An investigation into stakeholders' approaches to copyright ownership in university-produced scholarly works and the effect on access to UK scholarship

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Certificate of Originality

This is to certify that I am responsible for the work submitted in this thesis, that the original work is my own except as specified in acknowledgements, and that neither the thesis nor the original work contained therein has been submitted to this or any other institution for a degree.

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Abstract

This thesis considers the various perspectives of universities, academic staff and publishers to the copyright ownership of teaching and research outputs produced by UK universities, with a particular focus on how this affects the provision of online and/or open access to those outputs by university libraries. It presents ten papers written over a twenty year time frame that consider these issues within the context of a number of practitioner research projects and demonstrate how practices are changing over time. The papers employ a range of methodologies including questionnaire surveys, comparative design studies, interviews and content analyses.

The key findings relating to research outputs (the scholarly 'royalty-free' literature) are that rights are still mainly relinquished to academic staff by UK HEIs, although some HEIs are beginning to assert the right to re-use those works in various ways. Whilst academics are relied upon to either retain copyright or communicate their HEI's copyright policy terms to publishers, in most cases they (reluctantly) assign copyright to publishers. Publishers are increasingly allowing 'green' open access to their scholarly works in some form, but under a growing array of restrictions and conditions – principally embargo periods. Publishers' terms of re-use for such works (when made explicit) are often restrictive, however most academics would be happy for their works to be re-used non-commercially as long as their moral rights remain protected. This situation creates challenges for both Institutional Repository Managers and copyright clearance staff in Libraries to manage access to, and re-use of, these outputs.

The key findings relating to teaching outputs are that copyright mainly lies with HEIs although there are signs that HEIs are moving towards a shared ownership position through licensing. Academics seem to expect some degree of shared ownership, but as with research outputs, are principally concerned that their moral rights are protected. UK HEI copyright policies in this area are fledgling and do not comprehensively address either moral rights issues or other key copyright issues pertaining to OERs. Failure of universities to address these issues is impacting on the motivation of academics to share OERs.

Table of Contents

Dedication and acknowledgements

I am somehow less interested in the weight and convolutions of Einstein's brain than in the near certainty that people of equal talent have lived and died in cotton fields and sweat shops.

Stephen Jay Gould.

My maternal grandmother, Alice Mahala Potter, was exceptionally bright. She was just born to a relatively poor family in 1909. So, despite winning a scholarship to an independent grammar school, she had to leave school at 15 to work in service. To add to her burden, she went on to lose her first daughter, aged 5, to a road traffic accident during the war. Luckily for me, she was brave enough to have a second daughter, my wonderful mother, Mary Morris, who became a teacher and instilled in me a love of learning.

I dedicate this thesis to these awesome women: a fulfilment of the opportunity to learn my grandmother could only dream of having.

As always, a journey of this scale is never a lone voyage. Thankfully, I co-journey with someone who was prepared to support me through my PhD. Who whooped even more loudly than me when I got a paper accepted and who did celebration dances with me round the kitchen to *Kool & the Gang*. I also have two awesome children, Ella Rose and Benedict, who cheered me on even when it meant some personal sacrifice (although possibly with half on eye on the hamster promised if I ever get this PhD).

I'm proud to have worked at Loughborough University for 20 years, under some inspiring managers like Paula Kingston, Mary Morley, Hazel Woodward, Charles Oppenheim, Ruth Stubbings and Emma Walton. They gave me self-belief and opportunities to take on secondments and interesting projects. I have never had a request to undertake professional development turned down. Loughborough chooses to support their staff by waiving the fee to a PhD by publication and did me a double service by allocating Jenny Fry and Claire Creaser as my supervisors to expertly and graciously steer me through. I've also had the good fortune to have worked alongside extraordinary colleagues like Michael Norris, Susan Manuel, Melanie King, Sarah Turner and Helen Young who have been so generous with their practical and moral support.

Finally, I'm thankful for my bright, strong female friends: Lynn Harland, Ingrid Holt, Helen Macauley, Nelly Silwambe and Jane Williams amongst others - who've tolerated PhD talk at an unnecessary level of detail.

I'm lucky. And I'm grateful. And I hope that the small contribution that this body of work has made to the larger conversation around opening up access to life-enhancing and life-saving knowledge, might be a thank you gift back to the world.

Research overview

1   Introduction

This chapter provides the context to, and an overview of, the ten papers presented in this thesis. Section 2 provides some background to the research area, including why it is still of importance today, before detailing the specific research questions addressed in Section 3. In Section 4, the research methods are described and reflected upon. The research questions are then taken in turn in Section 5, outlining how each paper has contributed new knowledge in those areas, and what the outcomes were – both in terms of impact and further research questions raised. The link between the papers is outlined, and where there have been subsequent developments or work by others, these are described. My contribution to each paper is clearly stated. Finally, in Section 6, some general conclusions are drawn and a summary of key areas for future research are suggested.

2   Background

UK university libraries exist to provide their staff and students with access to the scholarly literature. Historically, this involved collecting, describing and providing access to printed materials. However, the digital revolution has made it possible to turn printed materials into digital materials and much of the literature is now 'born-digital' and accessible via digital information infrastructures. University libraries have therefore grasped the opportunities presented to provide 24/7, off-site access to the teaching and research outputs their staff and students both generate and use. This has included providing access to research outputs for teaching purposes through digital 'short loan' collections and providing online and open access to research and teaching outputs produced by university staff by means of digital repositories and other online mechanisms.

One of the key issues affecting the provision of these services is copyright – an historical legislative concept that stipulates that such outputs are a form of intellectual property that may be owned. Under UK law, all original works (printed or digital) automatically enjoy copyright protection. As such, the owners of those works have the exclusive right to perform certain prescribed activities with them – or to assign or licence those rights to others. Anyone wishing to re-use these works can either do so under the limited re-use provisions of copyright law, under a licence issued by the copyright owner or their

representative, or by seeking direct permission from the copyright owner. Thus, if copyright law was liberal enough, or licences offered affordable and suitable permission, or the process of gaining copyright permission was simple enough, providing digital access to the scholarly literature would be straightforward. However, for a variety of reasons discussed in the papers presented in this thesis, this is not the case. What is more, the situation is further complicated for scholarly works in three ways:

1) The practice of UK Universities relinquishing what is arguably employer-owned copyright in some scholarly works to their academic staff;

2) The practice of UK academic staff assigning copyright in scholarly works to publishers for little - or usually no - economic return;

3) The imposition of restrictive and/or expensive copyright licences by publishers.

It was hoped that a potential solution to this problem could be found in the open access (OA) movement. Open access has been defined by many different groups in slightly different ways. The Budapest Open Archive Initiative (BOAI) (2002) Declaration provided the first community-agreed definition of open access and was closely followed by the Berlin Declaration (2003) and the Bethesda Definition (Suber et al., 2003). The key elements of these definitions agreed that the results of scientific enquiry should be freely available to anyone with an Internet connection, and subject to permission-free scholarly re-use. However, the Bethesda and Berlin Declarations went further by specifying that deposits should be made in 'at least one online repository that is supported by an academic institution, scholarly society, government agency, or other well-established organization' (Suber et al, 2003). The definitions are neutral as to the method by which open access is achieved and two main routes have been established. The first is the so-called 'Green' route where an author self-archives a copy of their paper online. The second is the so-called 'Gold' route where an author publishes in an open access journal, which may or may not require the payment of an Article Processing Charge (APC).

4) As this chapter will show, despite advancements in open access in the past two decades, copyright ownership issues are still problematic in terms of providing access to, and re-use of, teaching and research outputs. Copyright clearance is still

the most significant cost in the creation of electronic 'short loan' collections (Wang & Baker, 2013; Secker & Morrison, 2016); assignment of copyright to publishers is seen as the "root cause" of the challenges of providing open access to research outputs (Banks, 2016); and academics' desire to retain "emotional ownership" over their works is cited as the most significant obstacle to the sharing of open educational resources (Pawlowski, 2012; Nunes, 2016).

3 Research questions

Given that internet technologies and new information infrastructures have challenged notions of copyright ownership, the key aim of this thesis is to consider how stakeholders' approaches to copyright ownership in university-produced scholarly works affect access to UK scholarship.

It addresses this aim through a series of research questions, namely:

RQ 1) What are the costs and processes involved in seeking copyright permission to reuse research outputs in teaching activities?

RQ 2) What is the copyright ownership relationship between UK universities, their academic staff and journal publishers and how does this impact on self-archiving and re-use?

RQ 3) As copyright creators, how do academics want to protect their open access research and teaching outputs?

RQ 4) As copyright users, how do academics want to use research outputs in an open access environment?

RQ 5) What claims do UK HEI copyright policies make regarding the ownership of teaching and research outputs created by their academic staff?

The papers presented (see Appendix 1) explore such notions of copyright ownership and examine their effect on the provision of online and open access to university-produced scholarship in the UK. The scholarship within scope is both teaching materials and 'royalty-free' research outputs (such as journal articles and conference papers), although

suggestions for future research include expanding the focus to other forms of research outputs.

4 Research methodology

4.1 Positionality

As Bryman (2016) has observed, it is common for research publications to emerge out of a researcher's personal experience. The body of literature presented in this thesis was motivated by my experiences as a Graduate Trainee in the Library at University College London where I found myself clearing copyright permission to create printed course-packs of journal articles and book chapters for undergraduates. In this role I soon learned of the paradoxical copyright ownership situation in UK Higher Education, namely, academics give away copyright to publishers and their institutions buy it back. A good proportion of my subsequent research activity as a practitioner-researcher has been spent providing evidence to expose some of the incongruities around this paradox, and to explore how this three-way relationship between scholars, universities and publishers affects the work of libraries in seeking to provide access to both teaching and research content. My overarching aim was (and is) to see a rebalancing of the rights relating to scholarly works which better serves the interests of the scholars who create and use them. This position has inevitably influenced my choice of research topics and research methods.

4.2 Philosophical viewpoint

4.2.1 Practitioner-based action research

The research presented in this thesis spans almost twenty years and over that period my understanding of research paradigms, research design and research methods - their reliability, reproducibility and validity - has inevitably developed. Many of the papers are the result of practitioner action research projects that have explicitly sought to highlight, or identify solutions to, problems (*Project ACORN*, *Rights & Rewards*, *Project RoMEO*). Bryman (2016: 688) describes action research as "an approach in which the action researcher and a client collaborate in the diagnosis of a problem and in the development of a solution based on the diagnosis." One of the features of action research, as Denscombe (2014: 122) points out, is that it "should not only be used to gain a better understanding of the problems which

arise in everyday practice, but actually set out to alter things". Zuber-Skerritt (1995: 4-5) uses the term "emancipatory action research" which goes beyond technical action research (improving effectiveness of practice) and practical action research (improving practitioners understanding of their activities) and actually seeks to change "the system itself of those conditions which impede desired improvement in the system/organization." Thus a successful action research project should render further work in that specific setting redundant. As I shall note in Section 5 both the *ACORN Project* and the *Clearing the Way* project had an emancipatory effect on the systems in which they operated to the point that the problems they were investigating are no longer completely recognisable as problems to today's libraries. Although this means the research is no longer current, it is evidence of the impact of that research, and the papers are included as an essential part of the research narrative presented by this thesis.

4.2.2   Research paradigm

Unsurprisingly, considering the practitioner-based action research approach adopted, my research sits at the nexus of the pragmatist and critical realist paradigms. Unlike the positivist and constructivist/interpretive paradigms, pragmatism and critical realism both seek not only to *measure* (positivism) or *understand* (constructivism) but to *explain* social phenomena with a view to implementing practical change. Critical Realist founding philosopher, Roy Bhasker (1998: xi), outlines his vision for scientific inquiry as "a continuing and reiterated process of movement from manifest phenomena, through creative modelling and experimentation or other empirical controls, to the identification of their generative causes, which now become the new phenomena to be explained." As Fletcher (2016:3) writes, "the ability to engage in explanation and causal analysis (rather than engaging in thick empirical description of a given context) makes CR [Critical Realism] useful for analyzing social problems and suggesting solutions for social change." In a similar way, Cherryholmes (1992:13) writes, "Pragmatic research is driven by anticipated consequences."

In this way, critical realists are not restricted to the use of inductive (theory building) or deductive (theory testing) logic, but employ retroductive logic to look beyond the evidence (the empirical level) to the wider context in order to achieve a better understanding of the causal mechanisms (real level) driving 'actual level' events. Many of the papers presented identify relevant theories through reviewing the literature, but they do not exclusively seek

to test existing theory, nor to build new theory, but to use theory as evidence, in conjunction with the empirical data presented, to explain the generative mechanisms that might lead to a practical solution. As Fletcher (2016:3) writes, "CR treats the world as theory-laden, but not theory-determined". As such, both CR and pragmatism accept that even the researchers themselves are 'theory-laden', and recognise that inquiry is never entirely value-free. This is certainly likely to be the case when a practitioner-researcher is investigating the field in which they work and seeking to change it. They also both agree that prediction (in the sense that 'when X, then Y') is never really possible because what we observe is always part of a much bigger system: findings thus "cannot be predictive and so must be exclusively explanatory" (Bhaskar, 1979:27).

4.2.3   Quantitative and qualitative strategies

Pragmatists accept that their ends are best achieved by deploying whatever methods seem most suited to the research question in hand rather than being driven to particular methods in search of paradigmatic purity (Tashakorri and Teddlie, 1998). Thus, whilst traditionally quantitative methods are associated with positivism and qualitative methods with intepretivism, with critical realism and pragmatism, mixed methods are common. In actual fact, the majority of the papers presented here use quantitative strategies. This is in an effort to provide the answers to research questions that necessarily require measurement (how long? how much?) or to make decisions around technical solutions that will meet the majority of users' needs (RoMEO and Rights & Rewards). However, one of the key challenges with quantitative strategies is that whilst they result in a greater understanding as to *what* is happening, they often do so without a commensurate understanding as to *why* it is happening. I recognise that undertaking more qualitative, interpretive, studies in these fields could yield some useful results that would help triangulate some of the quantitative findings presented.

4.3   Research design

The papers presented adopt four main research designs, each of which is described briefly below.

4.3.1 Case study design

The first two papers (P1 and P2) employ a form of case study design. The *ACORN project* was itself a single case study and the evaluation of the copyright clearance activities of that case study is presented here. The *Clearing the Way* project employed a mixed approach using both cross-sectional and case study designs. Suitable cases were selected by opting for a quota-based sample based on an extreme case and representative cases (Yin, 2009).

Whilst it is technically possible to replicate case studies, their external validity or generalisability is sometimes questioned. However, some argue that case study findings can be generalised through triangulation with comparable cases (Williams, 2000). In these cases, the *ACORN* project findings were triangulated by the outcomes of similar projects running concurrently, and the *Clearing the Way* findings were triangulated by the questionnaire survey.

4.3.2 Cross-sectional

A cross-sectional research design is used in the majority of the papers. This involves the collection of a sample of quantitative data at a single point in time in order to discern any patterns of association (Bryman, 2016: 53). Cross-sectional design is usually strong in terms of replicability and external validity – assuming the sample is representative. However, the internal validity (assigning cause and effect) of cross-sectional studies can be weak. In the papers presented, consistent with a critical realist approach, the findings are mainly offered as indicative of causal mechanisms, rather than as predictive variables.

4.3.3 Comparative design

Bryman (2016: 64) defines comparative design as involving the study of "two contrasting cases using more or less identical methods." In papers 6, 7 and 8, the *RoMEO* questionnaire was used to survey both academics-as-authors and academics-as-users of research; it was also repurposed for the *Rights & Rewards* online questionnaire to enable the comparison of academics-as-researchers and academics-as-teachers. Some have criticised comparative design for only studying a phenomenon by contrasting it with another (Dyer & Wilkins, 1991). Others suggest that by definition comparative research has to be deductive as you have to have a focus on which to contrast the two entities at the outset, rather than inducing an understanding of the entities under consideration over time. In the papers

presented, however, comparative design offered a pragmatic way to compare and understand the different relationships that academics have with copyright works.

4.3.4   Longitudinal design

Paper 5 adopts a retrospective longitudinal research design in which a cohort of cases is compared over time. The strength of longitudinal cohort studies is that it is easier to identify which are the independent (causal) variables and the dependent (affected) variables, providing greater internal validity. The challenges of doing longitudinal research retrospectively are around the reliability of the data collection, i.e., can you be sure that the historical data you are collecting in the present truly represents those data as they appeared historically?

4.4   Data collection methods

Three main data collection methods are used within the presented papers. Their strengths and limitations are outlined briefly below.

4.4.1   Self-administered questionnaires

Self-administered questionnaire surveys are used within five of the papers. Questionnaires are a popular social research method and, when made available online, are useful for quickly and inexpensively gathering a large number of responses without concerns about interviewer variability or interviewer effects (Bryman, 2016). As the *RoMEO* and *Rights & Rewards* studies both sought data from geographically dispersed respondents, using an online questionnaire advertised via email discussion lists and other international fora, was the only feasible option. Online surveys also make for efficient data analysis.

Some have criticised the use of online questionnaires that are advertised via discussion lists because it is impossible to define the sampling frame. It may also be the case that they are only accessed by "populations whose members are not as different from one another as would almost certainly be found in samples deriving from general populations" (Bryman 2016: 193). However, even though this resulted in non-probability convenience samples, the volume and geographical spread of respondents to the *RoMEO* and *Rights & Rewards* surveys would almost certainly not have been achieved so quickly in any other way. The use of the Open Digital Rights Language (ODRL) in these surveys aided measurement validity

and reliability. The replicability of the methodology was proven through its re-use by the *Rights & Rewards* project in a form of comparative design study.

4.4.2   Semi-structured interviews

The *Clearing the Way* project (P2) employed semi-structured interviews to gather data for a multiple-case study. Semi-structured interviews have the benefit of ensuring that comparable data are collected from all respondents, whilst also providing interviewees with the opportunity to go "off-topic" and contribute other data that may be relevant. They allow the interviewer to observe the interviewees in their own surroundings ensuring greater ecological validity than a questionnaire. The limitations of semi-structured interviews include known 'interviewer effects' that may influence interviewees' responses, and, where there is more than one interviewer, inter-interviewer variability. The latter was not an issue in this case.

4.4.3   Content analysis

Holsti defines content analysis as "any technique for making inferences objectively and systematically identifying characteristics of messages" (1969: 14). Krippendorff (2004: 77) points out that documents reporting "repetitive, routine, public and institutionalized phenomena" (such as the copyright transfer agreements, open access policies, and HEI copyright policies studied in five of the papers presented) particularly lend themselves to analyses of this kind. Content analysis is an unobtrusive research method which made it a useful tool to analyse policy approaches without invoking any "reactive measurement effect" on the part of the publishers or universities under review (Webb et al 1966: 13). Due to the research questions under consideration in the studies presented, the approaches taken are mainly quantitative. Specifically, they adopt a designations analysis (counting mentions of a term) form of semantic content analysis which "classif[ies] signs according to their meanings… irrespective of the particular words that may be used to make the references" (Kripppendorff, 2004:45).

4.4.3.1   Sampling

Sampling approaches in these studies have varied. A stratified sampling approach was taken to identifying policies for the RoMEO CTA study (P4). This employed both a sampling

frame derived from some key ranking sources (ISI, Ulrichs, STM) to identify large publishers and an email to the Association of Learned and Professional Society Publishers (ALPSP) mailing list to include the long tail of smaller publishers. Interestingly, by virtue of being selected for the RoMEO Study, most of these publishers found themselves on the earliest version of the RoMEO Publisher listing (later database) and as such formed part of the cohort for the 12- year study (P5). As such, the sample was a non-probability sample making it impossible to perform inferential statistics with the resulting data. However, having learned from earlier studies, the full list of publishers, along with the coding manual, was published with the paper to aid reliability and reproducibility. Also, the resulting data-set is due to be released after further analysis has been completed.

The sampling frame used for the UK HE copyright policy analyses was the 130 members of the Universities UK (UUK), however, because the population is so heterogeneous, a non-probability method was used in a deliberate attempt to try and collect as many policies as possible. In retrospect, making Freedom of Information requests to universities to improve the sample size would have provided greater confidence in the results and allowed for statistical analysis of the data.

In all three studies, I undertook all the coding in order to avoid inter-rater reliability problems. However, the UK HE copyright policy documents did present an intra-rater reliability challenge in that they were almost as heterogeneous as the institutions that created them. As Bryman (2016: 305) has noted, "a content analysis can only be as good as the documents on which the practitioner works". In this case, there was wide variety in terms of length, terminology, iterativeness, coverage and approach. Whilst a computer-assisted approach might provide better intra-rater reliability, it is likely that such technologies would struggle to identify the key concepts in many cases. An approach which employed a second researcher to code the policies, validated by a technique such as Holsti's (1969) inter-coder reliability method might have improved the reliability of the results.

5 How the papers address the research questions set

5.1 What are the costs and processes involved in seeking copyright permission to re-use research outputs in teaching activities? (RQ1)

5.1.1 The costs and processes involved in seeking copyright permission to establish a digital 'short-loan' service in a UK HEI: a case study (P1)

The Joint Information Systems Committee (JISC)-funded *Access to Course Readings via Networks (ACORN)* action research project sought to investigate the issues surrounding the establishment of a digital 'short loan' collection of journal articles at Loughborough University (1996-8). Part of the evaluation activity included a comprehensive, principally quantitative, analysis of the costs and processes involved in seeking copyright permission to digitise journal articles for access by students on courses of study. Recommendations were then made as to how this process could be improved. As Copyright Officer, and subsequently Project Manager, I contributed the first semester results and the overall conclusions to this report. My co-author contributed the results relating to the second semester.

The report provided the most comprehensive set of empirical data on this process at the time, demonstrating the challenges of seeking direct permission for non-standard digitisation requests. In particular, it found that direct permission seeking was time-consuming and complex: 78% of publishers required chasing; on average they needed chasing six times; of the 85 publishers approached, the contact details were wrong for 53%; in eight per cent of cases, the publisher was not the copyright owner; on average it took 77 days to get a signed agreement. Also, the need to seek copyright permission could have a negative impact on teaching (in one department only 54% of permissions were received) and there was no consistency in the charges made (copyright fees ranged from $1 to $25 per page).

The research helped inform the establishment of the now-retired HERON (Higher Education Resources ON-demand) service, and raised a further research question around what the demand was for other forms of copyright clearance activities in UK HE Libraries and how these were managed. These questions were addressed by the *Clearing the Way* Project (P2).

5.1.2   A broader investigation into the copyright clearance activities of UK HE libraries (P2)

The *Clearing the Way Project*, funded by the 2001 Elsevier/LIRG Research Award, sought to investigate the full range of copyright clearance activities undertaken by UK (mainly HE) libraries to support the teaching and research activities of their academic staff. This was a single-authored report. It was the first study of its kind and it confirmed the findings of the *ACORN* project: that copyright clearance is a resource-intensive process. Two-thirds of UK HEIs involved at least two staff members to manage the 12-step process; one-third of requests required chasing and five per cent were never answered. Of particular burden was the transactional "CLA Rapid Clearance Service" (CLARCS) service which was subsequently referred to the UK Copyright Tribunal by Universities UK (UUK). The results of this research were submitted as evidence and I defended it at the Copyright Tribunal hearing on 11 September 2001. Six paragraphs in the interim decision of the Tribunal related to my evidence, which found in favour of the UUK (UUK vs CLA Ltd, 2001). As a result, the 'CLARCS' service was disbanded, making copyright clearance more straightforward and at a reduced cost to UK HE.

5.1.3   Research questions raised and the link with subsequent studies

It became clear as a result of both of these projects that one of the 'causal mechanisms' behind the empirical observations of the volume of copyright clearance required in UK HE Libraries was the practice of academic staff assigning copyright to publishers. This resulted in the need for UK HEIs to 'buy back' permission to re-use those works in their own teaching and research activities. If academics could be encouraged to retain copyright and to 'self-archive' their works, it was felt that this problem would be greatly alleviated. This led on to the next set of studies into the rights issues facing self-archiving performed under the auspices of the Rights Metadata for Open Archiving (*RoMEO*) Project.

5.1.4   What has happened since? The state of play on copyright clearance in UK HE

Since the publication of the aforementioned reports, a number of changes have been made to the copyright clearance landscape. The Hargreaves Review of Intellectual Property and Growth (Hargreaves, 2011) sought to rebalance rights for the digital age and resulted in new legislation regarding the re-use of orphan works (since complemented by EU legislation and the IPO's Orphan Works Licensing Scheme); additional 'fair dealing' exceptions for individuals, including an exception for educators using copyright works to illustrate their

instruction and legislation which prevents licences from overriding the exceptions allowed by copyright law.

With respect to digital copyright clearance, the blanket CLA Licence now allows scanning, alleviating the need for direct permission-seeking activities for digital 'short-loan' or course-pack creation. However, the licence only permits the copying of a single journal article from an issue or a single chapter of a book per course of study, leading the CLA to introduce the "Second Extract Permissions Service (SEPS)" on transactional lines, which harks back to the fiercely contested transactional CLARCS service and is proving particularly costly (Secker and Morrison, 2016: 64). In fact, a case study relating to Middlesex University presented by Secker and Morrison (2016) reports that in 2014 almost a third of clearances (470 out of 1500) could not be fulfilled under the CLA Licence.

Of course, many journals are now born-digital and may permit inclusion in digital course-packs under the e-journal licence. Failing that, the 2013 extension to the CLA Licence permits copies from born-digital works. Despite this, Secker and Morrison (2016: 71) observe that "the number of readings that UK universities digitize is currently still growing. This is partly to meet the demand from teaching staff for content that is not available in electronic format, but also because some born digital content is not offered at a suitable price or delivered via a suitable platform to meet the needs of universities." A survey by Delasalle (2007) regarding usage of the then new CLA scanning licence revealed that 67% of scans were from books (which were far less likely to be born-digital) and only 33% were of journal articles.

In terms of more general copyright clearance activities, there has been no further study on the cost of copyright compliance to the sector since a study by Davies and Maynard in 2001. They reported that the overall annual cost of copyright compliance to UK HE was £4.8M including the purchase of licences and the cost of copyright officers. Inflation aside, it is certain that the cost of copyright compliance to the sector has increased considerably since then. For example, Secker and Morrison (2016) report that 64% of HEIs now employ a dedicated copyright officer, compared to 18% of HEIs in 2001. Indeed, by 2016, 59% of UK HEIs had moved beyond a single copyright officer and employed a copyright clearance team.

Perhaps with reference to the root cause of most copyright clearance challenges faced by HE libraries, the Middlesex case study reported that "Copyright and intellectual property queries on the re-use of staff members' own materials produced for teaching, through research or for publication, [had]…increased." They explain that "many were unaware of the terms of their own publishing contracts, such as transfers of ownership or restrictions on re-use, or about open access publishing agreements" (Secker and Morrison, 2016: 61). Unsurprisingly, publishers also report finding it challenging to deal with the increasing number of such requests (Wu-Fastenberg, 2012).

5.1.5   Recommendations for future research in the area of copyright clearance

While the two studies presented here pointed towards open access as a possible solution for the need to seek copyright permission, it looks as though 15 years on, this is still not having the desired effect on copyright clearance as a whole. The demand for, and the challenges and costs of, copyright clearance continue to grow. Although open access was only going to affect the 'royalty-free' literature in the first instance, and the volume of journal articles requiring clearance seems to be reducing, it is more likely that this is as a result of an increase in born-digital journals rather than open access. A further investigation into the impact of open access on copyright clearance – particularly for non-standard uses such as re-use by academics in their own teaching and research would be timely. Are open access sources even considered by copyright clearance teams, and if not, are unclear licensing terms for open access works the cause? It would also be interesting to investigate the approach publishers are taking towards rights clearance against a backdrop of open access. Are publishers experiencing a reduction in secondary licensing as a result of open access copies being made available, and if so, are they reacting by increasingly monetising other forms of re-use? If so, what proportion of re-use fees are shared with authors?

5.2 What is the copyright ownership relationship between UK universities, their academic staff and journal publishers and how does this impact on self-archiving and re-use? (RQ2)

5.2.1 An investigation into the copyright ownership relationship between HEIs, academic staff and journal publishers (P3)

The JISC-funded *Rights Metadata for Open Archiving (RoMEO)* project sought to investigate the rights issues relating to the self-archiving of research outputs by academic authors with a view to developing some metadata by which they could protect their outputs in an open access environment. I was the sole Research Fellow on this project and as such undertook all the research activities and wrote a series of six studies (four of which are presented in this thesis) under the supervision of the Principal and Co-Investigators.

RoMEO Studies 1 (P3) was the first study to take an evidence-based approach to understanding the copyright relationship between authors, publishers and universities by drawing together findings from both the survey of academic authors and a content analysis of 80 publisher copyright transfer agreements (CTAs). Having found that the largest group (49%) of academics assign copyright to publishers reluctantly; the majority (90%) of CTAs required copyright transfer; and the majority of publishers (57.5%) prohibited self-archiving, it concluded that the assignment of copyright to publishers did not best serve self-archiving. Instead, it recommended that academics and universities should jointly own copyright in 'royalty-free' literature and licence the necessary publication rights to publishers.

5.2.1.1 *Research questions raised and the link with subsequent studies*

Having made this recommendation, the next step was to ascertain how academics would want to make their works available in an open access environment, should they assert greater ownership over the copyright in their works. This research question was addressed by RoMEO Studies 2 (P6). It also raised the question as to how universities saw their role in relation to the copyright ownership of scholarly works: a question addressed much later by a content analysis of UK HEI copyright policies (P9).

5.2.1.2   *What has happened since? The current situation regarding the scholarly copyright ownership 'triangle'.*

RoMEO Studies 1 has received over 100 citations many of which offered alternative solutions to the problem of academic assignment of copyright to publishers. In 2006, Denicola went a step further than RoMEO Studies 1 and made a case for sole university ownership of copyright works; in 2010, Shavell argued that copyright should be abolished in scholarly works; and in 2016, Scheufen made the case for an inalienable right of secondary publication for all works. None of these suggestions have been adopted. However, in 2013, Germany introduced a secondary right of publication for non-university research (Pampel, 2013), and in 2015 the Netherlands introduced legislation that entitled authors to make any works partly or wholly funded by public funds available on open access within a reasonable period of time after first publication (Visser, 2015). In 2016, France followed suit, specifying that the embargo period should be no more than six months for STEM subjects and 12 months for the Arts, Humanities and Social Sciences (OpenAire, 2016). The closest the UK HE sector has come to a joint copyright ownership approach is the proposed 'Harvard-style' UK Scholarly Communication Licence, by which academics assign their institutions a non-exclusive licence to make their works available on open access immediately on publication under the terms of a Creative Commons Attribution-Non-Commercial (CC-BY-NC) Licence (Reimer, 2016). This is discussed further in P9.

5.2.2   A journal copyright transfer agreement content analysis (P4)

The journal publisher copyright agreement analysis presented in P4 was seen as a way of exploring publishers' perspectives on copyright ownership with a particular, but not exclusive, focus on self-archiving, after a dedicated publisher questionnaire failed to attract a significant response rate. It provided the first figures on the proportion of publishers i) requiring copyright transfer (90% in total, of which 69% required this *prior* to refereeing); ii) failing to assert protection for authors' moral rights (83%) and iii) preventing authors from re-using their own works (28.5%). The article concludes that author-publisher copyright agreements should be reconsidered by a working party representing the needs of both parties. This has not happened, but it is notable that the majority of larger publishers have moved away from copyright transfer agreements – certainly prior to refereeing - and

instead now use exclusive licences (Inger and Garder, 2013). Unfortunately, the effect of an exclusive licence is often identical to a copyright transfer agreement.

5.2.2.1 *Research questions raised and the link with subsequent studies*

This study, and the resulting RoMEO listing of publisher self-archiving policies (later the SHERPA/RoMEO database) which colour-coded publishers according to the version of an author's paper they permitted them to self-archive, prompted publishers to seriously consider their self-archiving policies. As such, there was a lot of movement between RoMEO colour codes in the few years following this paper. This raised a research question around how publishers' self-archiving policies would develop over time, later addressed in P5.

5.2.3   A longitudinal analysis of journal publisher open access policies (P5)

The longitudinal analysis of journal copyright policies presented in P5 sought to trace the policy journey of the original 107 publishers extant on the RoMEO database over the twelve years since P4 was written. Under the guidance of my co-author, I performed all the data analysis and wrote the first draft of this paper which we then refined together. Its principle contribution to knowledge is evidence of significant growth in restrictions and conditions relating to self-archiving over time (increasing at a similar rate to the availability of paid open access options). This is likely to have a significant impact on the ease by which authors (or their representatives, Institutional Repository Managers in libraries) could self-archive their works. It also shows how 'RoMEO Green' open access has increased over time whilst the right to make the author accepted manuscript available on an Institutional Repository immediately has decreased over time. This suggests that publishers are 'gaming' the RoMEO colour codes and the paper calls for a redefinition of the requirements for RoMEO Green. At the time of writing (March 2017) this is the most 'mentioned' article from the *Journal of Librarianship and Information Science* and in the top 5% of all outputs listed on Altmetric.com.

5.2.4   What has happened since? Recent research into publisher copyright and open access policies.

P4 is still the only comprehensive interdisciplinary analysis of publisher copyright transfer agreements in existence, although others have looked at agreements within certain

disciplines (Coleman, 2007) or specifically at publisher open access policies. Mikael Laakso and colleagues have done a lot of work in this space, including a significant overview of publisher green self-archiving policies (Laakso, 2014); a review paper on the "anatomy of green open access" (Bjork, Laakso, Welling and Paetau, 2014); and a study of actual open access availability compared to that permitted by publisher copyright agreements in Information Science (Laakso and Lindhman, 2016).

5.2.5 Recommendations for future research in the field of journal copyright and open access policy

It will be fascinating to observe the impact of the German, Dutch and French open access legislation on scholarly communication. Notably, the legislation *permits* open access, rather than requiring it. It also allows for publication delays. Key research questions include how the rights will be taken up by authors and how publishers will respond?

In terms of the actual effect of publisher copyright agreements on academics, Dawson and Yang (2016) found that 53% of US Institutional Repositories expect authors to negotiate copyright permission with publishers themselves in order to deposit. This is unlikely to be the case in the UK due to funder requirements, but an international study of institutional repository copyright practices would be interesting.

There is considerable scope for further investigation in two key areas relating to journal copyright and open access policy: i) exactly what rights do publisher-author agreements grant to authors; and ii) under what re-use licences are open access or subscription works made available to end-users?

With regards to the first, publisher agreements are still unclear as to who owns the rights in various versions of a work; what an author may do with each version; and whether they may sub-licence those rights to others. The OA Spectrum Tool goes some way to outlining the 'openness' of a particular journal's policy including third-party re-use rights as an element, but fails to provide practical guidance to authors as to their re-use rights. It is also uncertain as to what the relationship is between a publisher's CTA and their OA policy. Laakso and Lindhman (2016) note that "the use of academic social networks (ASNs) for enabling online availability of research publications has grown increasingly popular, [and this was] an avenue of research dissemination that most of [their] studied journal copyright

agreements failed to explicitly accommodate." This was something we observed in the data analysed for P5 and publisher approaches to this would be worthy of further study. Some standardisation around publisher-author agreements as recommended by P4 would be welcomed by authors.

With regards to the second area, most publishers do not make it clear under what terms their publisher version, nor any self-archived version, might be re-used by a third-party. Poor (2008) and Schlosser (2016) have noted how many publisher journal copyright notices are incorrect. An investigation into the proportion of publishers that make it clear under what terms an OA copy may be re-used by a third party; the volume of open access copies that actually have identifiable licence terms and the proportion of OA licence terms that match publisher requirements would be enlightening. Again, some standardisation and transparency in this area would be useful.

5.3 As copyright owners, how do academics want to protect their open access research and teaching outputs? (RQ3)

5.3.1 An investigation into how academics wish to protect their open access research outputs (P6)

RoMEO Studies 2 (P6) reports more fully on the survey of academic authors briefly drawn upon in RoMEO Studies 1. It does so with a view to informing the creation of some rights metadata that protected academics' open access works in a way that met their needs. As with the other RoMEO studies, I was the sole Research Fellow, working under the supervision of the Principal and Co-Investigators.

The study found a statistically significant difference between views of self-archivers and non-archivers as to how they would want to protect their open access papers. However, all of the authors were prepared to be more liberal with their open access papers than copyright law allowed. The majority of academics (over 50%) agreed to eight mandatory elements of rights protection (display; give; print; excerpt; exact replicas; attribution; prohibit sell) and two optional elements (aggregate; for non-commercial purposes). The findings indicate that it is an author's moral rights rather than their economic rights that they most seek to protect.

This is still the only systematic analysis of the activities academics are happy to have performed with their open access papers. Ultimately, the research led to a recommendation that Creative Commons Licences were adopted to protect the use of open access papers in a way commensurate with academics' requirements. (Although a specific licence was not suggested, the Creative Commons Attribution-Non-commercial-No-Derivatives (CC-BY-NC-ND) licence would have met the majority of academics' preferences). Indeed, Creative Commons Licences are now the predominant licensing form in the scholarly open access arena.

5.3.1.1   Research questions raised and the link with subsequent studies

Having established how academic authors wanted to protect their open access research papers, this led on to two further research questions. The first was how did the protection needs of academics-as-authors compare to the usage needs of academics-as-users? This was addressed in RoMEO Studies 3 (P8). The second was how did the rights protection of research outputs required by academics-as-researchers compare to the rights protection of teaching outputs required by academics-as-teachers? This was addressed by the *Rights & Rewards* project (P7).

5.3.1.2   What has happened since? Recent research into how authors seek to protect open access works

Since the publication of RoMEO Studies 2, there have been a number of author opinion surveys relating to open access. Nicholas et al (2005) performed a study of senior authors' opinions regarding (mainly gold) open access and found that those with an active interest in copyright were more likely to publish in open access journals than others. Kim (2010) undertook a study into factors affecting self-archiving by academics and found that copyright concerns continue to be a major limiting factor. However, few studies since have sought to understand specifically how academics wish to protect their open access works. Interestingly, three publisher studies by Taylor & Francis (Frass et al, 2013), Nature (Van Noorden, 2013) and IOP Publishing (Gulley, 2013) have all concluded that academics' needs are not best met by the CC-BY licence. This clearly triangulates with the findings of RoMEO Studies 2. Mandler (2013) makes an excellent point that CC licences were created to be assigned by the author over their work, not demanded by others (e.g., funders) as is currently the case.

5.3.2 An investigation into how academics wish to protect their open access teaching outputs (P7)

The JISC-funded *Rights & Rewards in Blended Open Repositories (R&R)* project sought to investigate academics' motivation for sharing open educational resources (OERs) via repositories. The rights element of the project sought to understand whether a single rights solution could apply to both teaching and research outputs in a blended open repository. To this end the *RoMEO* author survey was adapted for a comparative study of academics-as-teachers to understand how they might want to protect their OERs. This paper (P7) compares the findings to those of RoMEO Studies 2. I acted as Co-Investigator on this project. The literature review and data were provided by the co-authors, while I wrote the methods, findings and conclusions.

The paper finds that academics-as-teachers (hereafter 'teachers') are more liberal than academics-as-researchers (hereafter 'researchers') in terms of permissions, but more restrictive in terms of the conditions and restrictions they would want to apply to those permissions. Both groups are principally concerned about protecting their moral rights rather than their economic rights. Teachers are less likely to think they owned the copyright in their teaching materials than researchers the copyright in their research papers. Indeed, 28% of teachers thought their HEI owned the copyright in teaching materials and 51% thought their HEI should be attributed on re-use, compared to just 7% of researchers that thought the HEI owned copyright in their research papers. This was the first, and to date, only survey of UK academic staff views on rights ownership and protection of e-learning materials.

5.3.2.1 Research questions raised and the link with subsequent studies

Having ascertained how teachers would like to protect their OERs, the broader question, surfaced by teachers' uncertainty about the ownership of copyright, was whether university copyright policies would enable their academics to make this choice or whether universities saw themselves as the owners (and therefore protectors) of OERs. This research question was addressed later by a content analysis of UK HEI copyright policies approaches towards teaching materials (P10).

5.3.2.2 What has happened since? Recent research into how academics want to protect their OERs

After a hiatus of a few years, there has been a recent flurry of activity in the space around the motivation of academics to share OERs. Indeed, over half of the citations to our paper have accrued in the last three years. In 2013 McKerlich et al concluded that "one of the main issues that inhibits sharing and openness in higher education is intellectual property". They cite Pawlowski (2012:3) who argues that a critical factor in encouraging the sharing of OERs is to offer academics an increased sense of "emotional ownership" of their works, defined as "the degree that individuals perceive that knowledge or resources belong to them." These arguments echo the *RoMEO* and *R&R* study findings that it is the moral rights (attribution and control over future versions of works) that most concern academics about openly sharing their work. Indeed, a later grounded theory approach to investigating academics attitudes to IP and ownership in Portugal by Martins & Nunes (2016) drew similar conclusions. They report that "there are fears, in particular, about academics being (i) dispossessed of the product of their intellectual creations, (ii) unable to track further use or distribution of materials, (iii) unable to ensure the integrity of multimedia materials, and (iv) increasingly exposed to the possibility of unbridled use of their contents without attribution." To provide reassurance to academics, and with similar aims to the RoMEO Project, Marques et al (2015) have created a rights expression solution for OERs called ARMS (Academic Rights Management System) using the MPEG-21 Rights Expression Language. It remains to be seen whether and how this is adopted.

5.3.3 Recommendations for future research on academics' protection requirements for open access works

As there have been no further studies as to how academics wish to protect their teaching and 'royalty-free' research outputs in an open access environment, it would be very interesting to revisit these questions to see: i) if and how academics' views on rights protection have changed over time, and ii) whether there are demographic differences around rights protection requirements. Differences between UK, European and US academics; between early career and later career academics and different disciplines would all be interesting areas to explore.

Of course, since these studies were performed, other forms of content have risen in significance, particularly research data and open access monographs. A multi-stakeholder study around the rights ownership of these outputs would be very timely.

5.4   As copyright users, how do academics want to use research outputs in an open access environment? (RQ4)(P8)

The aim of RoMEO Studies 3 was to understand whether there was a difference between how academics-as-authors wanted to protect their open access research papers, and how academics-as-users expected to use them. This was important in terms of rights metadata development (ideally re-use rights needed to match re-use requirements). However, if it could be shown that in the majority of cases academics did not expect to make free with others' open access papers, it might encourage more to self-archive. It drew on the academic author survey and compared the protection requirements and re-use requirements of respondents. As with the other RoMEO studies I wrote the paper under the supervision of the Principal and Co-Investigator.

The study found that only 18 per cent of respondents expected there to be no restrictions on the use of open-access works. In fact the permissions that authors would allow were significantly greater than those users expected, except for save, display and excerpt where the numbers were equal. Again, in terms of restrictions, the requirements and expectations were similar, apart from three where users expected more restrictions than authors required. The top ranking condition from both groups was a requirement (81%) and expectation (76%) to attribute the author. In terms of rights metadata creation, equal numbers of authors and users met the agreement threshold for the same permissions, restrictions and conditions.

As with RoMEO Studies 2, this paper is still the only systematic analysis as to how academics expect to use open access papers. There has been little related work other than some studies around how other user groups (e.g. research students) might wish to engage with open access papers through repositories (Pickton and McKnight, 2007; St Jean et al, 2011). Of course the Institutional Repository Usage Statistics (IRUS, 2017) service now provides some data on the actual usage of open access papers, however, this data is limited to views and downloads, not the more detailed uses to which those papers are put.

5.4.1   Recommendations for future research on third-party re-use of open access works

This paper demonstrated how academics *expected* to use open access papers. Now open access is more established and there are estimates that about 50% of papers are available on either Gold or Green open access (Archambault et al, 2014), it would be interesting to understand how academics are *actually* using them. Research questions might include whether and how academics check publisher, repository or end-user licences before using open access works; what uses academics actually go on to make with them; and what do academics do if the usage they want to make is not permitted by the licence (or copyright law)? It would be particularly interesting to learn how libraries engage with open access licences of this nature, and whether they make re-use (and guidance around re-use) more straightforward.

5.5   What claims do UK HEI copyright policies make regarding the ownership of teaching and research outputs created by their academic staff? (RQ5)

5.5.1   An investigation into UK HEI copyright policy approaches towards research outputs (P9)

RoMEO Studies 1 (P3) explored the issue of copyright ownership from the perspective of authors (via the author survey) and publishers (via the analysis of copyright transfer agreements) but did not undertake any systematic investigation into the views of universities. This paper (P9) sought to fill that gap by providing a content analysis of UK HEI copyright policy documents with regards to the ownership of scholarly works. I was the sole author of this paper although it draws on some data from a dataset co-designed by my co-author on P10.

The paper is the first large-scale empirical study of UK HEI copyright policies on ownership of scholarly works. It found that 20% of policies seek to 'share' ownership of scholarly works with academic staff through licensing, and 28% of HEIs seek to re-use their academics' scholarship in some way – although 45% of these relied on individual academics to communicate such re-use rights to publishers. Just under a third of HEIs sought to protect academics' moral rights. However there was no indication of a move towards some form of full joint ownership of copyright as originally recommended by RoMEO Studies 1.

5.5.2 An investigation into UK HEI copyright policy approaches towards teaching outputs (P10)

The *R&R* study (P7) showed how academic staff should like to protect their OERs, however, it did not investigate whether, under existing agreements with their institution, academic staff would have the ability to assert these preferences. This paper (P10) explores the claims made by UK HEIs over their teaching materials in their copyright policies. My co-author and I designed the study and coding scheme. I performed the majority of the data analysis and wrote the first draft of this paper which we then refined together. It was the first large-scale empirical study of UK HEI copyright policies on ownership of internal and e-learning materials.

The paper found that 90% of copyright policies address teaching materials explicitly. Fewer universities (77%) claim ownership of internal teaching materials than e-learning materials (84%). However, only 20% addressed performance rights (performances are a common feature of e-learning materials), 46% addressed rights of non-employees (common contributors to e-learning materials), and 44% addressed the rights held by academics over their teaching materials on termination of contract. Recent copyright policies (mainly Russell Group) were more liberal towards the ownership of copyright in teaching materials than older policies.

5.5.3 Recommendations for future research into UK HEI copyright policies

The UK HEI copyright policy analyses were based on the assumption that the content of the policy statement was an accurate depiction of the relationship between university and academic on this matter. In fact, as others have found before, copyright policies are often "poorly worded with confusing language and undefined terms" (Kromrey, 2007). As such, they may not always represent the 'situation on the ground' within HEIs. A series of interviews with UK universities to investigate the relationships between their copyright policy and its implementation from a more interpretivist perspective would be enlightening and complement the current studies.

As suggested in Section 5.3.2.3 above, teaching materials and 'royalty-free' scholarly works are not the only form of academic output under scrutiny in UK HE today. Research data and open access monographs are also becoming increasingly significant. A study of UK HE policy

approaches towards the ownership of these outputs would be very timely. It would also then be possible to provide a comparative overview of UK HE approaches towards the ownership of a wide range of different outputs (patents would be a good comparator) with a view to assessing whether the ownership approach was merited by the relative economics. It seems incongruent, for example, that UK HE pays well over £175M (Finch, 2012) on purchasing access to academic journals (IP that is given away), whilst earning £102M through inventions (IP that is retained) (Department for Business, Energy and Industrial Strategy, 2015). An economic analysis of this nature might help universities to make a holistic and informed approach to their IP policy.

With regards to scholarly works in particular, the introduction of the UK Scholarly Communication Licence looks set to have a significant impact on the scholarly communication ecosystem. A study of publishers' responses to the uptake of Harvard-style mandates in the US and increasingly in the UK would be very timely. It would also be interesting to note the reaction of funders over time, and whether they find it necessary to continue to prescribe certain forms of open access if academics and universities assert a greater sense of ownership over their research outputs.

6   Overall conclusions

The research papers presented offer a range of insights in response to the over-arching aim of investigating how stakeholders' approaches to copyright ownership in university-produced scholarly works affect access to UK scholarship.

Two types of scholarly works were considered: research outputs such as journal articles and conference papers, and teaching outputs. The investigations found that stakeholder perceptions towards the copyright ownership of both types of works differed.

The situation with research scholarship is unique in that the producers and consumers are one and the same. The early studies (P1 and P2) showed that assigning copyright to publishers and using copyright clearance activities to buy back access to re-use those works is not a practical solution for libraries. Such activities challenge why copyright is assigned to publishers in the first place and whether this is indeed necessary. The RoMEO studies argued that if copyright remained within the academy it would save the trouble and

expense of buying it back. Indeed, more universities are now experimenting with establishing University Presses (Speicher, 2016; Emery & Stone (n.d.) and others are advocating the widespread adoption of community-run pre-print servers with some form of post-publication peer review (also provided by the scholarly community) which could avoid the need for publishers to play a part in the scholarly communication process at all (Center for Open Science, 2016; Hu et al, 2010).

However, publishers have played a role in the scholarly communication chain for centuries and add value not primarily in organising peer review, editorial processes and marketing, but in providing the quality kitemarks of journal branding so coveted by academics (Anderson, 2016; Ware, 2015). Citation measurement is currently inextricably bound up with the journal article and citations are increasingly used to form quality judgements by funders and league tables. So, in copyright terms, there is still a need to enter in to some agreement with publishers for the time being, and in future, with whichever intermediary takes on the role of communicating those copyright works to the public.

The lure of the accreditation offered by journals is such that the RoMEO studies found that 90% of academics assigned copyright to publishers in exchange for it - although 49% did so reluctantly (P1). The reluctance seems to relate to three factors: i) academics' strong sense of moral rights ownership of their works, ii) their desire to re-use them and enable re-use of them; and iii) antipathy to the commercialisation of scholarship. With regards to moral rights it is unfortunate that in most cases journal publisher copyright agreements did not commit to moral rights protection (P4) and where they did, it was towards the right of paternity rather than the right to retain the integrity of their work. Indeed, Clark's Publishing Agreements (Owen, 2013) which provides model author-publisher agreements explicitly advises against offering to protect the right of integrity. With regards to re-use, again, almost one-third of publisher copyright agreements prevented academics from making further re-use of their works. By contrast, the RoMEO studies demonstrated that academics were willing to allow far more liberal re-use rights than copyright law or publisher e-journal licences would permit (P6), and this fitted well with academics' expectations around re-use (P8).

Publishers appear keen to be seen to address academics' concerns about rights issues, perhaps recognising that their commercial (or Learned Society) interests depend on continued copyright assignment by authors. This is evidenced by the significant decrease in copyright transfer agreements in favour of "exclusive licences" in the last decade (Inger and Gardner, 2013) which appear to leave copyright with the author, but in effect leave them with as few rights as if they had transferred copyright. It is also evidenced by the findings of the longitudinal study of publisher open access policies (P5) which demonstrated that an apparent increase in 'Green' policies masked a corresponding decrease in policies allowing immediate deposit in an institutional repository.

The effect of this situation on universities seeking to provide greater online and open access to scholarship through teaching innovations and institutional repositories is wholly negative (P1, 2 and 5). In response, it now appears that universities are beginning to seek shared copyright ownership of scholarly outputs through their copyright policies (P9). However, very few HEIs (6%) were willing to assert what is arguably the legal position, namely that the university as employer owns the copyright in all scholarly works. The reason for this reluctance is principally fear of a backlash from academics who associate copyright ownership with academic freedom, and who point towards the commercialisation of higher education as the root cause of universities' copyright ownership claims. The irony here, of course, is that the same academics have no issues with assigning copyright to (usually) commercial publishers, resulting in considerable constraints upon their freedom to communicate and re-use their work. The UK Scholarly Communication Licence looks set to offer an acceptable compromise in this space and it will be interesting to observe the impact of this initiative over time.

With regards to the copyright ownership of teaching outputs, the perceptions of academics and universities appear to be quite different. Academics seem to expect that their institutions will have a stake in the ownership of these works (P7). However, the desire to retain moral rights is still strong, particularly in terms of the right of integrity. Perhaps due to the relative newness of this activity, academics are eager to monitor and limit how their teaching outputs are used in an open and online environment. Unfortunately, whilst most UK HEI copyright policies seek to retain copyright in teaching and e-learning materials (P10), very few explicitly pledge to protect academics' moral rights (P9). Indeed, most UK HEI

copyright policies in this area appear to be fledgling and do not address some of the key copyright issues pertaining to OERs.

The effect of this situation on the provision of online access to teaching outputs is proving to be restrictive in terms of voluntary sharing by academics through repositories (De Los Arcos, 2014). It is perhaps telling that very few UK institutions now have repositories of OERs as anticipated by the R&R Project (OpenDOAR, 2016). The impact on Massive Open Online Courses (MOOCs) remains to be seen, however, the number of UK MOOCs is still low, and the number being launched dropped considerably between 2014 and 2015 (McIntyre, 2016). Clearly most universities have positioned themselves to take commercial advantage of copyright in teaching materials through MOOCs. However, for these ventures to be successful (through attracting academic contributors and avoiding legal complications) there are a number of copyright ownership issues yet to be addressed.

The papers presented here suggest that the best route to ensuring optimum access to UK scholarship is through a frank and open dialogue between academics and their institutions around copyright ownership. The current copyright ownership regime is costing both parties in terms of a lack of moral rights protection, financial pressures, and the inability to use and re-use scholarship in ways that benefit both parties.   Academics and their institutions are in a symbiotic relationship and stand to gain much through working together through some of these issues towards a win-win copyright ownership relationship.

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8 Appendix 1: Mapping of papers and methods to research questions

RQ number	Research question (RQ)	Paper number	Reference	Citations (Google Scholar) as of July 17	Methods
1	What are the costs and processes involved in seeking copyright permission to reuse research outputs in teaching activities?	P1	Gadd, E. & Muir, A., 1998. *Project ACORN Access to Course Readings via Networks Final Report. Appendix 9: Final Copyright Permissions Report*, Loughborough : Loughborough University.	NA	Case Study: Quantitative evaluation
		P2	Gadd, E., 2002. Clearing the way : copyright clearance in UK libraries. LISU Occasional Publications No. 31. Loughborough: LISU.	7	Cross-sectional & Case Study: Questionnaire survey and semi-structured interviews.
2	What is the copyright ownership relationship between UK universities, their	P3	Gadd, E., Oppenheim, C. & Probets, S., 2003. RoMEO Studies 1: The impact of copyright ownership on academic	111	Cross-sectional questionnaire survey and content analysis

			author self-archiving. *Journal of Documentation*, 59(3), pp.243–277.		
		P4	Gadd, E., Oppenheim, C. & Probets, S., 2003. RoMEO studies 4: an analysis of journal publishers' copyright agreements. *Learned Publishing*, 16(4), pp.293–308.	81	Cross-sectional content analysis
		P5	Gadd, E. & Troll Covey, D., 2016. What does "green" open access mean? Tracking twelve years of changes to publisher self-archiving policies. *Journal of Librarianship and Information Science*. [Online First].	5 [Altmetric Score=91]	Longitudinal content analysis
3	As copyright creators, how do academics want to protect their open access research and teaching outputs?	P6	Gadd, E., Oppenheim, C. & Probets, S., 2003. RoMEO Studies 2: How academics want to protect their open-access research papers. *Journal of Information Science*, 29(5), pp.333–356.	75	Comparative and cross-sectional design: Questionnaire survey
		P7	Gadd, E., Loddington, S. & Oppenheim, C., 2007. A comparison of academics' attitudes towards the rights protection	17	Comparative and cross-sectional design: Questionnaire survey

			of their research and teaching materials. *Journal of Information Science*, 33(6), pp.686–701.		
4	As copyright users, how do academics want to use research outputs in an open access environment?	P8	Gadd, E., Oppenheim, C. & Probets, S., 2003. Romeo Studies 3: How Academics Expect to Use Open-Access Research Papers. *Journal of Librarianship and Information Science*, 35(3), pp.171–187.	51	Comparative and cross-sectional design: Questionnaire survey
5	What claims do UK HEI copyright policies make regarding the ownership of teaching and research outputs created by their academic staff?	P9	Gadd, E., 2017. UK university policy approaches towards the copyright ownership of scholarly works and the future of open access. *Aslib Journal of Information Management*, 69(1), pp.95-114.	NA [Altmetric Score=24]	Cross-sectional content analysis
		P10	Gadd, E. & Weedon, R., 2017. Copyright ownership of e-learning and teaching materials: policy approaches taken by UK universities. *Education and Information Technologies*, [Online First].	NA [Altmetric Score=12]	Cross-sectional content analysis

9 Appendix 2: Listing of papers, abstracts and brief author contribution

(Copies of all papers are available via Loughborough University's Institutional Repository at http://dspace.lboro.ac.uk)

Paper 1

Gadd, E. & Muir, A., 1998. *Project ACORN Access to Course Readings via Networks Final Report. Appendix 9: Final Copyright Permissions Report*. Loughborough: Loughborough University.

Abstract

The Joint Information Systems Committee (JISC)-funded *Access to Course Readings via Networks (ACORN)* action research project sought to investigate the issues surrounding the establishment of a digital 'short loan' collection of journal articles at Loughborough University (1996-8). This report evaluates the costs and processes involved in seeking copyright permission to digitise journal articles for access by students on courses of study. It finds that direct permission seeking is time-consuming and complex: 78% of publishers required chasing; on average they needed chasing 6 times; of the 85 publishers approached, the contact details were wrong for 53%; in 8% of cases, the publisher was not the copyright owner; on average it took 77 days to get a signed agreement. Also, the need to seek copyright permission could have a negative impact on teaching (in one department only 54% of permissions were received) and there was no consistency in the charges made (copyright fees ranged from $1 to $25 per page).

This paper addresses RQ1 with regards to the costs and processes involved in seeking copyright permission to re-use research outputs in teaching activities, using data from a single case study. This led on to the broader Clearing the Way *study which sought to understand how typical these findings were across the sector.*

I was the lead author on this report.

Paper 2

Gadd, E., 2002. Clearing the way : copyright clearance in UK libraries. LISU Occasional Publications No. 31. Loughborough: LISU.

Abstract

The *Clearing the Way* project was funded by the 2001 Elsevier/LIRG Research Award and sought to investigate the full range of copyright clearance activities undertaken by UK (mainly HE) libraries to support the teaching and research activities of their academic staff. It finds that copyright clearance is a resource-intensive process. Two-thirds of UK HEIs involved at least two staff members to manage the 12-step process; one-third of requests required chasing; and five per cent were never answered. Eighteen different licences were in use by respondents, however of particular burden was the transactional "CLA Rapid Clearance Service" (CLARCS) service.

This paper addresses RQ1 by confirming that the costs and processes involved in seeking copyright permission to re-use research outputs in teaching activities are considerable and complex. It draws conclusions about how the clearance process might be improved by changes to the legislative and licensing environment.

I was the sole author on this report.

Paper 3

Gadd, E., Oppenheim, C. & Probets, S., 2003. RoMEO Studies 1: The impact of copyright ownership on academic author self-archiving. *Journal of Documentation*, 59(3), pp.243–277.

Abstract

This is the first of a series of studies emanating from the UK JISC-funded RoMEO Project (Rights Metadata for Open-archiving) which investigated the IPR issues relating to academic author self-archiving of research papers. It considers the claims for copyright ownership in research papers by universities, academics, and publishers by drawing on the literature, a survey of 542 academic authors and an analysis of 80 journal publisher copyright transfer agreements. The paper concludes that self- archiving is not best supported by copyright transfer to publishers. It recommends that universities assert their interest in copyright ownership in the long term, that academics retain rights in the short term, and that publishers consider new ways of protecting the value they add through journal publishing.

This paper addresses RQ2 by examining the copyright ownership relationship between UK universities, their academic staff and journal publishers and its impact on self-archiving and concluding that the dominant copyright ownership model is not conducive to this activity.

I was the lead author on this report.

Paper 4

Gadd, E., Oppenheim, C. & Probets, S. 2003. RoMEO studies 4: an analysis of journal publishers' copyright agreements. *Learned publishing*, 16(4), pp.293–308.

Abstract

This article is the fourth in a series of six emanating from the UK JISC-funded RoMEO Project (Rights Metadata for Open archiving). It describes an analysis of 80 scholarly journal publishers' copyright agreements with a particular view to their effect on author self-archiving. 90% of agreements asked for copyright transfer and 69% asked for it prior to refereeing the paper. 75% asked authors to warrant that their work had not been previously published although only two explicitly stated that they viewed self-archiving as prior publication. 28.5% of agreements provided authors with no usage rights over their own paper. Although 42.5% allowed self-archiving in some format, there was no consensus on the conditions under which self-archiving could take place. The article concludes that author-publisher copyright agreements should be reconsidered by a working party representing the needs of both parties.

This paper addresses RQ2 through a more thorough examination of the copyright agreements which define the relationship between academic staff and journal publishers.   It found that such agreements were neither supportive of, nor consistent in their approach towards, self-archiving.

I was the lead author on this paper.

Paper 5

Gadd, E. & Troll Covey, D., 2016. What does "green" open access mean? Tracking twelve years of changes to publisher self-archiving policies. *Journal of Librarianship and Information Science*. [Online First].

Abstract

Traces the 12-year self-archiving policy journey of the original 107 publishers listed on the SHERPA/RoMEO Publisher Policy Database in 2004, through to 2015. Maps the RoMEO colour codes ('green', 'blue', 'yellow' and 'white') and related restrictions and conditions over time. Finds that while the volume of publishers allowing some form of self-archiving (pre-print, post-print or both) has increased by 12% over the 12 years, the volume of restrictions around how, where and when self-archiving may take place has increased 119%, 190% and 1000% respectively. A significant positive correlation was found between the increase in self-archiving restrictions and the introduction of Gold paid open access options. Suggests that by conveying only the version of a paper that authors may self-archive, the RoMEO colour codes do not address all the key elements of the Bethesda Definition of Open Access. Compares the number of RoMEO 'green' publishers over time with those meeting the definition for 'redefined green' (allowing embargo-free deposit of the post-print in an institutional repository). Finds that RoMEO 'green' increased by 8% and 'redefined green' decreased by 35% over the 12 years. Concludes that the RoMEO colour codes no longer convey a commitment to green open access as originally intended. Calls for open access advocates, funders, institutions and authors to redefine what 'green' means to better reflect a publisher's commitment to self-archiving.

This paper addresses RQ2 by tracing over time the development of publisher open access policies which determine whether and how academics can self-archive their research papers. It demonstrates that the policy environment is making self-archiving increasingly complex.

I was the lead author on this paper.

Paper 6

Gadd, E., Oppenheim, C. & Probets, S., 2003. RoMEO Studies 2: How academics want to protect their open-access research papers. *Journal of Information Science*, 29(5), pp. 333–356.

Abstract

This paper is the second in a series of studies emanating from the UK JISC-funded RoMEO Project (Rights Metadata for Open-archiving). It considers the protection for research papers afforded by UK copyright law, and by e-journal licences. It compares this with the protection required by academic authors for open-access research papers as discovered by the RoMEO academic author survey. The survey used the Open Digital Rights Language (ODRL) as a framework for collecting views from 542 academics as to the permissions, restrictions, and conditions they wanted to assert over their works. Responses from self-archivers and non-archivers are compared. Concludes that most academic authors are primarily interested in preserving their moral rights, and that the protection offered research papers by copyright law is way in excess of that required by most academics. It also raises concerns about the level of protection enforced by e-journal licence agreements.

This paper addresses RQ3 by providing insight into the permissions, restrictions and conditions academic authors would most like to see governing the protection of their research outputs. It finds that whilst they are prepared to be more liberal than copyright law or e-journal licence terms would allow, they do seek the rights of paternity and integrity to apply to their research outputs.

I was the lead author on this paper.

Paper 7

Gadd, E., Loddington, S. & Oppenheim, C., 2007. A comparison of academics' attitudes towards the rights protection of their research and teaching materials. *Journal of Information Science*, 33(6), pp. 686–701.

Abstract

This paper compares two JISC-funded surveys. The first was undertaken by the Rights MEtadata for Open Archiving (RoMEO) project and focused on the rights protection required by academic authors sharing their research outputs in an open-access environment. The second was carried out by the Rights and Rewards project and focused on the rights protection required by authors sharing their teaching materials in the same way. The data are compared. The study reports confusion amongst both researchers and teachers as to copyright ownership in the materials they produced. Researchers were more restrictive about the permissions they would allow, but were liberal about terms and conditions. Teachers would allow many permissions, but under stricter terms and conditions. The study concludes that a single rights solution could not be used for both research and teaching materials.

This paper addresses RQ3 by providing insight into the permissions, restrictions and conditions academic authors would most like to see governing the protection of their open educational resources and contrasting these to the conditions authors wanted to see governing their research outputs. The needs of the two groups were quite different.

I was the lead author on this paper.

Paper 8

Gadd, E., Oppenheim, C. & Probets, S., 2003. Romeo Studies 3: How Academics Expect to Use Open-Access Research Papers. *Journal of Librarianship and Information Science*, 35(3), pp. 171–187.

Abstract

This paper is the third in a series of studies emanating from the UK JISC- funded RoMEO Project (Rights Metadata for Open-archiving). It considers previous studies of the usage of electronic journal articles through a literature survey. It then reports on the results of a survey of 542 academic authors as to how they expected to use open-access research papers. This data is compared with results from the second of the RoMEO Studies series as to how academics wished to protect their open-access research papers. The ways in which academics expect to use open-access works (including activities, restrictions and conditions) are described. It concludes that academics-as-users do not expect to perform all the activities with open- access research papers that academics-as-authors would allow. Thus the rights metadata proposed by the RoMEO Project would appear to meet the usage requirements of most academics.

This paper answers RQ4 by discovering the permissions, restrictions and conditions under which academics would expect to use research outputs in an open access environment. It finds that their actual usage requirements are fairly limited and within the bounds of those permissions they'd be willing to apply to their own works.

I was the lead author on this paper.

Paper 9

Gadd, E., 2017. UK university policy approaches towards the copyright ownership of scholarly works and the future of open access. *Aslib Journal of Information Management*, 69(1), pp. 95-114.

Abstract

Purpose: Considers how the open access policy environment has developed since the RoMEO (Rights Metadata for Open Archiving) Project's call in 2003 for universities and academics to assert joint copyright ownership of scholarly works. Investigates whether UK universities are moving towards joint copyright ownership.

Design: Analyses 81 UK university copyright policies are analysed to understand what proportion make a claim over i) IP ownership of all outputs; ii) the copyright in scholarly works; iii) re-using scholarly works in specific ways; iv) approaches to moral rights. Results are cross-tabulated by policy age and mission group.

Findings: Universities have not asserted their interest in scholarly works through joint ownership, leaving research funders and publishers to set open access policy. Finds an increased proportion of universities assert a generic claim to all IP (87%) relative to earlier studies. 74% of policies relinquished rights in scholarly works in favour of academic staff. 20% of policies share ownership of scholarly works through licensing. 28% of policies assert the right to reuse scholarly works in some way. 32% of policies seek to protect moral rights. Policies that 'share' ownership of scholarly works are more recent. The UK Scholarly Communication Licence (UK-SCL) should have an impact on this area. The reliance on individual academics to enforce a copyright policy or not to opt out of the UK- SCL could be problematic. Concludes that open access may still be best served by joint ownership of scholarly works.

Originality: This the first large-scale analysis of UK university policy positions towards scholarly works. Discovers for the first time a move towards 'shared' ownership of scholarly works in copyright policies.

This paper addresses RQ5 by analysing the claims that UK HEI copyright policies make regarding the ownership of research outputs created by their academic staff and considering the impact on open access. It concludes that a small but probably increasing number of policies are moving towards supporting open access through 'sharing' the rights to scholarly works.

I was the sole author on this paper.

Paper 10

Gadd, E. & Weedon, R., 2017. Copyright ownership of e-learning and teaching materials: policy approaches taken by UK universities. *Education and Information Technologies*, [Online First].

Abstract

Purpose: Investigates whether and how UK university copyright policies address key copyright ownership issues relating to printed and electronic teaching materials.

Design: A content analysis of 81 UK university copyright policies is performed to understand their approach towards copyright ownership of printed and e-learning materials and performances; rights on termination of contract; rights of non-staff contributors. Cross-tabulations are performed with the mission group and age of copyright policy.

Findings: 90% of copyright policies address teaching materials explicitly. Fewer universities (77%) claim ownership of internal teaching materials than e-learning materials (84%). Only 20% address performance rights, 46% address rights of non-employees, and 44% address rights on termination of contract. Russell Group universities have more liberal copyright policies around ownership of teaching materials than newer universities. Recent copyright policies are more liberal than older policies.

Practical implications: Recommends that UK universities work with academic staff to address key copyright policy issues in a way that balances the rights of both parties.

Originality: This the first empirical study of UK university copyright policy approaches towards the ownership of teaching and e-learning materials.

This paper addresses RQ5 by analysing the claims that UK HEI copyright policies make regarding the ownership of teaching outputs created by their academic staff. It finds that policies assert greater ownership over their teaching materials than their research outputs, although there are signs that HEIs are moving towards a shared ownership situation.

I was the lead author on this paper.