Stevan Harnad, or other supporters of Open Access such as the MPs behind the report 'Scientific publications: Free for all?'. The article 'Government "obstructs science access"', published in 2004 by *The Guardian*, depicted a triumph for publishers when the government of the United Kingdom did not take the House of Commons' advice on supporting Open Access. The article then only featured quotes and statements from people who supported Open Access and were angry with the government's lack of action. The Department of Trade and Industry was accused of adhering to the 'powerful publishing lobby'[100] for their response to 'Scientific publications: Free for all?' by the MPs who wrote it. The language used to describe this situation strengthened the image of a conflict between publishers and advocates of Open Access by calling the government 'obstructive' for not supporting Open Access and calling their decision a 'victory'[101] for publishers like Elsevier. The notable lack of statements from either the government or the Department of Trade and Industry in defence of their decision would have subtly led the reader to believe the opinion of the MPs, which was that the two institutions were to blame for listening to the publishers instead of the supporters of Open Access.

The article 'Keep science off web, says Royal Society', published in 2005 by *The Guardian*, did the same as the previous article when it omitted one piece of information which strengthened the narrative that publishers were in the wrong in their conflict with academia. The article reported on the reaction of the Royal Society to the RCUK's position statement on Open Access in which it revealed its policy on Open Access publishing. The Royal Society believed that the RCUK was too quick with the decision to implement Open Access and

[99] See Appendix B for the full articles.
[100] Richard Wray, 'Government ''obstructs science access''', *The Guardian*, 8 November, 2004.
[101] Ibid.

should do more research into the effects of their decision. The Royal Society did not give evidence to support their distrust of Open Access, which is why the rebuttal of Open Access advocates stood firm against their supposition. The unnamed supporters of Open Access believed that the Royal Society confused two terms, believing self-archiving to be Open Access publishing. Open Access publishing is when an author pays an Author Processing Charge to a publisher for their work to be openly accessible, and self-archiving is the act of uploading an article that has been accepted by a journal to an online institutional repository. Self-archiving does not replace publishing as it is done in addition to publishing. The article also mentioned that it has for several years been standard practice in several disciplines, a statement which proved that self-archiving was not as harmful or detrimental to science as the Royal Society feared.

The other two articles were more salient in their framing of the Open Access movement as a strategy to undermine publishers. Two actions undertaken by the publisher Elsevier and the organisation JISC were framed as organised threats and resistance to the presumed opposition. In 'Publisher "threat" to open access', published in 2009 by *The Times Higher Education Supplement*, the offer from Elsevier to create and manage repositories in replacement of the current ones owned by universities was described as a 'new tactic'[102] to sabotage the re-use of data. A former library director was quoted about his concerns for the implementation of Elsevier repositories, claiming that PDF files, the preferred document form of Elsevier, did not allow the re-use of its contents and that Elsevier 'could set access conditions that undermine the needs of researchers'.[103] In 'Research intelligence - We're not paying that much!', published in 2010 by *The Times Higher Education Supplement*, the same narrative was imposed on the study done by JISC into the supposed cost of peer review if researchers would ask money for this service. Their study was introduced as a way to push back against publishers, to start a 'resistance'.[104] JISC published this study to inspire publishers to lower their costs so libraries could afford their subscriptions, and then the article added that a possible outcome of the publisher's refusal could be a boycott of their journals as was done by the University of California. This possible fall out paragraph was described as 'has kitty got claws',[105] inspiring the imagery of a cat fight between publishers and academics.

[102] Zoe Corbyn, 'Publisher ''threat'' to open access', *The Times Higher Education Supplement*, 18 June, 2009.
[103] Ibid.
[104] Paul Jump, 'Research intelligence - We're not paying that much!', *The Times Higher Education Supplement*, 25 November, 2010.
[105] Ibid.

3.1.2. Opinion pieces by academics

The third table shows opinion pieces written by academics who also portrayed this narrative. Showing in more detail the side of academia for why they believe Open Access to be the ideal publishing model and the bad consequences the traditional publishing model caused. The argument against these articles demonstrating that the media created a narrative around Open Access could be that the authors are biased due to their status as researchers, Open Access advocates, and university staff, and so their opinion pieces were bound to be in favour of Open Access and against any actions taken to undermine that goal. However, the reason why they were taken into account is because of the newspapers who published them. In addition to the opinion piece discussed here, there were more pieces written by academics published in renowned newspapers such as *The Guardian* and *The Times Higher Education Supplement*. Their decision to publish these pieces is proof enough that they intended to create a salacious narrative about Open Access that would draw readers, especially articles from people involved in the movement would have contained interesting and engaging information for their readers. In addition to the regular articles above, these opinion statements would have also led the public to believe a certain narrative about Open Access. The joint main focus of these four opinion pieces was that they condemned the publishers for their attempts at maintaining the status quo. As can be seen in figure 3, their arguments were that publishers did not use the internet to its full extent, they preserved their monopoly on publishing science articles, they charged high subscription prices, and did not disclose their costs to review their high profit margins. If a newspaper would report on these four opinion pieces as they did in the articles above, they would have been called 'attacks' on publishers and the authors would have been described as 'heralding in a revolution'.

Michael Taylor reinforced the idea of academics taking a stance against publishers when he called for all scholars to join him in publishing their work in Open Access journals as much as possible and no longer offering free peer review to non-Open Access journals. He did not offer any other actions or solutions that could help the transition to Open Access besides boycotting the traditional publishers. He even condemned the decision of Dame Janet Finch, head of the Finch Committee, for taking into consideration the opinions and worries of the publishers. He lamented in his conclusion that the 'status quo is not merely unfortunate, it's exploitative and immoral. By giving those corporations our time and effort, we are helping to perpetuate it'.[106] Simon Lilley, head of the University of Leicester School of Management,

[106] Michael Taylor, 'Peers, review your actions', *The Times Higher Education Supplement*, 29 September, 2011.

also regarded publishers as exploitative, specifically regarding their prices. In his opinion piece, published by *The Times Higher Education Supplement* in 2012, he criticized the high profits of publishers and their evasiveness when asked about their costs. He also mentioned that one publisher spend an enormous amount of money, 4.3 million pounds, to move the company to get a lower tax bill, benefiting their shareholders and increasing their already high profits. The overall tone of the article is accusing, stating that their supposed costs would never allow for such high profit margins. The reported 70 percent profit margin for journals alone and the 53 percent profit margin some academic publishers enjoy do not measure up well against the 5.2 percent of food suppliers and 6.9 percent of electricity utilities provided in the article.[107] Lilley called for publishers to open up their books and change their prices accordingly, threatening them with boycott attempts and the creation of affordable journals to compete with their journals if they did not comply.

Michael Eisen, one of the founders of the Public Library of Science and a biologist, wrote 'Publish and be praised' published by *The Guardian* in 2003 wherein he openly blamed publishers for the fact that the internet is still not used to its full potential to spread the discoveries made in scientific publications. As an Open Access publisher himself, he knew that this new model worked and that the once useful publishing system was now 'outdated' and acted as 'a significant barrier to scientific progress'.[108] The most avant-garde method used in these opinion pieces to discredit publishers was the image and language used for the article 'Academic publishers make Murdoch look like a socialist', written by George Monbiot in 2011 and published in *The Guardian*. As the description in figure 3 depicts, the image directly put publishers in the act of withholding information from the public. The imagery of the man on the letter 'f' pulling away the book just as the person reaching for it gets close is damaging. The combined language use of the four articles, as depicted in figure 3, created its own narrative of the academic researchers fighting against the injustice of the current publishing system which they deemed 'perverse and needless',[109] an 'economic parasitism',[110] and a 'stranglehold'[111] on which the publisher's 'feather their nests'.[112] Monbiot added to this description when he implied that he thought of academic publishers as akin to criminals when he said that it was not surprising that Robert Maxwell, according to Monbiot 'one of the

[107] Simon Lilley, 'How publishers feather their nests on open access to public money', *The Times Higher Education Supplement*, 1 November, 2012.
[108] Michael Eisen, 'Publish and be praised', *The Guardian*, 9 October, 2003.
[109] Ibid.
[110] George Monbiot, 'Academic publishers make Murdoch look like a socialist', *The Guardian*, 29 August, 2011.
[111] Taylor, 'Peers, review your actions'.
[112] Lilley, 'How publishers feather their nests on open access to public money'.

biggest crooks ever to have preyed upon the people of this country', earned a large portion of his money through academic publishing. His concluding sentence also highlighted the apparent conflict between academics and publishers through using colourful language: 'Let's throw off these parasitic overlords and liberate the research that belongs to us'.[113]

	1. 'Publish and be praised' (2003)	2. 'Academic publishers make Murdoch look like a socialist' (2011)	3. 'Peers, review your actions' (2011)	4. 'How publishers feather their nests on open access to public money' (2012)
Headline	Open Access publishing should be praised, contrary to subscription publications.	Gives a bad reputation to publishers.	Suggests that academics need to rethink the current publishing system.	Inspires negative view of publisher's actions.
Picture	Pictures a student reading science journals.	A big red 'f' with a person in a suit smoking a cigar sitting astride the 'f'. From the curved end of the 'f' hangs a book from a rope, which is kept away from the person reaching for it by the person in a suit controlling the curve of the 'f'.	—	—
Conflict	Publishers do not use the internet to freely distribute science to the public, angering Michael Eisen.	Publishers maintain an unfair monopoly on academic texts to keep their extravagant profit.	Publishers ask high prices for their products while they receive the product and peer review for free. Academics should not support this.	Publishers ask really high prices for their journals and articles, without giving any information about their actual costs.
Responsibility	Publishers, by refusing to lower their costs through using the internet.	Publishers, for not changing and charging fair prices.	Publishers, for upkeeping the 'stranglehold'.	Publishers, for maintaining their high prices and secrecy.

[113] Monbiot, 'Academic publishers make Murdoch look like a socialist'.

Language	‘perverse and needless’; ‘no longer a rational or fair way’; ‘they inhibit scientific and medical progress’.	‘economic parasitism’.	‘stranglehold’, ‘lock our research away’.	‘feather their nests’.

Figure 3: short summary of the framing qualities of opinion pieces written by academics.[114]

3.2. Publishers and Open Access

The narrative told in the above articles was that publishers were wholly against Open Access, that they did not support the movement and worked actively against it while academics fought for it. However, it was and remains much more complicated than the description above. That publishers were doubtful and reluctant to accept Open Access in the beginning was to be expected, as it altered their main source of income. It could be considered as logical that stock listed businesses reliant on profit would be weary of a change in business model proposed by people outside their own industry. However, publishers were not as against Open Access as was illustrated in the media. In the very first article depicted in figure 1, a quote from a representative of Elsevier was included which said that if they found a way to cover their expenses they would be willing to open up their archive to the public. Publisher’s reluctance to fully support Open Access did not come from baseless origins, but from a wish to keep their businesses afloat. That they did nothing to change their ways was also not entirely true, as was reported by Peter Suber, the 2014 policy review of the RCUK, and the study done by Michael Laakso and Bo-Christer Björk also mentioned in the previous chapter. The Open Access veteran Peter Suber used to write annual surveys on the progress of Open Access spanning from 2003 to 2010 and has saved them on the internet. Each of the eight annual surveys have some information which demonstrates the involvement of publishers in experimenting and furthering the cause of Open Access. The most important examples are found in the annual surveys of 2004, 2005, 2007, 2008, and 2010. The survey of 2004 reported that a significant amount of subscription-based journals owned by big commercial publishers such as Elsevier and Springer turned green.[115] A real starting point for further improvement and proof that even in 2004, before the first policy on Open Access by the RCUK, publishers had heard the call for wider access and adopted it into their journals while

[114] See Appendix B for the full articles and images.
[115] Peter Suber, ‘Open access in 2004’, *SPARC Open Access Newsletter*, 2 January, 2005. <http://nrs.harvard.edu/urn-3:HUL.InstRepos:4729243> (4 June 2023).

the media only mentioned that they were lobbying against Open Access through the Department of Trade and Industry.[116] The notable event in 2005 was that Springer hired Jan Velterop, who used to work for the Open Access publisher BioMed Central, for its newly created position of Director of Open Access.[117] This pro-active stance on improving Open Access within their business portrayed Springer's open attitude to Open Access and their willingness to learn from an actual experienced Open Access publisher. Meanwhile, in the media it was reported that publishers were hindering the progress of Open Access because they believed it will affect the quality of science publications, an opinion that Springer did not share as it hired an Open Access specialist.

In 2007 and 2010, Peter Suber noted several launches of new Open Access journals by big commercial publishers. In 2007, Suber noted the launch of Wiley-Blackwell's first full non-hybrid Open Access journal, and Elsevier followed in 2010 with their journal the International Journal of Surgery Case Reports.[118] Springer did more than just hire a Director of Open Access as they bought BioMed Central in 2008 and launched SpringerOpen in 2010, a series of full Open Access journals whose articles would also be added to several institutional repositories and were also covered under memberships of BioMed Central.[119] These actions do not agree with the narrative of the media wherein publishers were described as only raising their prices and not using the internet to its full potential to lower those prices. Springer was even reported to lower the prices of some of their hybrid journals by Suber in the 2010 survey. The 2014 review of RCUK's Open Access policy had stakeholders from the science publishing market gathering evidence for the effect of the policy. Elsevier was recorded as saying that the new Gold mandates helped them and that they now counted 125 full Open Access journals, showing their growth from 2010 with the launch of their first full Open Access journal.[120] Lastly, a study into the amount of articles published in full Open Access journals from 2000 to 2011 by researchers Laakso and Björk concluded that the recent

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[116] See 'Government ''obstructs science access''' (2004) in figure 2.
[117] Peter Suber, 'Open access in 2005', *SPARC Open Access Newsletter*, 2 January, 2006. <http://nrs.harvard.edu/urn-3:HUL.InstRepos:4729244> (4 June 2023).
[118] Peter Suber, 'Open access in 2007, *SPARC Open Access Newsletter*, 2 January, 2008. <http://nrs.harvard.edu/urn-3:HUL.InstRepos:4322582> (4 June 2023);
Ibid., 'Open access in 2010', *SPARC Open Access Newsletter,* 2 January, 2011. <http://nrs.harvard.edu/urn-3:HUL.InstRepos:4736588> (4 June 2023).
[119] Ibid., 'Open access in 2008', *SPARC Open Access Newsletter*, 2 January, 2009. http://nrs.harvard.edu/urn-3:HUL.InstRepos:4322588> (4 June 2023);
Ibid., 'Open access in 2010'.
[120] Research Councils UK, *Review of the implementation of the RCUK Policy on Open Access*, 2015. <https://webarchive.nationalarchives.gov.uk/ukgwa/20180201181756mp_/http://www.rcuk.ac.uk/documents/documents/openaccessreport-pdf/>.

growth in published Open Access articles was 'related to the growth of commercial publishers, who, despite only a marginal presence a decade ago, have grown to become key actors on the OA scene'.[121] In summary, there was some truth to the media narrative of Open Access as progress has been slow and publishers were not always as supportive. However, to claim that publishers always objected to Open Access, were in constant conflict with academics, did not engage or experiment with the options Open Access provided, and did not also facilitate its growth together with academics was incorrect.

3.3. The impact of the media's narrative

The media is a powerful tool as it is used to inform people of the events happening in the world and closer to home, which is why their narrative on Open Access was important to analyse as it could have had an impact on the movement and therefore explain certain events. One aspect which could have been exacerbated by the media narrative on Open Access was the opposition of publishers to the Green Open Access mandates. Green Open Access was the first Open Access model to be mandated and it did not require a change to the traditional way of publishing. When publishing an article Green, an author would upload the preprint or post-print version of the article, sometimes after an embargo period, onto an institutional repository open to the public. This was an additional step in its publication, often after its traditional publication within a journal. What was frequently shown in the media were publishers who believed that self-archiving would be used to entirely replace journal publishing, confusing self-archiving mandates with the reinforcement of Open Access publishing. They confused the mandates which required authors to upload a copy of their article onto a repository with the requirement to publish in an Open Access journal. A good example of this occurred in chapter 1, concerning the opinion of publishers on the new RCUK Open Access policy in 2005.

Three articles that appeared in *The Guardian*, the *Financial Times*, and *Information World Review* were mentioned which all contained concerns of the Royal Society, the publisher Elsevier, and the ALPSP about the negative consequences the Green-focussed policy would have on science. Joined by the article 'Keep science off web, says Royal Society' from *The Guardian* in figure 2, these four articles depicted the same lack of trust the publishers had in self-archiving and, even though academics were quick to present the correct definitions of self-archiving and Open Access publishing, the misconception about self-archiving remained a recurring theme in the 2000s. Peter Suber even nicknamed it JAM in

[121] Laakso and Björk, 'Anatomy of open access publishing'.

2005, short for the Journal-Archive Mix up.[122] He also saw this misconception as an obstacle to the progress of Open Access. The addition of the media narrative wherein the goal of academics was to start a revolution and reinforce Open Access onto publishers could have exacerbated the belief and usage of JAM to prevent more Green Open Access mandates from becoming a reality. Instead of the good Green Open Access can do, only the bad consequences for publishers are referenced in the media which are also incorrect as Green is mistaken for Open Access publishing instead of an act done in addition to publishing. In this case, the media narrative could not have helped the publishers' early opinion of Open Access.

The prevalence of this misconception and the arguments made by publishers against Open Access were also part of the reasons that convinced the government of the United Kingdom to not support Open Access after the report of the House of Commons Science and Technology Committee. The Committee's report recommended that the government undertake action to support Open Access, but as chapter 1 said the government decided against following that advice. In their reaction to the report, according to Peter Suber, the government used JAM as a reason against following the report's recommendations.[123] A reason for why the departments that were interested in the report would have used this misconception, while many Open Access advocates openly corrected it, could have been the media narrative that often showed the publisher's reasons against Open Access. These articles were accessible to a large group of people, many without an in-depth knowledge of Open Access or science publishing. While government departments are knowledgeable in their own area, unless their knowledge of Open Access and the current science publishing environment was on an expert-level they could have been influenced by the media's narrative. In the media, publishers were often seen mentioning their fear that Open Access would negatively impact scientific publications, namely through peer review which was organised by journal publishers and would therefore not be as thorough when journal publishing was replaced with self-archiving. For example, people working for the Department of Trade and Industry, who coordinated the response to the report, could have read these articles in *The Guardian*, *The Economist*, the *Financial Times*, the *Information World Review*, and *The Times Higher Education Supplement* and could have been unconsciously influenced by the information in the articles leading to the inclusion of JAM in the government's response to the report.

Another part of the reactions towards the 2005 RCUK Open Access policy that reflected the media narrative of academics and publishers in constant conflict were the

[122] Suber, 'Open access in 2005'.
[123] Ibid.

reactions of the academics towards certain clauses in the policy. In chapter one, it was shown how Open Access advocates Peter Suber and Stevan Harnad and the library bodies CILIP, SCONUL, and CURL were concerned because of the lack of a deadline and a clause that waived the self-archiving mandate if there were issues with copyright or licensing. All four stakeholders repeated the conviction that publishers would exploit these loopholes to their own benefit. This phenomenon can be argued three ways. Either this influenced the media narrative and gave it validation as the first reaction of representatives of academia was that publishers would immediately oppose Open Access through the use of loopholes. Or, the multiple descriptions in the media of publishers being against Open Access and not tolerant of anything related to the topic inspired a more desolate view of the situation which led the academic community to the conviction that publishers would do anything to not allow self-archiving. The third, and most likely, option is that they influenced each other. The narrative in the media of a fight between academia and publishers over Open Access was not based on fiction.

In chapter two, the media narrative's presence was reflected through the Gold versus Green debate. With the new RCUK policy, announced in 2012 and implemented in 2013, most blogs and newspaper articles depicted the Gold versus Green arguments from academics. The RCUK's blog also featured an article that explained the shift from Green to Gold. Representatives from academia argued that Green was the better option for the policy, especially for the transition period, because of the lower costs and increased access to research. Publishers, however, argued for the opposite side and stated that the RCUK's policy was not Gold enough. The *Finch Report* advised that the Gold route was the best strategy with which to increase Open Access, and the publishers believed that the RCUK's policy did not honour that advice enough. Academics believed that the publishers adhered to the *Finch Report* so much because they were best represented in the Finch committee, implying that the Gold route was the best route for publishers and not academia. The fact that this debate played into the narrative of academics vs. publishers, where Gold was seen as the pro-publisher model and Green as the pro-academia model, could be why its presence was so overwhelming while it almost played no part in the 2014 review.

The overall impression the previous two chapters gave was that academia wanted Open Access to be implemented as soon as possible while publishers advised caution and wished for more information before continuing with any changes to their businesses. However, not everyone within academia wanted Open Access to be implemented immediately and publishers did not always oppose Open Access or did nothing to implement it into their

own publishing practices. With the constant representation of the conflict within the media and elsewhere by journalists or by opinion pieces from academics such as Michael Taylor, who's blog also contains a whole section called 'stinkin' publishers',[124] it is not too far-fetched to assume that this narrative would have eventually influenced academia as well.

[124] Link to the category 'stinkin' publishers' in Michael Taylor's blog *Sauropod Vertebra Picture of the Week*: https://svpow.com/category/stinkin-mammals/stinkin-publishers/.

Conclusion

In this thesis I studied how instances of expert opinion expressed in the media related to the progress of Open Access in the United Kingdom. I started with examining the reactions towards the 2005 RCUK Open Access policy found in public media platforms such as blogs, newspapers, and magazines. Then, to see whether the opinions of stakeholders recorded in public media were taken into account by the RCUK, a comparison was done to the short review the RCUK did on the policy in 2006 and the new one from 2013 of which the first draft was published in 2012. In the media, representatives from academia were mostly concerned by the lack of a deposit deadline in the policy and the two clauses that allowed researchers to waive the self-archiving mandate as they thought that the publishers would use these points to their own advantage. The main comment made by the publishers was that the policy needed further investigation before implementation, as it could have detrimental consequences to the quality of scientific publications. While the 2006 review did not portray any overt influence from these opinions, they were reflected in the first draft of the 2013 policy. Their influence was detected through the addition of a deposit deadline, the lack of clauses that allowed researchers to waive the mandate, and the early announcement of the policy that allowed revisions to be made before its implementation. The consequent revisions of the policy also showed influence from the opinion of stakeholders in the media. The main reactions towards the new policy draft by publishers was that the shorter embargoes did not align with their interests, which could be the reason for the changes to the final draft of the policy that lengthened the embargo periods for Green Open Access and no longer enforced them.

This comparison was repeated between the reactions of stakeholders in the media to the final draft of the 2013 policy and the review done on the policy by the RCUK in 2014. The topic that dominated the media about Open Access was the Green vs. Gold debate, as the new policy shifted from a Green focus to a Gold one, so much so that an article was posted on the official RCUK blog which explained the shift from Green to Gold. The most notable opinions on the policy came from publishers and from representatives and journals from academic disciplines outside of STEM. The publishers complained that the policy was not as adamant in its support of Gold as it could be, while history journals were concerned that the CC-BY license would legitimise plagiarism, and people from the arts, humanities, and the social sciences wanted further investigation into their disciplines as the Green embargoes did

not suit their needs and because monographs were not included in the policy. The influence of these instances of public opinion in the media were best seen in the recommendations of the 2014 review. Specifically in the recommendations that advised more research into monographs before including them in a future Open Access policy; allowed authors to choose between Gold and Green during the transition period; counselled further investigation into embargo periods that will happen with experts from each academic discipline; and endorsed the enforcement of the CC-BY license.

The alignment between the expert opinions published in the media and the contents of the Open Access policies demonstrated the involvement of the media in Open Access and the influence it could have had on its progress through the Open Access policies. That the policies were directly influenced by blog posts, opinion pieces, and newspaper articles cannot be proven outright. However, the symmetry between the instances of public opinion shown in the media towards the policies and their consequent reviews was too evident to not be noticed. It lends truth to the scenario that that the RCUK, while creating the Open Access policies, was influenced by, for example, opinions shown in blogs of important academics within Open Access such as Peter Suber, his *SPARC Open Access Newsletter*, or in the mainstream newspapers such as *The Guardian* and *The Times*. It showed how the media was present within the movement as it depicted the worries of the stakeholders that later featured in the new policy or in the review of said policy.

Another manner in which the media showed its involvement in Open Access was depicted in chapter three, which portrayed how the expert opinions were used by the media to create a narrative about Open Access. The newspaper and magazine articles shown in chapter three together portrayed a narrative about Open Access where there was a constant conflict of academia vs. publishers, with academics set as revolutionists and underdogs and the publishers as the outdated powerful businesses who were opposed to Open Access. The articles did this through their headlines, the description of the conflict they reported on, the images included in the article, who they gave the responsibility of the conflict to, and their language use. Some notable examples are the conflicts where academics lobbying for Open Access were described as revolutionists who were bringing change to the publishers' front door, the events where publishers were described as parasites and their actions as perverse, and an image in which a publisher was shown deliberately keeping knowledge from the public. To demonstrate that this narrative was not wholly accurate, several acts done by publishers showing their involvement and support of the movement were illustrated. Examples were found in the annual surveys of Peter Suber, the RCUK's 2014 review of its

Open Access policy, and a study done into the amount of full Open Access journals of publishers that published their own Open Access journals, hired Open Access professionals, and improved the growth of full Open Access journals. The impact of this narrative was shown through scenarios from the Open Access policy chapters as the media narrative helped explain why the Journal-Archive Mix up was so rampant among publishers, the focus on the Green vs. Gold debate around the new RCUK policy in the media, and the worry of academics that publishers would exploit the weaknesses in the Open Access policies.

Together with the first two chapters, the third chapter demonstrated how expert opinion in the media could have played a significant role in the formative years of Open Access. The media did this through two ways: showcasing the stakeholder's opinions on the Open Access policies, and also through framing the events of Open Access in such a way to create their own narrative. Additionally, what I find interesting is the evolvement of the ways in which academics and publishers defined Open Access in the media between 2000 and 2015. In my view, it began as a movement to bring scholarly literature to the public, but in the media, and for some academics and publishers, Open Access had turned into a crusade against the publishers. In most of the media articles in chapter three, Open Access was no longer only about bringing information to the public, but also to right the wrongs within science publishing and create new publishing models to compete with, or entirely replace, publishers. The reason for this shift in the representation of Open Access is depicted in this thesis. The fact that publishers were continually put into the position of antagonist within Open Access could indicate that the narrative in the media was becoming a part of reality as well. That many articles within the media framed Open Access as academia's quest for righteousness shone through in the discussions about important matters for Open Access, as can be seen in chapter one and two. Publishers were always worried and suspicious about certain aspects of the policies and about Open Access models that could negatively influence their businesses, while academics were worried about the ways publishers could circumvent the policies and continue gate-keeping information and maintaining their high profits. Essentially, academics were suspicious of publisher's actions towards the policies and Open Access while publishers were suspicious of the real intentions behind Open Access. This perfectly reiterated the media's narrative that defined Open Access as academics versus publishers, with academia exclaiming reasons for supporting the movement and publishers repeating reasons for not supporting the movement. The media's connection to Open Access was both as the influencer and the influenced, with the real events fuelling the narrative and with the narrative fuelling the events in turn. Open Access is a very complicated topic with many aspects and multiple

differing opinions. This thesis showed that, when reading about Open Access in the media or on any other platforms, to be sceptical about what you read. It is important not to get swept away in the opinion that publishers' practices are inherently unfair and that they do nothing to change the status quo, or into the opinion that Open Access should be implemented immediately while not every academic discipline or stakeholder is ready for such a change. Without a clear view of the situation Open Access finds itself in, it will be difficult to find a reasonable solution that benefits all stakeholders.

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Appendix A

List of important stakeholders of Open Access.

RCUK. A non-departmental public body and the largest public funder of research in the United Kingdom from 2002 to 2018.[125]

UKRI. Successor of the RCUK as a non-departmental public body and the largest public funder of research in the United Kingdom from 2018 to now with two more councils added: Innovate UK and Research England.[126]

Peter Suber. By 2005, Peter Suber was a senior researcher at SPARC, the Open Access Project Director at Public Knowledge (a public interest advocacy group), advisor to a number of Open Access organisations, and a Research Professor of Philosophy at Earlham College, he also wrote a daily blog on the movement called *Open Access News*, and Suber was the author of the *SPARC Open Access Newsletter* which was published monthly.[127] This extensive resume makes him an expert on the subject of Open Access and gained him a substantial audience.

Stevan Harnad. Stevan Harnad first spoke about Open Access when he introduced his 'Subversive Proposal' during his presentation for the 1994 Network Services Conference in London. His proposal called for researchers to make research freely available to the public by archiving their work online. Harnad's words led to a book written on his proposal in 1995, which in turn led to an Open Access online archive in 1997 and the American Scientist Open Access Forum in 1998.[128] He is one of the researchers whose opinion on the RCUK Open Access policy can be considered as expert.

SCONUL. The Society of College, National and University Libraries is a representative of research and university libraries, national libraries, and libraries that have significant collections.[129]

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[125] UK Research and Innovation, 'Our vision', <https://www.ukri.org/about-us/our-vision-and-strategy/our-vision/> (11 April 2023).
[126] Government of the United Kingdom, 'Higher Education and Research Act 2017', https://www.legislation.gov.uk/ukpga/2017/29/contents/enacted (14 February 2023)
[127] R. Poynder, 'The Basement Interviews: Peter Suber', *Open and Shut?*, 19 October, 2007. <https://dash.harvard.edu/bitstream/handle/1/4783841/suber_basement.pdf?sequence=1&isAllowed=y> (12 April 2023).
[128] Jeremy Norman, 'Stevan Harnad Posts the ''Subversive Proposal'' for Open Access Publishing', <https://www.historyofinformation.com/detail.php?id=5108> (12 April).
[129] Society of College, National and University Libraries, 'About SCONUL', <https://www.sconul.ac.uk/page/about-sconul> (14 April 2023)

CILIP. The Chartered Institute of Library and Information Professionals is both a representative of libraries and a representative 'for everyone who has a professional connection to information, knowledge, data and libraries'.[130]

CURL. The Consortium of Research Libraries, known since 2008 as the Research Libraries UK, is a representative of mainly research libraries belonging to universities such as Oxford and Edinburgh.[131]

ALPSP. The Association of Learned and Professional Society Publishers was founded in 1972 to represent not-for-profit organisations that publish academic texts.[132]

Royal Society. A scientific academy that was founded in the 1660s to support and encourage science, its development, and its use.[133]

[130] Chartered Institute of Library and Information Professionals, 'About CILIP', <https://www.cilip.org.uk/page/About> (14 April 2023).
[131] Research Libraries UK, 'Our history', <https://www.rluk.ac.uk/about-us-old/history/> (14 April 2023).
[132] Association of Learned and Professional Society Publishers, 'About ALPSP', <https://www.alpsp.org/About-ALPSP> (13 April 2023).
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Appendix B

Media articles used in chapter 3.

B.1. Figure 1

B.1.1. 'Journal Wars' published by The Economist *in 2001*

Big publishers are tightening their grip on the lucrative science-journal market.

Doctors are dismayed

WHEN American antitrust officials gave the go-ahead on May 7th to Reed Elsevier, an Anglo-Dutch publishing giant, to buy Harcourt General, an American publisher, for $4.5 billion, the relief at Reed was as palpable as the dismay among scientists. The approval of the acquisition, announced last year, tightens Reed's grip on the science-journal market at a time when publishers of such journals face not only fierce denunciation by academics, but serious efforts to undermine their business.

Worth some $10 billion, the market is hugely profitable: margins in the scientific and medical business at Reed Elsevier are around 35%, compared with an average of 20% for all of its publishing interests. If a company owns the must-read title in, say, vibrational spectroscopy, it has a nice little captive market. When combined with Harcourt, Reed Elsevier will control some 20% of the science-journal market, and add a further 500 journals to its 1,200-strong stable.

But science publishers are still fretting, especially about the risk that the Internet might do them out of a job. Most journals rely on academics contributing their papers free. The publishers then sell them on to university libraries, pocketing a tidy profit on the way. Since scientists need to publish in recognised journals in order to make their names and apply for tenured jobs, this arrangement works just fine—as long as both sides co-operate.

Recently, however, scientists have been grumbling, for several reasons. They say that the publishers are too mean to open the online versions of their journals and their archives to non-subscribers, denying scientists an even wider audience. They complain about the time it takes for a scientist to see his latest thoughts in print. And they also grouse that the publishers have raised prices too steeply.

According to the Washington-based Association of Research Libraries, the average cost of an annual subscription to an academic journal shot up by 207% between 1986 and 1999. In response, the number of journals bought by libraries dropped by 6% over that period. It now costs a remarkable $17,444 a year to subscribe to Brain Research, a Reed Elsevier title.

Can the scientists translate their discontent into a commercial threat? Plainly, if they were to refuse en masse to submit their papers to the journals, the business would collapse. Indeed, a petition is now circulating from a group calling itself the Public Library of Science, urging

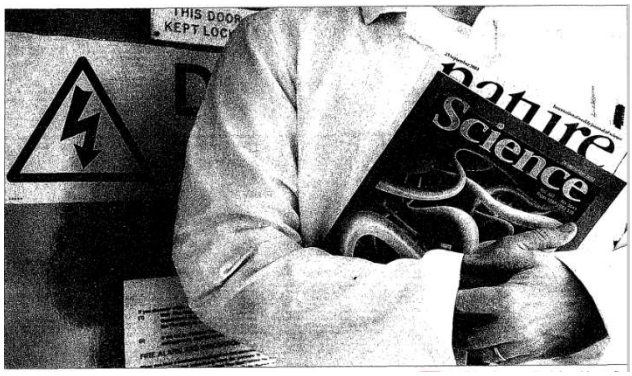
scientists to boycott any publisher that will not relinquish the rights to published bio-medical papers after six months. Other campaigners go further, urging academics to “liberate” their research from the gatekeeping publishers by posting papers online from the start.

There are also some attempts to compete head-on with the established periodicals. In 1999, a group of respected scientists, along with the American Chemical Society, launched a journal called Organic Letters, designed to rival Tetrahedron Letters, a chemistry title owned by Reed Elsevier. The new journal attracted more than 500 manuscripts in its first 100 days. A subscription costs $2,438, compared with $9,036 for the Reed title. The periodical is now seen as a credible competitor.

For now, the publishers' trump card is that their ownership of a prestigious title gives them vast powers of validation. Any aspiring scientist can put a research paper on his website. But few within the discipline will pay it any attention unless it has undergone the vetting and peer review of a respected journal.

The publishers say they are ready to discuss a compromise. “If we can find a model where we recoup our costs, then maybe we can make the archive available to the general public,” concedes Derk Haank, head of Reed Elsevier's scientific, medical and technical division. The firm's takeover of Harcourt has yet to clear Britain's competition authority. But now that Reed Elsevier has been allowed to consolidate its control in America, the grip of the publishers looks firmer than ever.

B.1.2. ‘Scientists take on the publishers in an experiment to make research free to all’ published by The Guardian *in 2003*



New academics' journal launched in challenge to multinationals.

In the highly lucrative world of cutting-edge scientific research, it is nothing short of a revolution. A group of leading scientists are to mount an unprecedented challenge to the publishers that lock away the valuable findings of research in expensive, subscription-only electronic databases by launching their own journal to give away results for free.

The control of information on everything from new cancer treatments to space exploration is at stake, while caught in the crossfire are the world's publicly funded scientists, some of whom will soon face a choice between their career and their conscience.

On one side of the conflict stand the major multinational publishing houses like Elsevier Science that package scientific findings into hundreds of specialist journals and sell them for thousands of pounds a year. On the other is a new publishing group called the Public Library of Science (PLoS) that will distribute its journals free of charge and is backed by top scientists, including the British Nobel prize winners Paul Nurse and Sir John Sulston.

"The publishers are making a lot of money out of our research and it's not fair that lots of good, basic science isn't available to everyone," said Julie Ahringer, a biologist at Cambridge University. "Knowledge should be free."

Dr Ahringer is on the editorial board of PLoS Biology, the group's first journal that is due to be launched on October 13. With articles about the genetic origins of elephants and molecular signalling in the fruit fly, it is unlikely to displace Cosmopolitan and FHM from the newsstands. But those behind the new venture have their sights on an equally ambitious target: convincing existing publishers to change their ways and join them in making more information freely available.

"Our goal is to have this publishing model extend well beyond us. We don't want to have 1% or 5% of the literature being open access, we want all the literature to be open access," said Vivian Siegel, executive editor of the PLoS.

The new biology journal will be available on the internet, but 25,000 print copies of the first monthly edition will also be produced. A second journal for medical research is planned for next year and more could follow.

While PLoS Biology is not the first open access scientific journal, it is the most high-profile and best supported so far, and, crucially, it is financed by a grant of several million dollars from an American charitable foundation. It is probably also the first science journal to advertise on US peak-time television.

Hallmark

"The goal of this journal is to become the first destination for research in the life sciences and to compete head-on with the existing high-profile journals," Dr Siegel said. "It's about doing something you believe in rather than doing things the way everybody else does them and I think that's the hallmark of the best scientists."

While other publishers publicly say they are not threatened by the move, they are watching the situation with mounting concern. At least one already has its own open-access version primed and ready to launch if necessary.

"We're all scientists and we like experiments, well here's an experiment. And if it works then we'll all take the lessons from it," said Dr Alan Leshner, executive publisher of the American journal Science.

In a statement, Elsevier Science said: "Elsevier welcomes further experimentation and are open to competition, but do not believe that the existing subscription-based business model should be abandoned prior to proving that another model works."

Some competitors have predicted that the new journal group will be unable to keep its head above water once its initial funding runs out. While most journals charge hefty subscription fees, the PLoS intends to pay its way by charging the scientists whose work is published; it hopes that the funding agencies and charities paying for the research in the first place will pick up the $1,500 bill. "Our motivation is to serve the community in the best way possible and to do it by just making ends meet rather than generating huge profits," Dr Siegel said.

The new journals follow a failed attempt by the PLoS group to use more direct action to force scientific publishers to make information freely available. More than 30,000 scientists signed

its pledge to boycott journals that refused to fully release scientific results, but backed down when the publishers called their bluff.

This is partly because such journals offer scientists more than just information. Researchers need to publish their findings to secure funding and job offers, and an appearance in the highly regarded pages of Science or the London-based Nature effectively places a large gold star on a young scientist's CV.

Some scientists say this academic pecking order could yet scupper the PLoS journals. "I would probably at the moment continue sending my best work to the established journals," said Dr William Harrison, a chemistry researcher at Aberdeen University who signed the original PLoS petition. "However good or well-intentioned this new kind of initiative is, it will certainly take time for it to become known and established and even respectable."

One group of people willing it to succeed are university librarians, who have seen both the number and price of journals escalate rapidly in recent years.

Jan Wilkinson, head librarian at the University of Leeds, said an average journal subscription costs about £1,000, with some, such as Elsevier's Brain Research, costing as much as £15,000 a year. "Big research libraries have tried to act collectively to put pressure on publishers, but our academics need the journals for their research and the pressure from them is so great that our ability to withhold payment isn't very powerful," she said.

Most research libraries are phasing out print subscriptions in exchange for access to large electronic packages that give access to hundreds of titles, but the price of these packages is rising by as much as 150% a year.

"We need to get academics to recognise the craziness of what they've been doing," she said. "They do all this work and then they just hand it over for free, and then the publishers sell it back to us at these rip-off prices."

Annual print subscription prices for UK libraries (2004 price where available)

Nature

Publisher: Nature Publishing Group

Price: £545

Prestigious, long-running multidisciplinary journal and a must-have for libraries

Science

Publisher: American Association for the Advancement of Science

Price $510 (£325)

Major US player and perhaps the most widely read science journal in the world

Journal of the American Chemical Society

Publisher: American Chemical Society

Price: $3,244 (£1,940)

One of the heavyweight specialist journals, a big favourite among chemistry researchers

Physical Review Letters

Publisher: American Physical Society, $3,255 (£1,945)

Essential for physicists, many of whom prefer it to Science and Nature

Brain Research

Publisher: Elsevier Science

Price: €19,013 (£13,300)

A comprehensive look at events in neuroscience

B.1.3. 'Publish university science for free, urges web creator' published by The Guardian *in 2005*

Academics attack fee-charging publishers.

A group of UK academics including Sir Tim Berners-Lee, the creator of the world wide web, has called on the government and public bodies that fund academic research to ensure anybody can view publicly funded research for free on the system he helped develop.

In an open letter to the science minister Lord Sainsbury and Research Councils UK (RCUK) - which brings together Britain's eight public backers of research - Sir Tim and seven other academics have launched a stinging attack on moves by traditional scientific publishers to prevent the public dissemination of research.

They call on the RCUK to press ahead with plans to mandate its funded researchers to place a copy of their research in an online archive, usually connected with a university, as soon as possible and preferably at the same time as it appears in a subscription-based journal.

"Due to the current constraints on the accessibility of research results, the potential of British scholarship is not being maximised," the letter reads. "Yet the constraints on accessibility can now, in the digital age, be eliminated completely, to the benefit of the UK economy and society, exactly in the way RCUK has proposed."

The letter is the latest move to introduce open access to academic research, using the internet to open the doors to academic thinking. Last year a committee of MPs threw their weight behind the movement but the government rejected their proposals amid pressure from the highly profitable scientific publishing industry.

The letter is a response to the consultation on the RCUK's proposal to promote what has become known as open access to academic research through the use of institutional online repositories. That consultation by the RCUK, which provided about £2.1bn for research last year, ends tomorrow.

Earlier this month the Association of Learned and Professional Society Publishers (ALPSP), which represents not-for-profit academic publishers, warned that pressing ahead with open access "would accelerate the move to a disastrous scenario in which the free availability of

'good enough' versions of journal articles will allow cash-strapped librarians to save money by cancelling subscriptions".

The letter, signed by Sir Tim, chairman of the school of electronics and computer science at Southampton University, alongside open access proponent and fellow Southampton University academic Professor Stevan Harnad, includes a line-by-line rebuttal of the ALPSP's arguments against open access.

ALPSP argues that mandating academics to self-archive copies of articles accepted for publication in traditional journals would lead to a drop-off in subscriptions to those journals. That would adversely affect the societies that rely upon their own paid-for journals for survival.

In their letter, the supporters of open access produce evidence that in physics - where self-archiving has been carried out for years - major learned societies "cannot identify any loss of subscriptions to their journals as a result of this critical mass of self-archived and readily retrievable physics articles".

The open access proponents point out that one of the reasons university librarians stop subscribing to journals is that they are no longer being cited by academics. But they argue: "Self-archiving increases citations, so journals carrying self-archived articles will perform better under this measure.

"So far no evidence of serious and irreversible damage inflicted by self-archiving has been presented by ALPSP. This is unsurprising because none exists," the letter concludes.

B.1.4. 'Brought to book' published by The Economist *in 2012*

IF THERE is any endeavour whose fruits should be freely available, that endeavour is surely publicly financed science. Morally, taxpayers who wish to should be able to read about it without further expense. And science advances through cross-fertilisation between projects. Barriers to that exchange slow it down.

There is a widespread feeling that the journal publishers who have mediated this exchange for the past century or more are becoming an impediment to it. One of the latest converts is the British government. On July 16th it announced that, from 2013, the results of taxpayer-financed research would be available, free and online, for anyone to read and redistribute.

Britain's government is not alone. On July 17th the European Union followed suit. It proposes making research paid for by its next scientific-spending round—which runs from 2014 to 2020, and will hand out about €80 billion, or $100 billion, in grants—similarly easy to get hold of. In America, the National Institutes of Health (NIH, the single-biggest source of civil research funds in the world) has required open-access publishing since 2008. And the

Wellcome Trust, a British foundation that is the world's second-biggest charitable source of scientific money, after the Bill and Melinda Gates Foundation, also insists that those who take its shilling make their work available free.

Criticism of journal publishers usually boils down to two things. One is that their processes take months, when the internet could allow them to take days. The other is that because each paper is like a mini-monopoly, which workers in the field have to read if they are to advance their own research, there is no incentive to keep the price down. The publishers thus have scientists—or, more accurately, their universities, which pay the subscriptions—in an armlock. That, combined with the fact that the raw material (manuscripts of papers) is free, leads to generous returns. In 2011 Elsevier, a large Dutch publisher, made a profit of £768m on revenues of £2.06 billion—a margin of 37%. Indeed, Elsevier's profits are thought so egregious by many people that 12,000 researchers have signed up to a boycott of the company's journals.

A golden future?

Publishers do provide a service. They organise peer review, in which papers are criticised anonymously by experts (though those experts, like the authors of papers, are rarely paid for what they do). And they sort the scientific sheep from the goats, by deciding what gets published, and where.

That gives the publishers huge power. Since researchers, administrators and grant-awarding bodies all take note of which work has got through this filtering mechanism, the competition to publish in the best journals is intense, and the system becomes self-reinforcing, increasing the value of those journals still further.

But not, perhaps, for much longer. Support has been swelling for open-access scientific publishing: doing it online, in a way that allows anyone to read papers free of charge. The movement started among scientists themselves, but governments are now, as Britain's announcement makes clear, paying attention and asking whether they, too, might benefit from the change.

The British announcement followed the publication of a report by Dame Janet Finch, a sociologist at the University of Manchester, which recommends encouraging a business model adopted by one of the pioneers of open-access publishing, the Public Library of Science. This organisation, a charity based in San Francisco, charges authors a fee (between $1,350 and $2,900, though it is waived in cases of hardship) and then makes their papers available over the internet for nothing. For PLoS, as the charity is widely known, this works well. It has launched seven widely respected electronic journals since its foundation in 2000. For reasons lost in history, this is known as the gold model.

The NIH's approach is different. It lets researchers publish in traditional journals, but on condition that, within a year, they post their papers on a free "repository" website called PubMed. Journals have to agree to this, or be excluded from the process. This is known as the green model.

Both gold and green models involve prepublication peer review. But a third does away with even that. Many scientists, physicists in particular, now upload drafts of their papers into public archives paid for by networks of universities for the general good. (The most popular is

known as arXiv, the middle letter being a Greek chi.) Here, manuscripts are subject to a ruthless process of open peer review, rather than the secret sort traditional publishers employ. An arXived paper may end up in a traditional journal, but that is merely to provide an imprimatur for the research team who wrote it. Its actual publication, and its value to other scientists, dates from its original arrival online.

The success of PLoS, and the political shift towards open access, is encouraging other new ventures, too. Seeing the writing on the wall, several commercial publishers are experimenting with gold-model publishing. Meanwhile, later this year, a coalition of the Wellcome Trust, the Max Planck Institute (which runs many of Germany's leading laboratories) and the Howard Hughes Medical Institute will publish the first edition of eLife, an open-access journal with ambitions to rival the most famous journal of the lot, Nature. The deep pockets of these organisations mean that, for the first few years at least, this journal will not even require a publication fee.

Much remains to be worked out. Some fear the loss of the traditional journals' curation and verification of research. Even Sir Mark Walport, the director of the Wellcome Trust and a fierce advocate of open-access publication, worries that a system based on the green model could become fragmented. That might happen if the newly liberated papers ended up in different places rather than being consolidated in the way the NIH insists on. But research just published in BMC Medicine (an open-access journal from Springer) suggests papers in open-access journals are as widely cited as those in traditional publications.

A revolution, then, has begun. Technology permits it; researchers and politicians want it. If scientific publishers are not trembling in their boots, they should be.

B.2. Figure 2

B.2.1. 'Government ''obstructs science access''' published by The Guardian *in 2004*

A committee of MPs has blasted as "obstructive" the government's response to its recent call for scientific research to be made more freely available to the general public.

The House of Commons science and technology committee is asking for the government to reconsider its position on open access to scientific publishing after it refused to follow any of the main recommendations of the committee's report.

MPs on the committee believe the Department of Trade and Industry - which compiled the government response published today - has clearly tried to "neutralise" the views put forward during hearings over the summer by other departments and academic experts. The committee chairman, Ian Gibson, said: "The DTI is apparently more interested in kowtowing to the powerful publishing lobby than it is in looking after the best interests of British science." The committee believes that a "very positive" response to the committee's report, published in July by the joint information systems committee (JISC), an expert advisory body funded indirectly by the Department for Education and Skills, was "watered down" following negotiations with the DTI.

The government's very unenthusiastic response to the select committee report is a victory for Reed Elsevier, the world's largest publisher of scientific journals. The Anglo- Dutch company

maintains that the traditional model of scientific publishing, where academic institutions, libraries and organisations have to pay subscriptions for journals, is the best way for research to be disseminated and preserved for future generations. It will also be a relief for the many scientific societies which rely on the money paid by members and libraries for their specialist journals.

In July the select committee made a series of recommendations designed to explore so-called open access publishing of scientific and medical research, where authors have to pay for their articles to be published but the resultant copy is freely available to everyone over the internet. One of the report's most important rec ommendations was that research councils and other government funding bodies should mandate their researchers to deposit a copy of their articles on the internet within a reasonable period after publication - preferably one month - as a condition of their research grant.

But while welcoming moves by universities to set up their own online archives, the government responsed that it "has no present intention to mandate research council-funded researchers to deposit a copy of their published material in institutional repositories".

The select committee's call for the government to support an independent study into the open access model of publishing was also turned down.

B.2.2. 'Keep science off web, says Royal Society' published by The Guardian *in 2005*

The Royal Society, Britain's national academy of science, yesterday joined the debate about so-called open access to scientific research, warning that making research freely available on the internet as it is published in scientific journals could harm scientific debate.

The Royal Society fears it could lead to the demise of journals published by not-for-profit societies, which put out about a third of all journals. "Funders should remember that the primary aims should be to improve the exchange of knowledge between researchers and wider society," The Royal Society said.

Its position is a thinly veiled attack on proposals by Research Councils UK - the umbrella body for Britain's eight public backers of research. The body has said researchers should be obliged to place a copy of their work in an online archive, usually connected with a university, preferably at the same time as the work appears in a subscription-based journal.

The Royal Society, which publishes one of the world's oldest journals, Philosophical Transactions, called on the research community to carry out further investigation before adopting any position.

Open access proponents said the Royal Society position statement confuses open access publishing, in which authors pay for their research to be published on the web, with author self-archiving. The latter, which has already been carried out in some disciplines for years, relies on academics publishing on the internet articles that have been accepted by journals.

A spokesman for the Royal Society said: "We think it conceivable that the journals in some disciplines might suffer. Why would you pay to subscribe to a journal if the papers appear free of charge?"

B.2.3. 'Publisher ''threat'' to open access' published by The Times Higher Education Supplement *in 2009*

Elsevier approaches v-cs about taking repositories out of universities' hands. Zoe Corbyn reports.

A multinational journal giant is understood to be courting vice- chancellors in an effort to win their support for an alternative to open- access institutional research repositories.

Elsevier is thought to be mooting a new idea that could undermine universities' own open-access repositories. It would see Elsevier take over the job of archiving papers and making them available more widely as PDF files.

If successful, it would represent a new tactic by publishers in their battle to secure their future against the threat posed by the open-access publishing movement.

Most UK universities operate open-access repositories, where scholars can voluntarily deposit final drafts of their pay-to-access journal publications online. Small but growing numbers are also making such depositions mandatory.

An internet posting earlier this month alerted repository managers to Elsevier's move. "Rumours are spreading that Elsevier staff are approaching UK vice-chancellors and persuading them to point to PDF copies of articles on Elsevier's web-site rather than have the articles deposited in institutional repositories," the memo, on a mailing list operated by the Joint Information Systems Committee, said.

"The argument being used is that this will be cheaper than maintaining full text within repositories. If these reports are true, my guess is that Elsevier is using these arguments to undermine deposit mandates." The author of the post, Fred Friend, a consultant and former library director, said he wanted repository managers to be aware of the situation.

He said a repository operated by a journal publisher could set access conditions that undermine the needs of researchers and make it hard to "mine" the data.

"If any publisher were to attempt to undermine the value of open-access repositories to the academic community, it would be a matter of public interest," he added.

Stevan Harnad, a professor at the University of Southampton who champions institutional repositories, said he was not surprised by the development. "If vice-chancellors are persuaded to adopt this policy, it would give repository access only to an unsatisfactory version (PDFs will not enable re-use for research purposes) and access on Elsevier's terms," he said.

Deborah Shorley, director of library services at Imperial College London, said she was not aware of Elsevier's activities, but added that "we have to make sure the control remains in the right place, which is with researchers".

Shira Tabachnikoff, director of corporate communications at Elsevier, confirmed that preliminary discussions had taken place with some institutions but would not go into detail on their nature.

"Institutional repositories might not be the best way for institutes to showcase their research," she said. "These discussions are about working with them to find improved methods."

She added that problems with institutional repositories include the archiving of incomplete papers and manuscripts containing errors, and the duplication of costs.

B.2.4. 'Research intelligence - We're not paying that much!' published by The Times Higher Education Supplement *in 2010*

Fed up with high journal costs, institutions and scholars are pushing back at publishers. Paul Jump reports.

The release earlier this month of a report estimating the cost to the UK academy of carrying out peer review signalled that, after years of grumbling about rising prices for journal subscriptions, universities just may be ready to say enough is enough.

The report, commissioned by Jisc Collections, the UK universities' subscription negotiation consortium, put the cost at up to Pounds 165 million.

Lorraine Estelle, the consortium's chief executive, said the report aimed to help convince large journal publishers to rein in price hikes, which have continued to outstrip inflation despite pleas for restraint.

Ann Rossiter, executive director of the Society of College, National and University Libraries, described the provision of academic journals as a public-private partnership that depended on "both parties contributing and playing fair".

She said publishers, some of which boast operating margins of 35 per cent, had reached a "wake up and smell the coffee" moment. "They may not realise, but their gung-ho attitude is pushing the system to breaking point. They are talking about rises above 25 per cent over the next few years when universities are seeing budgets fall."

The resistance starts here

The academy's fightback was heralded in June by the financially troubled University of California system, which threatened to cancel its subscription to Nature journals and to organise an academic boycott of Nature Publishing Group when the publisher tried to quadruple charges for access to its e-journals.

Laine Farley, executive director of California Digital Library, the system's digital research library, said discussions with the publisher were making progress, although the two parties had "agreed not to discuss the specifics yet".

California Digital Library has presented publishers with estimates of the value of the peer review and research contributed by academics in the California system. The figures must also be shared with researchers and administrators, Ms Farley said, "to demonstrate why we need to find a better way to support scholarly publishing: there needs to be more of a market-driven response to calibrate fees with services".

Julia Blixrud, assistant executive director of scholarly communication at the Association of Research Libraries in the US, said subscription costs had long been a concern but the California case had provided a new "opening for conversation".

But in negotiations with publishers, libraries find their position compromised by journals' monopoly on their content, which academics would be loath to forgo. "Group procurement in other areas means that if one supplier's products are too expensive, you can buy them from another," Ms Estelle noted.

But to David Prosser, executive director of Research Libraries UK (RLUK), arguments about the need to preserve access become "pointless" when the money is simply not there. If costs of several big publishing packages rise sharply, something will have to be cancelled, he said.

Has kitty got claws?

Academic boycotts could strengthen the academy's hand in negotiations, but they may struggle to find sufficient support.

Hazel Woodward, university librarian at Cranfield University, said organising a boycott would be "like herding cats" because many academics would be unwilling to forgo publication in a top journal or give up prestigious editorial positions. "It is an intricate web we are caught up in, with libraries playing piggy in the middle," she said.

Ms Farley said California Digital Library had received an "overwhelming response" to its boycott proposal. "Faculty will make their own choices, but many indicated willingness to go along with it."

Ms Blixrud countered that although the California spat had engaged more researchers and administrators with the issue of journal costs, she had not heard talk of boycotts elsewhere.

That does not surprise John Houghton, professorial fellow at the Centre for Strategic Economic Studies at Australia's Victoria University. He said academics could not be expected to "shoot themselves in the foot", particularly when the global rise of research evaluation had placed an even greater premium on publishing in top journals.

He believes academia should take a principled approach and simply circumvent journals' unnecessary "tollbooth on the highway of knowledge" by self-archiving or publishing in open-access journals.

Ms Blixrud agreed that the California case had strengthened support for open access.

In the meantime, RLUK has instructed Jisc Collections to secure price reductions during its forthcoming negotiations with publishing giants Elsevier and Wiley-Blackwell.

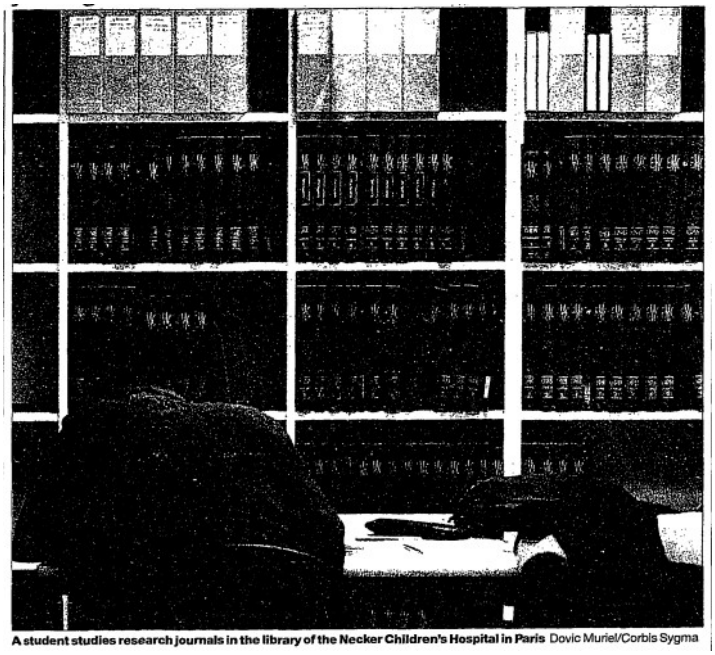
"We want to work with publishers, but at some point researchers will say to themselves: 'If we aren't getting access, what are we getting out of the system?' They might look at California and take some inspiration from it."

B.3.1. ‘Publish and be praised’ published by The Guardian *in 2003*

Michael Eisen on why it's high time the results of scientific research were freely available to everyone.

Scientific publishing is undergoing a revolution. The staid scientific journal - born in 1665 with the Philosophical Transactions of the Royal Society, and largely unchanged until the past decade - has gone online. Virtually every important journal in science, technology and

medicine produces an electronic version alongside, or instead of, its printed issues, and these online versions have largely replaced print in day-to-day use.



A student studies research journals in the library of the Necker Children's Hospital in Paris Dovic Muriel/Corbis Sygma

This technological revolution, perhaps as significant as the invention of the printing press, has the potential to dramatically increase the impact of scientific discoveries. Yet it remains largely untapped - blocked by a publishing industry stubbornly clinging to an outdated, yet highly profitable, business model that once made sense but now stands as a significant barrier to scientific progress.

Until recently, the cheapest and most efficient way to distribute scientific knowledge was by printing journals and delivering them by train, truck or ship. The cost of publishing a printed scientific journal mostly came from producing and distributing printed pages, and naturally scaled with the number of readers. The subscription-based business model, in which publishers charged for each copy they distributed, made good economic sense, and was reasonably efficient and fair.

With the rise of the internet, the sound premise of this business model has vanished. The cheapest and most powerful way by far to distribute published scientific work is the internet. In online publication of research articles, all the costs intrinsic to publication are spent in producing the original peer-reviewed, edited and formatted copy of each work. With printing costs eliminated, and distribution infinitesimally cheap, the costs of publication are now independent of the number of readers.

Despite this fundamental economic change, scientific publishers persist in charging individuals and institutions for the right to access the papers they have published. No longer a rational or fair way to recover the costs of publication, subscription and access charges are now a perverse and needless obstacle to the optimal use of scientific knowledge. They inhibit scientific and medical progress by curtailing the free flow of information upon which research depends, prevent the development of creative new ways to access and use the information contained in the literature, and deny our citizens the access they deserve to our treasury of scientific knowledge.

It should be a public scandal that the results of publicly-funded scientific research are not available to members of the public who are interested in, or could benefit from, such access. Furthermore, many commercial publishers have exploited the effective monopoly they are given on the distribution rights to individual works and charge absurdly high rates for some of their titles, forcing libraries with limited budgets to cancel journal subscriptions and deny their researchers access to potentially critical information. The system is obsolete and broken and needs to change.

Three years ago, we - myself, former US National Institutes of Health director and Nobel prizewinner Harold Varmus, and Stanford University Biochemist Patrick O Brown - founded the Public Library of Science because we believe there is a better way. Our goal is to see that every published scientific and medical research paper is freely available from the moment it is published, and we believe we can make this happen.

If we and our allies (such as the pioneering London publisher BioMed Central) succeed, everyone with an internet connection will be a click away from a comprehensive online public library of scientific and medical knowledge - a resource that will foster science education, lead to more informed healthcare decisions by doctors and patients, level the playing field for scientists in less wealthy countries or at small institutions, and ensure no one will ever again be unable to read an important paper just because his or her institution does not subscribe to a particular journal.

Such "open access" to scientific literature will also enable scientists to begin transforming it into something bigger and more useful than the electronic equivalent of millions of individual articles in rows of journals on library shelves.

The subscription model, in which the publishers own the published work and control access to, and use of, their private collections of published information, is not the only possible way to pay for scientific publishing. Publishing is an integral part of the research process. A natural alternative to the subscription model is to treat the costs of scientific publishing as one of the fundamental costs of doing research. The sponsors of published research intend the results to be published and made available to the scientific community and the public. If these same sponsors paid the essential costs of open access publication (amounting, by most estimates, to less than 1% of the total spent on the research itself), we would retain a robust and competitive publishing industry, and gain the benefits of universal open access.

This would not require any additional funds. The same governments, foundations, universities, institutes and companies that sponsor research currently cover most of the costs of scientific publishing by providing funds to libraries or researchers to subscribe to journals. All that needs to happen is for these funds to be redirected to pay the costs of publishing upfront. The health of the scientific publishing industry assures us that there is enough money to cover all of the costs. Now, all we need is the will.

The UK-based Wellcome Trust - the largest private sponsor of biomedical research in the world - has just strongly endorsed the open access model, joining the Howard Hughes Medical Institute and several other large private foundations. According to Dr Mark Walport, the new director, the Trust is "committed to ensuring that the results of the science we fund are disseminated widely and are freely available to all".

"Unfortunately," he continues, "the distribution strategies currently used by many publishers prevent this. We want to see a system in place that supports open and unrestricted access to research outputs and we would like to encourage others to support this principle."

Even with this endorsement, challenges remain. Scientific publishing is incredibly lucrative. How could it not be? Publishers are given (for free) incredibly valuable content by research scientists who are then compelled to pay whatever the journals ask to access this content. Elsevier - the largest publisher of scientific journals - has profit margins of more than 30%. Publishers will fight hard to hang on to this business.

And scientists depend on the publishing system to build their careers. Hiring, grants, promotion and tenure are based, in part, on publication records, and scientists of all stripes are reluctant to forgo publication in prominent journals.

To overcome this latter challenge, and to seize the opportunities of electronic publishing, we have launched a new journal, PLoS Biology, which will publish outstanding works in all areas of biology. To attract the best papers, we hired the best staff, recruited the best academic editorial board of any journal in the world, and trumpeted the benefits of open access to the scientific community and the public.

And it has paid off. Prominent scientists from around the world have sent us their best work. But you don't have to take my word for it. Judge for yourself. The first issue comes out on October 13. And it's an open access journal, so everything will be freely available from the moment it is published. You read it for free. No matter who you are or where you are. And if you think we've succeeded, take a closer look, because you are looking at the future of scientific publishing.

Michael Eisen is a computational and evolutionary biologist at the Lawrence Orlando Berkeley National Laboratory and the University of California at Berkeley. He is also a co-founder of the Public Library of Science.

B.3.2. 'Academic publishers make Murdoch look like a socialist' published by The Guardian *in 2011*

Academic publishers charge vast fees to access research paid for by us. Down with the knowledge monopoly racketeers.

Who are the most ruthless capitalists in the western world? Whose monopolistic practices make Walmart look like a corner shop and Rupert Murdoch a socialist? You won't guess the answer in a month of Sundays. While there are plenty of candidates, my vote goes not to the banks, the oil companies or the health insurers, but – wait for it – to academic publishers. Theirs might sound like a fusty and insignificant sector. It is anything but. Of all corporate scams, the racket they run is most urgently in need of referral to the competition authorities.

Everyone claims to agree that people should be encouraged to understand science and other academic research. Without current knowledge, we cannot make coherent democratic decisions. But the publishers have slapped a padlock and a "keep out" sign on the gates.

You might resent Murdoch's paywall policy, in which he charges £1 for 24 hours of access to the Times and Sunday Times. But at least in that period you can read and download as many articles as you like. Reading a single article published by one of Elsevier's journals will cost you $31.50. Springer charges €34.95, Wiley-Blackwell, $42. Read 10 and you pay 10 times. And the journals retain perpetual copyright. You want to read a letter printed in 1981? That'll be $31.50.

Of course, you could go into the library (if it still exists). But they too have been hit by cosmic fees. The average cost of an annual subscription to a chemistry journal is $3,792. Some journals cost $10,000 a year or more to stock. The most expensive I've seen, Elsevier's Biochimica et Biophysica Acta, is $20,930. Though academic libraries have been frantically cutting subscriptions to make ends meet, journals now consume 65% of their budgets, which means they have had to reduce the number of books they buy. Journal fees account for a significant component of universities' costs, which are being passed to their students.

Murdoch pays his journalists and editors, and his companies generate much of the content they use. But the academic publishers get their articles, their peer reviewing (vetting by other researchers) and even much of their editing for free. The material they publish was commissioned and funded not by them but by us, through government research grants and academic stipends. But to see it, we must pay again, and through the nose.

The returns are astronomical: in the past financial year, for example, Elsevier's operating profit margin was 36% (£724m on revenues of £2bn). They result from a stranglehold on the market. Elsevier, Springer and Wiley, who have bought up many of their competitors, now publish 42% of journal articles.

More importantly, universities are locked into buying their products. Academic papers are published in only one place, and they have to be read by researchers trying to keep up with their subject. Demand is inelastic and competition non-existent, because different journals can't publish the same material. In many cases the publishers oblige the libraries to buy a large package of journals, whether or not they want them all. Perhaps it's not surprising that one of the biggest crooks ever to have preyed upon the people of this country – Robert Maxwell – made much of his money through academic publishing.

The publishers claim that they have to charge these fees as a result of the costs of production and distribution, and that they add value (in Springer's words) because they "develop journal brands and maintain and improve the digital infrastructure which has revolutionised scientific communication in the past 15 years". But an analysis by Deutsche Bank reaches different conclusions. "We believe the publisher adds relatively little value to the publishing process … if the process really were as complex, costly and value-added as the publishers protest that it is, 40% margins wouldn't be available." Far from assisting the dissemination of research, the big publishers impede it, as their long turnaround times can delay the release of findings by a year or more.

What we see here is pure rentier capitalism: monopolising a public resource then charging exorbitant fees to use it. Another term for it is economic parasitism. To obtain the knowledge for which we have already paid, we must surrender our feu to the lairds of learning.

It's bad enough for academics, it's worse for the laity. I refer readers to peer-reviewed papers, on the principle that claims should be followed to their sources. The readers tell me that they can't afford to judge for themselves whether or not I have represented the research fairly. Independent researchers who try to inform themselves about important scientific issues have to fork out thousands. This is a tax on education, a stifling of the public mind. It appears to contravene the universal declaration of human rights, which says that "everyone has the right freely to … share in scientific advancement and its benefits".

Open-access publishing, despite its promise, and some excellent resources such as the Public Library of Science and the physics database arxiv.org, has failed to displace the monopolists. In 1998 the Economist, surveying the opportunities offered by electronic publishing, predicted that "the days of 40% profit margins may soon be as dead as Robert Maxwell". But in 2010 Elsevier's operating profit margins were the same (36%) as they were in 1998.

The reason is that the big publishers have rounded up the journals with the highest academic impact factors, in which publication is essential for researchers trying to secure grants and advance their careers. You can start reading open-access journals, but you can't stop reading the closed ones.

Government bodies, with a few exceptions, have failed to confront them. The National Institutes of Health in the US oblige anyone taking their grants to put their papers in an open-access archive. But Research Councils UK, whose statement on public access is a masterpiece of meaningless waffle, relies on "the assumption that publishers will maintain the spirit of their current policies". You bet they will.

In the short term, governments should refer the academic publishers to their competition watchdogs, and insist that all papers arising from publicly funded research are placed in a free public database. In the longer term, they should work with researchers to cut out the middleman altogether, creating – along the lines proposed by Björn Brembs of Berlin's Freie Universität – a single global archive of academic literature and data. Peer-review would be overseen by an independent body. It could be funded by the library budgets which are currently being diverted into the hands of privateers.

The knowledge monopoly is as unwarranted and anachronistic as the corn laws. Let's throw off these parasitic overlords and liberate the research that belongs to us.

B.3.3. 'Peers, review your actions' published by The Times Higher Education Supplement *in 2011*

Help usher in universal open access - stop giving free labour to publishers that lock research away, says Michael Taylor.

Twenty years ago, academic publishers provided a valuable service to researchers. By printing articles, binding them into issues and sending them out into the world, they provided the only means then available for work to be disseminated. But the internet changed that: now it's easy for anyone to make their work universally available.

Despite this, commercial publishers continue to post record profits. Why? While we weren't paying attention, they established a stranglehold on our product - research papers - and authors feel they have no choice but to go along with the system that's in place.

It's a well-rehearsed truth that the government funds research; academics do the work, write the papers and give them to a publisher (often paying the publisher for the privilege); other researchers edit the papers, usually for no fee; other researchers provide peer review gratis; yet somehow the publisher ends up owning the result of the whole process - only to sell copies back to the researchers who did the work and the citizens who funded it.

Everyone knows this system is a historical hangover, but the cycle is hard to break. University libraries have to buy the journals so that their scholars can read them. And because only peer-reviewed articles are respected, scholars feel they have to place their work in the journals in order to advance their careers.

So it is understandable, if lamentable, that we give commercial publishers our research.

But what's truly mind-boggling is that we also review and edit for these corporations. For free. It's the editorial and review process that gives the crucial stamp of approval to research. But publishers don't provide this: it's one more thing that we give them. We feel obliged to contribute our time, effort and expertise because reviewing is seen as a service to the community. But it's become a service to corporations.

Why aren't we more furious about this? Is there any other field of endeavour where such a grotesque arrangement would be tolerated?

The solution, of course, is open-access journals, such as PLoS ONE, which charge authors a handling fee to cover their operating costs and make the resulting articles free for everyone, everywhere.

The problem is how to make the switch to open access: it can't be done overnight. When the transition is complete, the subscription fees saved by university libraries will be far greater than the handling fees spent by research groups. But in the short term, it's hard for researchers to find those fees from shrinking grants, knowing that the benefit will not be direct and immediate, but only over the long term as the shift towards ubiquitous open access accelerates. The problem will persist because university libraries and research groups are funded separately.

So the question becomes what we, as individual researchers, can do to accelerate the change. Simple: we can stop propping up the for-profit publishers that lock our research away. Like many colleagues, I publish my work in open-access venues whenever possible. But I recently took a further step: I will no longer offer free peer-review to non-open journals. If they want me to add value to a product that they did not create and will not release to the world, that's fine; but they can pay me for my time and expertise at a decent professional rate - Pounds 100 per hour, say.

Researchers, I urge you to join me in taking this simple stand.

It is good news that Research Councils UK has established a working group on improving access to research findings. But Dame Janet Finch, chair of this group, seeks "a solution that (publishers) can live with as well as everyone else". Why? Does the UK government have a moral duty to keep feeding inflated profits to Dutch and German corporations? Corporations with a business model based on restricting access to research?

The status quo is not merely unfortunate, it's exploitative and immoral. By giving those corporations our time and effort, we are helping to perpetuate it.

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B.3.4. 'How publishers feather their nests on open access to public money' published by The Times Higher Education Supplement *in 2012*

Not a peep from Finch as scholarly journal firms fly off to tax havens and grow ever more profitable. Simon Lilley does the sorry sums.

The debate over open access to research has dominated headlines in Times Higher Education and elsewhere. But despite the focus on the issue, including the review led by Dame Janet Finch that reported in June, one crucial question has not yet been fully addressed: how have we reached a situation in which university libraries up and down the country are cancelling journal subscriptions?

Clearly it has to do with the rapidly rising price of academic journals, but why do academic publishers feel the need to charge such exorbitant prices for the results of research that was publicly funded in the first place?

The big publishing houses dominating the industry have been noticeably coy over their costs and unforthcoming with information about their business models. But new research at the University of Leicester School of Management casts some light on the issue. The study, which analyses published balance sheets, confirms that academic publishing is a veritable gold mine.

Moreover, it is also an industry that may well attract the attention of Danny Alexander, the chief secretary to the Treasury, who has pledged to wage war on tax avoidance.

Informa plc, for example, the multinational that owns the Taylor & Francis and Routledge imprints, became a Jersey company in 2009, formally domiciled in Zug, the canton with the lowest tax rates in Switzerland.

Of course, there may have been compelling commercial reasons for the company to spend, according to its accounts, Pounds 4.3 million on the move, largely on relocating its senior executives, but its shareholders certainly benefited from a reduction in the company's tax bill.

So how much do academic publishers make from their journals? It is a crucial issue that appears not to have been explored by the Finch working group on open access.

No doubt the several publishers in the group were pleased with the unambiguous statement buried in its 140-page report: "Publishers - whether commercial or not-for-profit - should be able to generate revenues to meet the costs of those services they provide that are valued by researchers and their readers."

Few would disagree that commercial publishers should be able to cover their costs and reap some profit from their investment. The figures in their accounts, however, give pause for thought. We found companies enjoying profit margins as high as 53 per cent on academic publishing. That compares with 6.9 per cent for electricity utilities, 5.2 per cent for food suppliers and 2.5 per cent for newspapers.

More than half of Informa's total annual operating profit was derived from academic publishing - Pounds 85.8 million in 2010.

Looking further into the figures, it appears that academic publishing produced a net operating profit margin for the company of more than 27 per cent, compared with less than 5 per cent derived from its "events" division.

Comparison with other publishers' public accounts suggests that journals themselves provide a gross profit margin of around 70 per cent.

This is all very relevant to the debate on open access, not least because the Finch Review's central recommendation is that even more public funds should be handed to the publishers. It suggests that the amount the state pays for research should increase to allow researchers to pay for dissemination of their work. This in essence relieves the publishers of the need to bother to market their journals - they will get paid whether or not they have any subscribers.

Another big flaw here is that only a small proportion of published research is funded directly through specific government grants. Much more is funded by university cross-subsidisation of income streams. Surpluses earned through teaching are being used to free up staff for research. Should students paying tuition fees of as much as Pounds 9,000 a year be the ones to help relieve the publishers of the cost of research dissemination?

The Finch report is also weak on detail about the costs incurred by publishers. As is often pointed out, papers are submitted by researchers free of charge to journals who select those to send out for peer review, and the reviewers - academics working in the field - are not paid for their time in the vast majority of cases. Each journal has an editor, usually working for nothing and receiving a pitifully small sum to cover administration costs.

So what should be done? Our view is that publishers should be more open about their balance sheets and agree to bring down subscription prices to a more acceptable level. If they refuse, academics should boycott their journals and start up alternative and more affordable ones.

This is already happening in the US: Harvard University recently told faculty members to make their research freely available and to consider resigning from publications that keep articles behind paywalls.

Affordability has a major impact on accessibility. Before the debate on open access goes any further, the publishing houses must come clean about their costs and the huge subscription rises that are forcing universities to cut down on what they buy.