



Preservation, access and intellectual property rights challenges for libraries in the digital environment

Adrienne Muir

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30-32 Southampton Street, London WC2E 7RA
Tel: 020 7470 6100 Fax: 020 7470 6111 www.ippr.org
Registered Charity No. 800065

About the author

Adrienne Muir is a Lecturer in Information Science at Loughborough University. She has carried out research in preservation, especially digital preservation, digitisation and national information policy. Previously Adrienne managed digital library and preservation research programmes for the British Library Research and Innovation Centre and the UK Library and Information Commission. She has been a researcher in information and cultural policy at the Policy Studies Institute and a curator at the National Library of Scotland.

Foreword

by Kay Withers, research fellow, ippr

Libraries have been the repository for shared knowledge, providing free and open access to information, for centuries. They were established before the invention of the printing press and during a time when production of manuscripts was done by hand alone. Initially, libraries were more often set up as archives, storing official records, with the first private collections of fiction and non-fiction books appearing in the 5th century BC in ancient Greece. Libraries began to emerge in medieval Europe following the translation of works stored in Islamic public libraries established in the 9th century. The translation process was undertaken by hand, usually by Christian monks, and was costly and time consuming. Public libraries were therefore a response to the fact that these works were too expensive for most people to own.

Public libraries in the UK were formally established with the Public Libraries Act of 1850, one of a number of various efforts undertaken to attempt to educate the working class. At the time, working class movements were gathering momentum, inspired by the French Revolution and the periods of massive upheaval that came with the Industrial Revolution and the growth in urban populations during the first half of the 19th century. The Act was introduced by William Ewart, but faced stiff opposition from Conservative peers and a suspicion that the rate paying middle classes would be subsidising a service used by the working class to better themselves.

The aim, to provide for a more educated populace, sets libraries in a unique space in our society. While the concept of democracy was regularly debated in Parliament in the mid 19th century, only one person in forty was eligible to vote and compulsory primary education for all would not be delivered for a further twenty years. Libraries offered a place where those interested in reading and learning could access literature out of their financial reach. They provided a huge input to the growth of public domain, and the public sphere more generally, offering balanced collections of vast amounts of printed material through which social interaction was increasingly taking place. In this sense, they supported a democratic society, providing access to knowledge and the tools to debate issues outside the sphere of government or official record. They are also an early example of institutions designed to tackle social exclusion of citizens, providing a safe, public space for people to study and engage in other learning activities. This particular social aspect of libraries has been transferred to their most recent role in providing free internet access to users, often also offering training and assistance in use of this technology.

An initial age of information abundance, occurring after the invention of the printing press and the substantial increase in publications following the introduction of copyright law, saw libraries and archives emerge as key facilities in organising large amounts of material. Now in an age of digital information abundance, libraries face increasing competition from commercial players. While large bookstores such as Barnes and Noble in the US, and Borders in the UK, have borrowed some aspects of public libraries, for instance introducing space and facilities to browse and sit, they have gone further in appealing to a wider consumer base offering in-store coffee houses and branching out to sell audiovisual material, games, and other entertainment content. Online providers, such as Amazon, have the ability to offer a much wider range of material than high street bookstores because they have fewer space constraints. They also provide access to a range of second-hand book sellers, who offer many hard-to-find or out-of-print works at low prices.

While commercial competition has increased, the public library system now costs the UK tax payer about £1 billion a year. More and more, such institutions are being asked to attempt to quantify what value they return to society. But this is notoriously difficult to do and it is important we recognise that libraries do much more than provide something for free that other commercial players offer at (increasingly) low cost. In demanding a direct comparison, we can confuse the underlying purpose of libraries with their present form. As well as providing access to works, libraries and archives feature heavily in other important components of an information system. They assist in knowledge creation (by providing a wide range of reference tools), distribution (by offering free access to knowledge and information), retrieval (by organising collections), and, importantly, preservation. Once we think of them in this context, it is easy to see the services our library system provides that the market will not.

Libraries are now facing significant challenges. Many of them relate to our current conception of a library as a place people go, where physical works are stored. Of course, this picture remains true in the majority of cases, but there are a number of digital libraries offering print and audiovisual material and the UK

Government has recently committed to initiatives to digitise our heritage more widely. New technologies provide massive opportunities for libraries to reach out to a wider constituent base, and to offer greater access to what has previously been considered scarce or too delicate material. The British Library's Turn the Pages project, for example, uses new technologies to provide digital versions of important historical works, such as Da Vinci's notebooks, and the original illustrations to *Alice in Wonderland*. Such advances mean works can be accessed freely, while the original copies remain safely preserved behind glass.

As traditional publishers move towards digital formats, it is not just rare or historical works that are being made available in digital form. Academic journals are now usually offered in both hard copy and digital format, while technology companies continue to invest in producing an e-book reader that is as transportable and easy to read as a typical paperback. It is easy to see what impact this could have on libraries: whereas previously someone might have to travel considerable distance to visit the library holding the material she or he was after, or wait for an inter-library loan, digital copies have the potential to be accessed from any place, at any time, by more than one person simultaneously. People will no longer be restricted by the number of copies of a particular work a library has purchased, nor by the opening hours or location of their local facility. Of course, libraries also act as potential threats to the creative industries. They also ride roughshod over the intellectual property regime which, while affording libraries and archives special privileges, sees them existing as both a physically located space, and offering hard copies of printed material.

The European Union has set itself the aim of becoming the world's largest 'knowledge economy' by 2010 and it makes sense that libraries should have some role in achieving this. But in order for them to fulfil this role, we need to ensure we have provided the tools that mean they can operate effectively. This paper by Dr Adrienne Muir considers the current legal and technical challenges that are facing libraries in their attempts to both provide access to digital heritage, and to preserve the vast amounts of digital content that are produced on a daily basis and at an ever increasing rate. It provides clear examples of where intellectual property legislation may need to have more flexibility so that libraries can continue to do their job in a digital age. But it also raises a number of questions relating to the shift society is undertaking towards an 'age of access' (Rifkin 2000) often mediated by technological means.

It is clear that to escape from the current technological determinism many digital rights management techniques demand, we need to have a clear concept of how, when and where democratic society should be provided with free, easy access to information. This should be attempted over and above economic considerations and give guidance to what should be considered acceptable terms on which information is provided, and able to be accessed, stored and preserved in libraries across the UK.

Introduction

Increasingly, libraries are acquiring, creating and managing information in digital form. Librarians are digitising collections of individual institutions as well as working with other libraries and knowledge institutions such as museums. They are also developing partnership arrangements with technology companies, such as Google, who are scanning the collections of a number of major libraries in order to include them in the Google Book Search (GBS) facility.

Digitisation of collections provides great opportunities for widening access to collections and especially to unique, rare and fragile material. It also enables preservation by creating a surrogate and thus reducing handling of originals. However, the legal status of such activity is unclear. Where works are out of copyright, digitisation and preservation may prove a simple task. But for in copyright works, the situation is very different. Copying of entire works in copyright is illegal in the UK as it is not covered by fair use provisions. The Google digitisation initiative has been controversial because copyrighted works were digitised without the permission of rights holders who must agree to the proposed access and use of digitised material. In order to avoid the time and expense needed to address these issues, many digitisers often avoid digitising material still in copyright.

As well as digitising their own collections, libraries are also dealing with growing numbers of electronic publishers. This industry, which began in the 1970s, has developed rapidly, moving beyond textual and numeric data to incorporating sound and still and moving images, so-called 'multi-media' publications. The proliferation of the internet and the introduction of the world wide web have massively improved retrieval, preservation and the ability to interact with information and have been one of the main reasons for the electronic publishing explosion.

But as information is disseminated in new ways, business models are also changing. In order that publishers can commercially exploit information assets, digital information is increasingly protected by technology designed to prevent unauthorised copying and distribution. This poses numerous problems for libraries, especially where it may inhibit or prevent preservation actions.

Electronic publishing has also meant that information is often no longer purchased in the form of physical artefacts such as hard copy books. Instead it is 'rented' through licensed online access. The nature of access to the information is set out in licence agreements between information providers and libraries and can mean that the information itself may not necessarily reside in the library. Librarians are concerned for two reasons. First, the terms of the licence agreement may restrict access and use beyond copyright provisions and second, since the library does not 'own' the material, the onus for the provision of long-term access is with the information providers.

Intellectual property rights present librarians with challenges at all stages of the information management cycle, from creation of digitised material or selection and acquisition of externally created material, to the provision of access and long-term management of digital collections. Indeed the whole notion of libraries as information storage warehouses is challenged in the digital environment. Libraries exist to provide access to information to people who are unable or unwilling to pay for it themselves. The main motivation of commercial publishers is to maximise exploitation of information assets. There is an inherent tension, which exists across the board, between the ability of rights holders and society to benefit from intellectual property. Digital publishing and networking has the potential to open up access to information: the explosion of information provision on the internet illustrates this. It also provides rights holders with the means to control access and use of information more tightly.

In order to understand the impact of intellectual property rights and licensing on access to, and preservation of, information in digital form it is necessary to briefly outline the nature of the intellectual property and other rights involved.

Copyright and other intellectual property rights

Copyright

Copyright law gives the copyright owner certain exclusive rights over the use of information. These usually include the right to, or authorise or prevent others from, reproducing or making an adaptation of a work as well as issuing copies to the public, renting or lending, performing the work in public, broadcasting the

work or placing the work on the internet. To carry out a restricted act on all or a substantial part of a copyright work you must have permission of the owner unless the activity is undertaken under an exception to copyright.

While copyright provides very clear rights to copyright owners, it also usually provides limited exceptions to those who might wish to use the copyrighted work for legitimate purposes that do not damage the rights holders' legitimate commercial interests.

Copyright legislation usually allows limited copying by libraries and archives. The UK's Copyright Designs and Patents Act 1988 provides two key exceptions: 'fair dealing' (Great Britain 1988, ss. 29 – 30) and 'library privileges' (Great Britain 1988, ss. 38 – 43). Under fair dealing individuals may make a copy of a 'reasonable proportion' of a literary, dramatic, musical or artistic work for the purposes of non-commercial research, private study, criticism or review (Great Britain, 1988 s. 42). The extent of 'reasonable proportion' is not defined.

Library privileges granted under copyright law permit copying of any item in the permanent collection for the purposes of preservation or replacement, provided that prescribed conditions are complied with. Copying is only permitted where it is not reasonably practicable to purchase a copy of the item. Materials must be for reference use only, and materials on temporary loan are not eligible. Thus the status of digital material that is subscribed to but remotely accessed is not clear.

In addition, this exception applies only to literary, dramatic and musical works, not artistic works. Nor does it apply to sound recordings or films, materials that often form important parts of library collections, particularly large research libraries such as national libraries. Thus, under current UK law, librarians are unable to make even analogue preservation copies of films or sound recordings. Some of this material is recorded on vulnerable media, such as acetate film or wax cylinders, and it may be rare or even unique. If the information content is still in copyright but cannot be copied or transferred onto new media, there is a real risk that a vital part of our intellectual and cultural heritage will be lost.

Database rights

Much digital information is made available via one form of database or another. In the UK, databases can benefit from protection not from copyright but also the database, or *sui generis*, right. The database right applies where there has been substantial investment in obtaining, verifying or presenting the contents of a database. The term of protection is 15 years but this may be renewed if there is a substantial change to the database. The right prevents the unauthorised extraction and re-utilisation of material from a database, whether it enjoys copyright or not. As a result both the copyright residing in the structure of the database and the database right itself restrict the transference of the material to another medium.

Anti-circumvention provisions

UK law provides legal protection against the circumvention of technological measures that protect copyright works (Great Britain 2003a, s.24). It also provides legal protection against the manufacture of products that could enable such circumvention. Technological measures include the application of an access control or protection process, such as encryption, scrambling or other transformation of the work or a copy control mechanism. Even where libraries have legitimate rights to manipulate the information, for example for preservation, digital rights management (DRM) may provide a legally insurmountable obstacle.

Moral rights

Moral rights of the creators of material may also have an impact on the ability to preserve and provide access to digital information. Under UK law moral rights are distinct and separate from property rights. They include:

- The right of an author of a work to be acknowledged as the author or creator.
- The right not to have his or her work subjected to 'derogatory' treatment.
- The right of an individual to refuse to be associated with something he or she did not create (CDPA 1988, s. 79).

Some preservation strategies may result in material being altered, which could potentially be objected to on the grounds of infringement of moral rights.

The impact of copyright law on the ability of libraries to create and provide access to digitised content

Much, if not all, of the current material acquired by libraries and archives is in copyright. Even if the basic content is out of copyright it may well be offered in database form and therefore enjoy some protection. Digitisation involves creating images and/or digital versions of non-digital material through scanning, taking digital photographs, use of software to create searchable files or to improve or augment the information content of the originals. It is clear that digitising material in copyright constitutes a restricted act under copyright law. General opinion is that it cannot be carried out legally under any of the exceptions to UK copyright law. Thus ascertaining the copyright status of material that could be digitised and making appropriate arrangements is an important part of any digitisation activity. Many digitisation support services include either copyright advice or copyright clearance in their portfolio of services, but still the time and expense to gain clearance can be immense.

If copyright law does not allow preservation copying, an alternative is to ask for permission to copy for preservation purposes. Still, a major problem remains in the complexity of rights ownership in digital information. The organisations providing the information product or service may not own all the rights in that product or service, in which case they cannot easily grant permission to libraries to preserve.

To ensure limited preservation and access, academic libraries are increasingly becoming involved in developing and managing institutional repositories (that is, collections aiming to capture and preserve the intellectual output of a single or multi-university community). These librarians are encouraging researchers in their institutions to deposit their research outputs in the institutional repository. Such a system brings together the collective output of researchers in one place.

There are various copyright and licensing issues surrounding this development, which has been part of a general 'open access' movement emerging in recent years. While practices vary between publishers, traditionally they have required authors to assign copyright in the material being published. Some publishers allowed the authors to make the material available in a limited way, for example for teaching purposes within their institutions. But publishers have often considered deposit in open access repositories as damaging to their commercial interests.

Open access usually has two strands of activity including open access publishing as well as self-archiving of research outputs by researchers. Open access publications are free at the point of access, although the economic models underpinning such publications are not well-established or tested.

The open access movement has developed as a way of overcoming perceived problems with the traditional scholarly publishing industry, particularly in the sciences. The main rationale is to improve access to research outputs, particularly from publicly funded research while the increasing costs of journals and static or reduced library budgets are a major driver. Recently, Wellcome has added as a condition of grant that research it funds be published under an open access agreement, while the US is, at the time of writing, considering a bill that would ensure open access to all publicly funded basic research.

The impact of publishing models and licensing on access to information in libraries

Access to digital information through libraries can be restricted in two main ways: through licensing and digital rights management. The agreements negotiated between information providers and libraries will impose certain restrictions on access and use which will vary depending on the provider and the product or service being offered. The licence agreement, which may go beyond copyright law, will usually be enforced through digital rights management. Restrictions could include the number of simultaneous access permitted, limits on what can be viewed, printed or downloaded and locations where information can be accessed.

While librarians have raised concerns about such restrictions it is unclear as to whether such concern is theoretical as there has not been a thorough survey of licence agreements. However, the Libraries and

Archives Copyright Alliance has recently expressed concern that restrictions will continue even after copyright has expired in digital works (LACA 2006).

If librarians decide licence terms are too severe, they could try to negotiate better terms or walk away. In some cases they will have little choice as the information provider may have a near monopoly of the digital content required. This is particularly true for research related information, where a small number of publishers may control the most prestigious research journals. If there is no alternative source of equivalent information, providers can dictate access terms and price and libraries may have little choice but to pay.

Journals are increasingly offered in the form of bundles of titles, rather than on a title-by-title basis: so called 'big deals'. Big deals can be a good or a bad thing, depending on the needs of individual libraries and their users. These deals may genuinely offer more material than a library would be able to afford if they were selecting on a title-by-title basis. On the other hand, librarians may be forced to acquire material they would not have normally considered in order to gain access to the material they do want. Big deals may take up so much of an individual library's budget that they may not be able to subscribe to content from smaller publishers.

As well as being sold as 'bundles', access to journals is now offered through online subscriptions. By subscribing to online content, libraries may or may not have access to archived material. With print material, cancelling subscriptions would only result in loss of access to future material; previously purchased material would still be available on library shelves. With digital material, the library may lose access to any information at all if they cease to subscribe or if an information provider goes out of business.

There is some movement towards including long-term access provision in licensing arrangements, but it is not clear how information providers will implement this in practice. While some publishers consider they have a duty to keep material available long-term, others are motivated by commercial concerns and are therefore not able to give such guarantees. A number of publishers are entering into agreements with libraries and it is possible that long-term access could be achieved through legal deposit obligations.

The impact of intellectual property rights and licensing on the preservation of digital information

In order to understand the copyright challenges libraries and archives face, it is necessary to understand how digital information is created, packaged, distributed and preserved. Online information always ultimately has some physical form, whether it is stored on a publisher's server or in a library. Information is recorded on physical substrates, for example print on paper, magnetic particles in hard disks or bubbles in the dye layer of a recordable DVD. All physical media deteriorate over time; some degrade more quickly than others. While some media, such as good quality paper or clay tablets, have survived for hundreds of even thousands of years, the life expectancy of digital media is either relatively short or as yet unknown.

Preserving traditional media effectively also preserves the access to the information scratched, written or printed on them. However, new media, including recorded sound, moving images and digital information, requires an intermediary layer of technology for access. The biggest threat in this regard is technological obsolescence of the hardware and software used to create, view and use digital information. It is in the interests of technology vendors to create hardware and software obsolescence – they may argue that new and improved technology is also in the interest of their customers. The speed of change in the technology industries may mean that digital information can become stranded in obsolete technological environments after only a few years. Libraries therefore end up as the custodians of so-called 'legacy' information that systems have left behind.

Digital preservation strategies will necessarily involve copying digital information, possibly many times. Libraries may have to reformat it in order to manage it and they may have to repeat this periodically, copying it to new storage media as the current ones break down or become obsolete. Preservation strategies may therefore involve some loss of the intellectual content, functionality, look and feel of digital information products and services. Where this happens, creators may object on the grounds that their moral rights are being violated. For example, if an artwork has changed in some way, the artist may feel that the preservation process has diminished the work and object on the grounds of derogatory treatment. If changes are unacceptable libraries may need to use or develop software that will allow new computing platforms to run the applications that were originally used to make the information accessible.

Ayre and Muir (2004) explored whether digital preservation actions would be legal under current provisions relating to copyright, database rights, moral rights and circumvention of rights management technology in the UK. They found that the only type of copying that may be legal under the preservation exception in UK law is the first act of media refreshment or migration to a new format. Although other preservation actions require multiple acts of copying of the same material, it could be argued that these too fall within at least the spirit of the law.

While creating emulations may be allowed under UK law (Charlesworth 2002), providing access through emulation may not be acceptable to rights holders. But the whole point of preserving information is to make it accessible in the future. Other problems emerge where preservation methods change the original data. This could be viewed as creating a completely new version rather than just a copy, which could cause greater problems with rights holders. Digital rights management mechanisms may also restrict even legal preservation actions.

Libraries and archives are also faced with a challenge in deciding what, in an age of information abundance, digital information they should keep. Online material can be added to and amended quickly and easily while web pages disappear every day as their creators revise them or servers are taken out of service. It could be argued that web material is not meant to last forever, so there is little point trying to preserve it. However, there are reasons for saving certain types of material. For example, some government information needed for future legal proceedings may now only be made available in digital form.

There are attempts to ensure that at least some, if not all, internet material is saved. Some individual libraries and archives are collecting selections of material of interest. They are asking rights holders to pass content to them, or alternatively they may use harvesting software for more comprehensive collecting. The Internet Archive (www.archive.org), which aims to capture the entire internet, is currently the most ambitious web harvesting operation in existence. It is a non-profit organisation providing free, supposedly permanent, access to captured content for researchers.

There are problems to be overcome in undertaking this activity. Access restrictions, including the use of passwords, can restrict automatic harvesting. On the other hand, crawling operations can diminish the performance of websites if not undertaken carefully. Copying material publicly accessible on the internet in order to archive and preserve it would also infringe copyright. Obtaining permissions would be time-consuming and difficult and it may not even be possible for libraries to copy material where access is controlled by rights holders. If libraries do not physically own digital material, they cannot preserve it: internet publishers may or may not have a commitment to preserving their own information but this is likely to depend on the type of publisher and its mission.

Policies and initiatives for the preservation of digital information

In addition to initiatives such as the Internet Archive and increased co-operation between the UK Web Archiving Consortium, the Nordic Web Archive and the International Internet Preservation Consortium, there are other institutions that have a role to play.

Legal deposit libraries are beginning to be involved in archiving digital, as well as printed, information. Legal deposit is a statutory obligation placed on publishers to deposit a copy of all material made publicly available (Lariviere 2000). In the UK deposit involves a number of designated libraries that then act as a national archive of the nation's published output, preserving and providing limited access to this material. While legal deposit has sometimes been described as a tax on knowledge, it provides a public good, supporting research and scholarship, the output of which becomes the raw material of the publishing industry.

Many countries have recently updated their legal deposit law to take digital publishing into account. In the UK, legal deposit requirements apply only to print material although a new law enabling future expansion of the law to non-print material has been in force since the beginning of 2004 (Great Britain 2003). This new legislation is merely a first step: implementation will be in stages starting with easier categories of material, such as hand-held digital publications, with yet to be decided categories of online material coming later.

Developing regulations in this area will be a difficult task since there are a number of issues to be addressed, including how to define different types of digital publication and what it means to be 'published' in the UK. It is not clear whether and how it will be possible, or even acceptable, for publishers of publications that are frequently updated to physically deposit them.

In any case, the preservation of digital output in deposit libraries would not mean that all information library users require access to will be preserved. Film and sound recordings are also excluded from legal deposit, and this material is only collected through voluntary means for example, the British Library's sound archive and the British Film Institute's Film Archive.

Access to digital material deposited with legal deposit libraries will therefore be very limited, at least in the short to medium term, in order to comply with copyright provisions and to meet the concerns of rights holders.

While legal deposit libraries are likely to eventually benefit from explicit exceptions to copyright law in order to acquire and preserve digital information (Great Britain 2003b, s.8), this does not help other libraries who want to preserve digital information they physically own. Unless there is some legal imperative, in general it is for collection managers to decide what should be preserved and for how long according to the needs of their users. There have been initiatives in the UK to assess collections and preservation priorities, for example, the UK and Ireland National Preservation Office has encouraged libraries to carry out preservation needs assessments of their collections (Walker and Foster 2006) while the Joint Information Systems Committee and the Consortium of Research Libraries has been addressing the issue of digitisation of research library and archive collections (Bultmann et al 2005).

A conclusion from the Ayer and Muir (2004) report is that progress in addressing the legal issues potentially inhibiting preservation of digital information can only be made by raising awareness of preservation issues among the interested parties, reassuring rights holders that librarians are law-abiding and that preserving heritage is a public good. The management of intellectual property rights is becoming more diverse. New forms of licences, including Creative Commons licences, are being developed to allow for greater flexibility in the use that can be made of copyrighted material. Nonetheless, there is little provision for preservation actions in the licences that authors sign with publishers, open access or otherwise. It is, however, unlikely that open access publishers would object to legal deposit and/or preservation in libraries on commercial grounds.

There are various initiatives addressing the issue of awareness. Examples include the National Digital Information Infrastructure and Preservation Program in the US (www.digitalpreservation.gov) and the Digital Preservation Coalition in the UK (www.dcponline.org). A number of countries are trying to take a more co-ordinated approach to developing preservation policies and there is much in the way of international co-operation.

The key question for libraries is whether the various rights issues can be resolved through licensing and co-operation between stakeholder groups, or whether changes to the law may be necessary. While librarians may prefer the latter option, it is not clear that rights holders would. Changing copyright law may also be difficult, not least because technology and the electronic publishing industry are constantly evolving: the exceptions would have to be made as future-proof as possible.

Thus we return to a central question of the need for a reassessment of the concept of copyright in the digital environment and the balance between protecting the interests of rights holders and providing access to information. At the time of writing, a review of intellectual property rights is taking place in the UK (the Gowers Review). While Gowers may review the preservation copying exception to assess whether it can be amended to better meet the needs of libraries without threatening publishers, there are no real examples of how this could be done effectively in the legislation of other countries. Given the global nature of the issues, debate should take place at international level, through the World Intellectual Property Organization (WIPO) or the World Trade Organization (WTO) on whether and how the traditional balance of interested represented in copyright should be addressed. At present there is little evidence of either showing any interest in these issues.

Conclusion

Both publishers and librarians perceive threats in the digital environment. While some authors, particularly scholarly authors, may be quite happy for their material to be widely accessible, some publishers do feel threatened. The potential extent of access and ease of distribution and duplication offered by new technologies raises commercial concerns and has driven publishers to seek to control use of content through legal and technical tools, such as licensing and digital rights management.

But libraries are about providing access to information and there are concerns that new approaches are threatening legitimate access to the detriment of the public good. While licences vary depending on the

provider, big deals and monopolies of provision can serve to limit choice and flexibility. The situation becomes more urgent as we move towards solely digital distribution of content and a rented right to access rather than ownership of a physical product.

It is likely, but not certain, that publishers will be sympathetic to library copying for preservation purposes. Many copyright owners currently turn a blind eye to potentially infringing acts to preserve audiovisual material and print media. However, the legality of such actions remains vague and should be explicitly clarified in law.

For preservation activity, the most pressing problem is the subsequent access and use of preserved information. This will prove the most difficult area to negotiate any changes in law or licensing practice. It is clear that rights holders and libraries have to understand and co-operate with each other to make progress. There is evidence that this is happening in the initiatives described in this paper, but there is still a problem to be addressed.

The solution must take us beyond the blunt instrument licences and DRM techniques can provide, and include the development of a common set of rights or principles that will equip libraries with the tools they require to operate effectively in digital environments.

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