THE LEGAL PROTECTION OF DATABASES
FROM COPYRIGHT TO DATARIGHT

Thesis by
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ABSTRACT

The vast and sweeping developments, which have occurred recently in the fields of computers, telecommunications and information technologies have stimulated the formation of a new global market of electronic information services and products, in which databases are principal components. Within the context of Intellectual Property Law, these advances challenge the traditional legal rules, resulting in ongoing reforms for adapting the law of intellectual property to the novel environment. Initiatives discussed in this study for determining the appropriate international legal standards for the protection of databases are the Agreement on Trade Related Aspects of Intellectual Property (1994), the present discussions in the World Intellectual Property Organisation (WIPO), and the European Union’s Directive on the Legal Protection of Databases (1996). The last initiative constitutes the most comprehensive attempt to resolve the issues involved in the protection of databases within the realm of intellectual property law.

A particular reference is made to international copyright law and its adequacy to provide a suitable legal regime for the protection of databases. Furthermore, the rules of database copyright law, as applied in the United Kingdom and the United States, are examined and compared in the light of the anticipated reforms derived from the above-mentioned initiatives. From these explorations, the thesis concludes that copyright law has a limited application in the protection of databases. Moreover, the copyright regime as applied to databases can lead to under-protection of certain databases and over-protection of others. Therefore, a tailor-made intellectual property regime, termed in this study as dataright, must be developed as an adequate response.

The dataright regime as introduced in the above European Union Database Directive is thoroughly examined and compared to proposals made by WIPO and by the United States Congress, as well as to alternative models of database protection. The quest for the adequate dataright system is considered as a balance of rights among database producers and users to the extent that incentives for database creation and dissemination are secured without excessive effects on access to information and free competition. The debate of how to achieve this balance has focused on whether the appropriate approach is to adopt unfair competition law, or to introduce a sui generis exclusive-right regime. The thesis demonstrates that whichever starting point is adopted, the results are substantially similar on fundamental points. The research concludes with detailed suggestions towards the adoption of a proposed Dataright Treaty, thus reconciling competing approaches and producing an international database protection system, which is a necessity for the functioning of the global information market.
'Now! Now!' cried the Queen. 'Faster! Faster!' And they went so fast that at last they seemed to skim through the air, hardly touching the ground with their feet, till suddenly, just as Alice was getting quite exhausted, they stopped, and she found herself sitting on the ground, breathless and giddy.

The Queen propped her up against a tree, and said kindly, 'You may rest a little, now.'

Alice looked round her in great surprise. 'Why, I do believe we've been under this tree the whole time! Everything's just as it was!'

'Of course it is,' said the Queen, 'what would you have it?' 'Well, in our country,' said Alice, still panting a little, 'you'd generally get to somewhere else—if you ran very fast for a long time, as we've been doing.'

'A slow sort of country!' said the Queen. 'Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!'


**ACKNOWLEDGEMENTS**

It has been a long and arduous trek. I could not have reached this point without the assistance of innumerable dear friends, colleagues, and family who supported and encouraged me throughout this process. It would be impossible to list all of the fine people who were there for me during this project. I, therefore, apologise in advance for anybody that may have inadvertently slipped my mind and for whom I feel a deep gratitude. I would especially like to acknowledge the following people.

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I thank my colleagues and friends from QMW College, in particular Anselm Kamperman Sanders, and from the Faculty of Law at the University of Haifa, especially Ilan Saban.

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Last but definitely not least and dearest, is my family. My parents, Aida and Mordechay, and my brothers and sisters and their families, who have given me material and spiritual support, mainly through their great and unlimited love. In addition to my deep debt and recognition, I send them my love as well.
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In addition, some of the cases and other documents, which are cited and analysed in this thesis, were retrieved from the Lexis database service. Citations to printed law reports are given when available. Otherwise, a reference to the Lexis file is provided, together with any detail that can assist with retrieving the stated cases and documents.

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<th>Abbreviation</th>
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<td>CDPA</td>
<td>Copyright, Designs and Patents Act 1988 (c. 58).</td>
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1 INTRODUCTION

The vast and sweeping developments recently taking place in the fields of computers, telecommunications and information technologies have stimulated the formation of a new global market of electronic information services and products. At the core of these products and services, structured collections of data and other informational materials are principal components. These collections, also known as *databases*\(^1\), are the subject matter dealt with in this thesis.

1.1 The Scope of the Thesis

Databases are the focal topic of research and study in many disciplines. Notably, computer and information sciences fields explore and develop database theory and technology. In this thesis, the study of databases is explored from the legal point of view. As will be seen,\(^2\) databases as emerging and commonly used informational tools raise many complex issues, which ought to be resolved by the law. Therefore,

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\(^1\) The above-mentioned description of the term ‘database’ is a general and a simplified definition of the term in question. In *Chapter 2: The Nature of Databases* the term is analysed and defined.

\(^2\) This is the main discussion of Chapter 3: The Jurisprudence of Database Protection.
many branches of law have been challenged by the emergence of databases. In particular, certain database features need legal protection in the light of the public interest and social values. For instance, the database feature of access-ability, i.e. the act of access to databases, should arguably be restricted by the Law to lawful users only. Indeed, illegal access to a database is a criminal offence in certain conditions. In this instance, databases are recognised as valuable assets deserving legal protection.

The objective of this research is to explore the intellectual property issues that have arisen regarding the global database market, and more particularly, to focus on the current legal protection of databases in an international context. This is an area, which has recently seen a number of worldwide initiatives. Notably, intellectual property rights in databases are dealt with in the Agreement on Trade Related Aspects of Intellectual Property, as well as in the on-going discussions in the World Trade Organization. 


4 Unless a particular database is put for public access, for example over the Internet, the database proprietor seems to have a legal right to restrict the access to its database. The source of this right could be derived from the laws of privacy, confidentiality, intellectual property or any other source. Arguably, when such a database is put for public access openly and without any restrictions, being the case of any unrestricted site on the World Wide Web, everyone is a ‘lawful user’.

5 See for example: Computer Misuse Act 1990 (c. 19). This Act defines new criminal offences, which protect the feature of access-ability to databases. For instance, s. 1 of the Act defines the offence of “unauthorised access to computer material”. When the conditions set-forth in this section are fulfilled, a person who commits the act of access to a database (which is arguably a ‘computer material’ according to the Act) is guilty of an offence under this section. Furthermore, when that offence is committed in further conditions as to commit or facilitate commission of further offences, s. 2 of the Act will apply.

**Introduction**

*Intellectual Property Organisation.* Furthermore, the European Union's *Directive on the Legal Protection of Databases* constitutes the most comprehensive attempt to resolve the issues involved in the protection of databases within the realm of intellectual property law.

This research aims to define the appropriate international legal standards for the protection of databases. Therefore, a particular reference is made to international copyright law and its adequacy to provide a suitable legal regime for the protection of databases. The focus of this study in defining international protection is inevitable. The necessity of international protection in intellectual property law is a long-time established concept. A statement in a leading international copyright textbook expresses this view as follows:

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There are few fields of law in which the necessity of international legal protection is evident as in copyright law and in the closely related laws dealing with the rights of performing artists, producers of sound and visual recordings, and broadcasting enterprises. Words can be translated. Books, phonograph records and films can be shipped everywhere. Radio and television broadcasts do not stop at state borders.\(^\text{10}\)

Accordingly, intellectual property rights in databases shall be explored from the international protection perspective. Furthermore, this necessity for international protection is empowered while dealing with species of information technology. One of the greatest impacts of information technology is the globalisation\(^\text{11}\) of markets. Hence, the challenge of international database protection must be resolved.

Nevertheless, this study is being conducted from the English Law perspective. Accordingly, the rules of database copyright law, as applied in the United Kingdom, are examined in the light of the anticipated reforms, which are derived from the above-mentioned international instruments. Furthermore, database law in the United Kingdom is compared to the legal rules in other jurisdictions, mainly to those in the United States. The choice of American law is understandable as the United States currently holds the most extensive jurisprudence of database protection.

The examination of national jurisdictions is presented in this study as the actual consequences of the implementation of the international protection for databases. Furthermore, case law that illustrates and interprets intellectual property rights in databases is attached to a particular jurisdiction. Therefore, English and American case

\(^{10}\) Ibid. at p. 4.

\(^{11}\) See detailed analysis infra § 3.1.1.
law relating to database protection are exposed and analysed. Nevertheless, the concepts dealt with in this study are relevant to other jurisdictions as well.

Concluding these explorations, the conceivable view is that copyright law has a limited application in the protection of databases. Therefore, a specific intellectual property regime, termed in this research as dataright, must be developed. Furthermore, this regime should properly address the optimal international legal standards of database protection.

1.2 Methodology

1.2.1 The Evolution of Database Law

While conducting research for this thesis, certain themes were presented as premises that ought to be considered. These themes are exposed here in order to clarify the lines of inquiry for this research.

It seems that the database market will face the same evolution as that of the software market. Both software and databases were introduced into the market in the 1960s. However, the impetus for defining rights in software emerged when software became a mass product with the diversification of personal computers in the 1980s. Then, software protection was placed on the agenda. This does not mean that computer programs were not protected prior to the explicit legislation dealing with

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12 In the United Kingdom, the express inclusion of 'computer programs' as 'literary works' has been made by the Copyright (Computer Software) Amendment Act 1985 (c. 41). This Act was repealed by the Copyright, Designs and Patents Act 1988 (c. 58. Hereafter: "CDPA"). With the introduction of the EC Directive on the Legal Protection of Computer Programs (1991 OJ L122, p. 42) the CDPA was amended by the regulations for the implementation of the above-mentioned Directive, and s. 4 (b) of the CDPA now includes 'a computer program' within the definition of a 'literary work'. See: Copyright (Computer Programs) Regulations 1992, SI 1992/3233.
software. On the contrary, they were protected, but mainly by contractual arrangements that were suitable for a market consisting basically of relatively few big manufacturers and users. This ceased to be the case after the introduction of personal computers. Computers and software became a standard consumer’s commodity, which are commonly used at home and work, as well as everywhere else. The market now consists of millions of users and thousands of software producers. Hence, relying on contracts has become insufficient and a definition of a new Intellectual Property Work is required.

The same process can be observed with the database market. Just a few years ago, databases were created and used in relatively few circles, consequently, legal scholars paid little attention to them. Certain advances in information technology, notably the increased use of personal-computing and developments in

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13 Illustration of this point can be found in examining the sector of commercial online databases, in which the following facts are given: in 1979/80, there were 400 databases in 59 online services. Ten years later, in 1990, there were 4465 databases in 645 services. See: Preface to the DIRECTORY OF ONLINE DATABASES (Cuarda/Elsevier, 1991). Nowadays, it is reasonable to assume that the numbers of databases and services is greater in tens, if not hundreds of folds. For example, the Lexis-Nexis online service holds more than 8,600 databases. See: infra note 37. Note that the online sector is only one segment of the database industry, which includes other flourishing sectors such as off-line databases that are distributed mainly in CD-ROMs. “CD-ROM” denotes Compact Disc Read Only Memory; see on the differences between online and off-line databases infra § 2.2.2.

14 In the first edition of Tapper, Colin COMPUTER LAW (London: Longman, 1978) it is stated in the introduction to the copyright section: “The two points at which copyright and the computer meet concern data and programmes. The former which is largely concerned with the problem of using copyright information in retrieval systems is of somewhat limited legal interest.” Ibid. at p. 13. The rest of that section is devoted to copyright in computer programs; compared to the fourth Edition of this textbook (1989): a full section to database copyright. Ibid., 4th Edition, at p. 50. Newer textbooks in IT Law normally contain a full chapter on database protection. See for instance: Lloyd, Ian, INFORMATION TECHNOLOGY LAW (2nd Edition, London: Butterworths, 1997), Chapter 23: Database, at p. 365.
telecommunication and storage devices,\textsuperscript{15} enabled database products and services to become widely available and used. The introduction of mass storage devices and products has opened a new era in the database market, and the trend has now moved towards mass production of databases which will be used by millions of users. This is the point where contractual arrangements for the protection of databases are no longer sufficient and an intellectual property concept has to be developed for the protection of databases.

The issue of intellectual property rights in databases is evolving rapidly. It has been suggested that the evolution of database law will follow in the path of the law concerning software protection. Accordingly, three evolutionary phases in the development of database law can be observed. Firstly, the adoption phase, whereby database protection is resolved by adopting known models; secondly, the transition phase, when specific database rules emerge in the legal system; finally, the maturity phase, when a tailor-made database regime is defined.

The following paragraphs briefly analyse the above-mentioned evolutionary phases in database protection.

\begin{itemize}
\item\textbf{Adoption: Resolutions by Analogy}
\end{itemize}

This is the initial phase contained mainly in judicial decisions, in which the law recognises that databases deserve legal protection under current intellectual property law. Accordingly, the common accepted view is that databases should be protected by copyright. For instance, databases are considered, under the law of the United Kingdom, as fitting into the well-

\textsuperscript{15} In particular, the emergence of the Internet that enables mass distribution of online databases, and CD-ROM technology which sets up an industry of off-line databases.
established concept of compilation copyright. The same can be observed in the United States, although it is clear that the American concept of compilation copyright greatly differs from its British counterpart concept. In many other European countries and elsewhere, the concept of compilation copyright can be adopted for database protection.

Transition: Emerging Database Rules

Databases do not fit neatly and easily into the literary copyright framework. Therefore, in the few cases concerning databases, courts are struggling to adapt copyright law to deal with electronic databases. It is also not uncommon to observe courts applying software copyright rules to databases. However,

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17 See detailed analysis infra § 4.4.1.

18 Notably after the landmark decision by the US Supreme Court in Feist Publications Inc v Rural Telephone Service Company Inc, 111 S. Ct. 1282; 113 L. Ed. 2d 358; 20 IPR 129 (US Supreme Court, 1991). It denies the so called 'sweat of the brow' doctrine in compilation copyright, thus holding that certain compilations of mere facts are not copyrightable. See detailed analysis infra § 4.4.1.

19 A Memorandum prepared by WIPO (WIPO Document DB/IM/2, 30 June 1997) on Existing National and Regional Legislation Concerning Intellectual Property in Databases, the current status of compilation copyright in national legislation worldwide is summarised. According to this Memorandum, almost all countries provide copyright protection for collections of copyrighted works. There are many countries where this protection is provided to collections of data as well. This Memorandum is available over the Internet at: <http://www.wipo.int/eng/meetings/infdat97/db_im_2.htm>.

20 In a recent article it has been bluntly stated as follows: "Fitting copyright law to electronic databases ... fits a square peg to a round hole..." Nimmer and Krauthaus, supra note 3 at p. 15.

21 See: John Richardson Computer's Ltd v Flanders and Chemtec Ltd, [1993] FSR 497 (Chancery Division, 1993); Ibcos Computers Ltd And Another v Barclays Mercantile Highland Finance Ltd And Others, [1994] FSR 275 (Chancery Division, 1994). See also detailed analysis infra § 4.3.3.
the law concerning software has reached maturity (at least in the European Union) while database copyright law still relies heavily on common notions of literary copyright.\footnote{CDPA s. 3 (1) (a): a 'literary work' includes 'a table or a compilation'. By virtue of reg. 5 of the Copyright and Rights in Databases Regulations 1997 (SI 1997 No. 3032; came into force on 1st January 1998) the above-mentioned CDPA s. 3 (1) was amended to read as follows: "(a) a table or a compilation other than a database" and "(d) a database". Hence, a compilation or a database is still within the realm of 'literary works'. See detailed analysis infra § 4.3.4.} It is suggested that database copyright will move towards forming specific rules, by borrowing from software copyright. After all, computer programs and databases share common properties, both are works in digital form. It should be noted that the nature of digital media is different from traditional media, which is dealt with in copyright law, in many respects.\footnote{See detailed analysis infra § 2.3.1.} Therefore, provisions relating to these new forms have to be defined and developed. Indeed, current provisions concerning works in digital forms\footnote{See detailed analysis infra § 2.3.2.} are applicable to databases as well.

Moreover, national laws regarding compilation copyright differ substantially from country to country. Therefore, the aim of international copyright law in this development phase is to harmonise national laws. The TRIPS Agreement\footnote{Article 10 (2) provides copyright protection to compilations of data and other materials.} and the new Copyright Treaty\footnote{The new WIPO Copyright Treaty (adopted in Geneva, December 1996) requires contracting parties of the Berne Convention to comply \textit{inter alia} with Article 5, which provides for copyright protection to collections of works, data and other materials. This Treaty is not yet in force and will only come into force once 30 instruments of ratification or accession have been deposited. Currently (15 July 1998), only three states.} are measures targeted at accomplishing this objective.
Maturity: Tailor-made Regime

The time will come when legislative intervention is made to specifically address the issues surrounding databases. In this phase, the database market reaches maturity, and accordingly, a tailor-made database protection will be introduced. The above-mentioned sui-generis database right\(^{27}\) that has been introduced by the Database Directive is the current occurrence of this model. The resolution of database protection is not left to the adoption of known models, such as copyright, by way of analogies.

In line with these developments, the United States Congress is currently considering a Bill\(^{28}\) addressing database protection directly and explicitly. Although the Bill resembles the Database Directive in many aspects, it is taking a slightly different approach.\(^ {29}\)

1.2.2 Technology Observations

Primarily, an understanding of database technology is essential. Therefore, database technology is observed and explained in this thesis throughout its main legal

\(\text{Continue}\)

have ratified this Treaty among 51 signatories. The Treaty status is reported by WIPO in its Website at: <http://www.wipo.int/eng/ratific/s-copy.htm>.

\(^{27}\) The ‘dataright’ as it is termed in this thesis.

\(^{28}\) Collections of Information Antipiracy Act, H.R. 2652, 105\(^{\text{th}}\) Congress, 2\(^{\text{nd}}\) Session. The Bill was passed by the House of Representatives on 19 May 1998 (C.R. H3404). Consequently, the Bill was received by the Senate on 20 May 1998 for further legislative actions. [Hereafter: “the US Database Bill”]. See further updates and status of the Bill in the US Congress Website on the Internet at: <http://thomas.loc.gov>.

\(^{29}\) Arguably, the US Database Bill is based on notions of unfair competition rather than on intellectual property. See detailed analysis infra § 6.3.2.
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discourse. One could ask why a work about law includes sections that are technological in their nature. This question ought to be answered.

Unlike common phenomena, which are commonly understood and do not need further clarification, new technology should be clarified before framing the legal norms that may govern it. For instance, it is unimportant to understand the precise functions of car-technology to produce a legal analysis of Transportation Law. The mechanics and engineering of cars are irrelevant in most instances for defining, designing and interpreting the legal issues arising from the use of cars. It is true, that in some cases, the technicalities of car technology may be relevant. For example, if a technological method of enhancing car security is developed, the lawmakers may wish to comprehend this technology before considering a mandatory regulation to use it in car manufacturing. However, for most practical cases, one may presume an understanding of the question 'what is a car?' when dealing with Transportation Law.

When dealing with computer technology it is necessary to provide a brief technological background to accompany the legal discourse. There are several reasons supporting such an approach. First, the technology is new; it has developed rapidly, and it is not yet fully understood. Probably, the next generations of lawyers will have no need for a technological background. Currently, lawyers frequently encounter idiosyncratic terms of digital technology once they are requested to deal with legal issues surrounding it. For that reason, it is quite common to include a technological review in legal writings regarding digital technology. Secondly, computer terminology is used in different ways depending on the context. For instance, the term 'software’ can mean various different things. Sometimes, it refers to computer programs used in operating computers; while other times, it is contrasted with ‘hardware’ and seen as any components within a computer system that has no physical existence or manifestation. In other cases, ‘software’ can be a
collection of computer-programs performing certain functions with their ancillary materials (e.g. manuals, procedures etc.) for using the system.

For these reasons, throughout the debate over the legal protection of software, it was necessary to choose the term 'computer program' in drafting the legal norms. In legal terms, 'computer programs' are the subject matter of legislation. Although this term was left undefined in most legislation, the United States Copyright Act does include a definition. This definition may serve to formulate the legal term of 'computer program' as opposed to the common phrases 'software' or even 'computer program' as it used, for instance, in the computer industry.

1.2.3 Case Studies

Throughout the research, certain database applications serve as case studies. This methodology is employed here to demonstrate the legal analysis argumentation. In particular, three applications are referred to in this thesis. These applications are listed below.

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30 This is the term used in the above-mentioned EC Software Directive and the UK Copyright (Computer Programs) Regulations 1992.

31 This is the case in the United Kingdom and according to the Software Directive.

32 Copyright Act 1976 as incorporated in Title 17 of the United States Code.

33 Ibid. § 101: "A 'computer program' is a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result." This definition was added by the Act of 12 December 1980, Pub. L. 96-517, 94 Stat. 3015, 3028 (1980).

34 For full documentation of the self-made applications, see infra at the bibliography section.
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DataCase – Bibliographical Database Cases

This is essentially a bibliographical compilation. It is a self-made database application that includes details about cases and judgements relevant to database protection. Data was collected and recorded throughout this research for assisting and tracking materials while writing the thesis. Then, the collected information was organised to form a database. The creation of this database, its features and characteristics are employed in this research as examples and demonstrations of arguments and analysis throughout the thesis. The first hand experience in database creation allows observations of legal issues in the creation of databases. When appropriate, these observations are detailed in this thesis.

Dataright – The Website

Another self-made application is an on-line compilation over the Internet, using the World Wide Web technology. Actually, this application is a web-site employing hypertext technology. This application contains materials concerning intellectual property rights in databases. Accordingly, it includes links to the main legal documents regarding intellectual property rights in databases as well as short commentaries on the various issues concerning database protection.

Web-sites represent the next generation of database issues and raise complex new legal subjects waiting for exploration. However, these issues are not within the scope of the current study. The full capacities of this new

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35 Internet address: <http://dataright.haifa.ac.il>.

36 For example, are hypertext links in Web pages copyrightable? See: Reed, Chris, Copyright in WWW Pages, 13 (3) CLSR 167 (1997).
technology are still in development; perhaps it is pre-mature to fully comprehend the complex intellectual property rights issues that may be involved in it. Nevertheless, some considerations will be made throughout this thesis to World Wide Web pages and sites and the relevancy of database law to them.

Lexis-Nexis Database

References in this thesis are also made to the well-known Lexis-Nexis service. Certain points throughout the discussions in this study are illustrated by reference to the features of this service.

The Lexis-Nexis service is actually a 'database of databases'. This service provides on-line access to the full-text of legal, business and news documents. Users can search and retrieve materials from these databases by using special software provided by Lexis-Nexis. Although, the service is located in the United States, it serves its customers worldwide and via the Internet.

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37 The service contains more than 8,692 databases. The combined services of Lexis (legal sources) and Nexis (news sources) contain more than 23,670 sources: 18,871 news and business sources and 4,800 legal sources. These figures are based on Lexis-Nexis own information (August 1998). See: “Lexis-Nexis Background” in Lexis-Nexis Website at: <http://www.lexis-nexis.com/fince/about/background.html>.

38 Currently (August 1998) there are approximately 1.4 billions documents in the databases of Lexis-Nexis. Each week the service adds 4.6 million documents to its databases. See: *ibid*.

39 The Lexis-Nexis service is located in Dayton, Ohio.

40 The Internet is used as a telecommunication channel for accessing the service as well as through employing World Wide Web technology. See: <http://www.lexis-nexis.com>.
1.3 The Structure of the Thesis

As it has been stated above, the goal of this thesis is to explore the legal protection provided for databases. The following paragraphs aim to define the scope of this exploration by listing the various chapters of this study while clarifying certain confusing points, which may arise when dealing with the topic of this thesis.

Accordingly, the main body of this work is divided into the following chapters:

✓ 2 The Nature of Databases

   In this chapter, database technology is explored. This exploration aims to provide the adequate legal definition of the term ‘database’. Accordingly, there is a detailed analysis of the legal definitions provided in the relevant measures.

✓ 3 The Jurisprudence of Database Protection

   In this chapter, the topic of this thesis, namely the legal protection of databases, is considered within the context of the broader scope of Information Technology Law. Furthermore, the legal protection of different features of databases are analysed, and available methods of protection for the commercial values of databases – other than intellectual property – are detailed.

✓ 4 Copyright as Applied to Databases

   In this chapter, the international copyright system is examined in relation to databases. The core of this chapter puts databases into copyright as an eligible subject matter.
5 The Limits of Database Copyright

This chapter presents a detailed analysis of legal issues in database copyright. This analysis compares the exclusive rights of database copyright owners with the rights and liberties of database users. This chapter also evaluates the sufficiency of database copyright in achieving the desired goals of the information industry and Society at large.

6 Dataright - *Sui-generis* Database Protection

Following the scope of protection provided to databases by the existing copyright system, a *sui-generis* protection tailor-made for databases is emerging. This chapter contains a critical review of the newly introduced regime of database protection, and analyses its impact on the information industry in the light of public interest.

Finally, conclusions based on the foregoing discussion will be presented. Naturally, some conclusions will be tentative, as certain database rules have just been introduced. In some instances, concluding questions will be defined with no definitive answers. Furthermore, as technology changes, perhaps new database issues will surface.

The exploration of database protection will definitely continue in the foreseeable future.
2 THE NATURE OF DATABASES

The aim of this chapter is to explore the notion of the term "database". This inquiry starts with the fundamentals of database technology, followed by a classification of database types. These introductory technical sections aim to introduce the contextual and technological background of the legal definition of databases within the realm of Intellectual Property Law. In particular, the definitions of the term ‘database’ in the Database Directive and the Draft Treaty on Databases will be closely analysed.

2.1 Database Technology

2.1.1 Data and Information

A database, as this word suggests, is a base of data; in other words, it is a collection of data. The term “data” is in itself a developing concept worthy of special consideration.\(^4\)

\(^4\) Data originated as the plural of Latin word *datum*. In modern practice, it can be treated as a plural form. *Datum* literally means ‘that which given’ and hence this word forms the primary meaning of ‘A thing given or granted; something known or assumed as fact, and made the basis of reasoning or calculation; an assumption or premiss from which inferences are drawn’. Source: *datum* definition, THE OXFORD ENGLISH DICTIONARY (Oxford: Clarendon, 2\(^{nd}\) Edition, 1989).
information, requires closer examination in order to reach a better understanding of what data means.

While data is usually a technical term, used typically in the context of computer technology, the term information is largely used to label a quite distinctive phenomenon. As a starting point, technical definitions of the British Computer Society (BCS) are employed here.

According to the BCS, data is 'information coded and structured for subsequent processing, generally by a computer system', whereas information is 'the meaning given to data by the way it is interpreted'. A closer observation of these definitions may result in the conclusion that they do not form valid definitions within a strictly logical framework, although obviously form a circular definition.

What is information? In the well-known Information Theory, information can be calculated and measured. However, this theory was first introduced to deal with the transmission of data through communication circuits. The theory relates to the measurement of the capacity of communication channels to transmit information as

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43 A similar definition of the term 'data' can be found in the Data Protection Act 1984 (c. 35) as follows: "Data' means information recorded in a form in which it can be processed by equipment operating automatically in response to instructions given for that purpose."

44 I.e. the term data is defined in relation to information and vice versa, the term information is defined in relation to data.


46 'Entropy' is, generally speaking, the average information-content of signals transmitted in a communication channel. Shannon and Weaver defined a formula to compute this 'entropy' mathematically.
distinguished from the transmitted signals. In this sense, information is regarded as something that has a meaning to the recipient of the signals. Hence, the term ‘information’ constitutes a subjective meaning. Nevertheless, other theories suggest different views, where information has an objective existence.47

The term ‘information’ is a relative term as well. For instance, the processing task executed by computers is often described as an input to get an output. Conventionally, ‘data’ is the input to get ‘information’ as an output. However, an output in a particular processing task may be processed in another task. The new input that was regarded as ‘information’ in the first task is now ‘data’ for the following task. Therefore, the meanings of both ‘data’ and ‘information’ are relative. Although ‘information’ could have several meanings according to the desirable results of the computer processing tasks, the properties of ‘data’ are well defined.

Generally, databases are collections of information.48 However, the term ‘information’ lacks the necessary clarity for defining databases for legal purposes. Moreover, since the term ‘information’ is a subjective and relative term, it should be

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47 See: Stonier, Tom, What is Information? In: M. A. Bramer (Editor) RESEARCH AND DEVELOPMENT IN EXPERT SYSTEMS III (Cambridge: Cambridge University Press, 1987) at p. 216. In this paper, a suggestion is made of a theory in which information has almost a physical existence. The hypothetical particles, which are termed by the author as ‘infons’, consist of information independent of human perception.

48 In the recently introduced US Database Bill, databases are referred to as ‘collections of information’, and consequentially, the term ‘database’ is not defined in this Bill, but there are definitions of the terms ‘information’ and ‘collection of information’. See: Collections of Information Antipiracy Act, H.R. 2562, 105th Congress, 1st Session. Passed by the House of Representatives on 19 May 1998 (C.R. H3404). The Senate received it on 20 May 1998: read it twice and referred to the Committee on Judiciary. [Hereafter: “the US Database Bill”]. See further updates and Bill status in the US Congress Website on the Internet at: <http://thomas.loc.gov>. 
avoided in legal texts unless it is defined properly.\textsuperscript{49} Therefore, the reasoning behind the BCS definitions is useful in avoiding some of the confusion\textsuperscript{50} often expressed in discussions on the concept of \textit{information}.\textsuperscript{51} These definitions distinguish between two processes concerning information: the physical process and the mental process.\textsuperscript{52} When signals are communicated and received, what one means by this is the physical process \textit{information qua data}. In this sense, the term ‘information’ is used in computer sciences and the above-mentioned ‘information theory’. When these signals are received, a mental process of meaning-attribution is taken. In this sense, one means \textit{information qua information}. The meaning assigned to the stated signals transforms \textit{data} to become \textit{information}. Consequently, mere numbers are \textit{data} unless we specify their meaning. The interpretations of such numbers are subjective and relative, as Nimmer concluded:\textsuperscript{53}

Under either (or any other) interpretive premise, the data become information relevant to some people, but not to others (those without the key to understand the referential point of the numbers).

\textsuperscript{49} \textit{Ibid.} § 1201 (2): “The term ‘information’ means facts, data, works of authorship, or any other intangible material capable of being collected and organized in a systematic way.” Note that the term ‘information’ in this Bill denotes a technical definition for the purposes of this Bill only.

\textsuperscript{50} This is true of some discussions concerning \textit{information theory}. This theory was later expanded to offer a model of human communication, and even its legal implications were explored; see: Mawhood, John, \textit{Information, Equity and Entropy: IT Law in England} 3 CL&P 186 (1987).


\textsuperscript{52} Nimmer, \textit{ibid}.

The BCS definitions proceed with the inter-connection of the above-mentioned terms by asserting that *data is the raw material for the acquisition of knowledge through information*. That is, data and information are the building blocks of the creation of knowledge, hence the major importance of data and information. There is an essential public interest in securing access to data and information, in such a way as to achieve cultural and technological progress. However, while the concepts of *information* and *knowledge* are hard to define because of their heavy dependence on subjective interpretation, the term *data* — in its technical sense — is a well-defined objective entity. The attributes of *data* as defined by the BCS — "coded and structured for subsequent processing" — make it particularly suitable for machine processing.  

2.1.2 Data Processing and Representation

The basic components of any computer system are hardware and software. The hardware comprises tangible mechanical or electronic components. Conceptually, these components are classified into three main classes:

- **CPU or central processing unit**;
- **Memory or storage devices**;
- **Input-output (I/O) devices including peripheral devices**.

The first class is the core of a given computer system; in other words, the CPU is "the computer". Essentially CPUs are electronic circuits able to process electronic

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54 Compare with meaning (d) in The Oxford English Dictionary, *ibid.*, explaining 'data' as: 'The quantities, characters, or symbols on which operations are performed by computers and other automatic equipment, and which may be stored or transmitted in the form of electrical signals, records on magnetic tape or punched cards, etc.'
signals, which are coded to represent data and information. Colloquially, one can relate to CPUs as processors of information or simply *processors*. These processors are subject to the legislation of semiconductor chip protection worldwide\(^{55}\) and do not fall within the scope of this study.

As mentioned above, processors process data. Data is coded to represent meaning according to a representation system similar to the alphabet. That is, a code to represent words. In essence, all of these systems are symbols for naming entities in the real world. However, there is a distinction between *symbolic* systems for representing entities such as a language and a *representation* system to encode the primary elements of a given symbolic system. This distinction is a matter of hierarchy. For instance, the domain of numbers comprises infinite entities that in simplified terms represent quantities. Philosophers and mathematicians alike deal with the meanings of those entities that are represented by numbers, while it seems that no definitive answer can be provided. However, a system for encoding the domain of numbers is simply a matter of convention.

There are many systems of this kind, such as the Roman system.\(^{56}\) However, the Arabic numeral system prevails as the commonly accepted method for representing numbers. This system employs ten symbols for the representation of integers.

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\(^{56}\) I.e. 'I' for one, 'V' for five, 'M' for a thousand etc.
Together with a few more notations,\(^5\) the decimal system is capable of representing non-integers too. The ten symbols of the Arabic numeric system, together with a few simple rules, represent the domain of integers. The decimal system adds a few more symbols and rules so that non-integer numbers such as fractions can be represented. These systems are conventions measured by their effectiveness to achieve comprehensive representation of the domain in question; more important, by their wide acceptance for use. The debate on the philosophical aspects of numbers and their meaning is not relevant in this matter. The same is true for the alphabet systems and words.

Computers reduce the number of valid symbols to two only\(^6\) due to the constraint that electronic circuits represent. These circuits may ultimately be switched to an ON or OFF position.\(^7\) Consequently, data that is to be processed by these circuits should also be represented by two symbols only. Conventionally, the numbers ‘0’ and ‘1’ represent the position of the above-mentioned electronic switches.

By employing sophisticated computer programs, all types of informational materials including texts, sounds, graphics and video are capable of being stored in computers. However, these materials must be encoded into the binary system in order to be represented in the computer’s memory. Therefore, the encoded materials become data and are capable of being processed by computers regardless of their original nature as texts, sounds, graphics or video.\(^8\)

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\(^5\) I.e. the decimal notation and the convention for representing non-integer number; e.g. the symbols ‘0.5’ represent a half by employing the conventional dot to separate integers and fractions, the order of writing, and of course the symbols ‘0’ and ‘5’.

\(^6\) Therefore, this system is also known as the ‘binary system’.

\(^7\) More accurately, circuits hold different levels of the electricity currents (voltage).

\(^8\) This feature has been coined as ‘data indifference’. See: Lea, Gary, Database and Copyright, Part I – The Problems, [1993] 9 CLSR 68.
2.1.3 Database Systems

The terms 'database system', 'database management system', and 'database' are closely linked. However, there is a clear distinction between them. Basic definitions of these terms are provided here in order to avoid confusion when dealing with legal protection of databases.61

The plain meaning applied to the term 'database' is that it accommodates any collection of data. This is also the meaning suggested by the literal interpretation of the term at issue. Furthermore, two distinctions should be asserted. In the first place, 'databases' are distinguished from 'database management system', and in the second place, 'databases' are distinguished from 'database systems'.

The first distinction asserts the boundaries between hardware, software and data. In a typical database system, all of these components co-exist without necessarily a clear and distinctive identification. In particular, the application software coined as DBMS, which denotes Database Management System,62 and the collection of data within a database system, are not clearly distinguishable.63 Thus, DBMS is a certain genre of software that organises and manages the database, and controls the access of data within the database. It is also in charge of the input and output of data within

61 See: Hicks, Jack B., Copyright and Computer Database: Is Traditional Compilation Law Adequate? 65 TEXAS LAW REVIEW 993 (1987). The author seems to define the subject-matter for the protection of 'databases' as to be applied to 'database system' that includes software and hardware, and the collection of data.

62 E.g., the software application 'Access', which is a part of Microsoft Office, is a DBMS.

63 Consider, for example, the DataCase application (supra § 1.2.3). The DBMS used in this application is Microsoft Access as customised for the purposes of the application. Access created one single file that includes the data and the above-customised features. Arguably, these customised features produced pieces of computer-code for the specific management of DataCase. Hence, the above-mentioned file is partly 'computer program' and partly a 'database'. 
the database. Therefore, DBMS is a 'computer program' for the purposes of intellectual property law, whereas the subject matter for the examination of intellectual property rights in databases is the 'database' only.

The second distinction relates to the services and products provided in the Information Market, which may be referred to as 'database systems'. These services or products often consist of relevant components, which are necessary to access the provided information. These components may include the necessary software and hardware\footnote{E.g., the dedicated terminals that were used for accessing the Lexis-Nexis service.} that enable the access of that information. In this study, only the information that forms the 'database' made available by the service or the product is the object of reference. The software and hardware components, which are also parts of a particular 'database system', are excluded from the scope of 'databases' as they are defined here.

A collection of related items of data in a database are often referred to as records. That is, data items that form a logical unit of information.\footnote{E.g., the text of a case in the ENGCAS file of Lexis-Nexis is a 'record'. The stated file is a database consisting of English cases.} Normally, these units of information are divided to pre-determined sections. Each of these sections, which are often referred to as fields,\footnote{In the above Lexis-Nexis database, they are referred to as 'segments'.} is allocated to the storage of a specified data item.\footnote{The segments in the above ENGCAS database include the following: the name of the case, the date, the court etc.} In other words, information within a database is organised in distinct structured units, i.e. records, which consist of discrete data items, i.e. fields. It should be noted
that the data within the records are physically stored in computers according to the database technology employed.  

2.2 Database Types

Having concluded the fundamentals of database technology, the following paragraphs will provide a few distinctions that will serve to illustrate the nature of databases. The preferred distinctions discussed here may be relevant in defining the legal issues of database protection, and in particular, the distinctions that are significant for discussing intellectual property rights in databases.

2.2.1 Public versus Private

Databases that have been made publicly available are vulnerable to misuse and misappropriation. Arguably, the legal protection of databases is concerned mainly with this kind of database. One can state, quite definitely, that the subject matter of any intended intellectual property rights regime is the public and commercial databases. In other words, the subject matter of the stated regime is electronic information services and products, such as on-line and off-line databases whose function is to supply information requests as such. Other systems (mainly in-house

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68 Database technologies include: (1) a ‘hierarchical database’ where data is held in a tree file structure; (2) a ‘relational database’ where data is held in a number of interrelated files; (3) a ‘distributed database’ where data is held in several computers on a network whereby each computer stores part of it. On database technology, see generally: Bowers, D. S., FROM DATA TO DATABASE (Wokingham, Berkshire, UK: Van Nostrand Reinhold, 1988).

69 E.g., the databases within the Lexis-Nexis service.
databases) are set up for other purposes\(^{70}\) such as mail or transactions, and they are not commercially offered to the public for the supply of information *per se*.

In the Database Directive, as well as in the Draft Treaty on Databases, the object of protection includes both public and private databases.\(^{71}\) However, in the detailed provisions of these instruments, it is evident that this distinction is significant. In the first place, the right to publish a private database is a restricted act.\(^{72}\) Secondly, the type of the database at issue, whether public or private, affects the term of protection.\(^{73}\) Thirdly, user's rights are applicable to public databases only.\(^{74}\)

Arguably, distinguishing between public and private databases has significance to the application of other legal methods of database protection. For instance, database protection by the law of confidentiality is mainly concerned with private databases.\(^{75}\)

\(^{70}\) E.g., the DataCase database (*supra* § 1.2.3) is a private database, which has been set up for the purposes of this study.

\(^{71}\) Both types of databases, public and private, are within the definition of the term 'database'. See: Database Directive, Article 1.2; Draft Treaty on Databases, Article 1 (2).

\(^{72}\) Article 3 (1) of the Draft Treaty on Databases states that the maker of a database shall have the right to authorise or prohibit the *utilisation* of its contents. The term 'utilisation' is defined in Article 2 (vi) as 'the making available to the public of all or a substantial part of the contents of a database by any means...'. In the Database Directive, the right to authorise the publication of a database, in which copyright subsists, is a restricted act [Article 5 (c)]. Regarding databases that are subject to the *sui generis* right, the right to prevent re-*utilisation* of the database content (Article 7.1) is also meant to be the 'making available to the public all or a substantial part of the contents of a database...'. [Article 7.2 (b)].

\(^{73}\) Database Directive, Article 10.2; Draft Treaty on Databases, Article 8 (2).

\(^{74}\) E.g., Database Directive, Article 8.

\(^{75}\) See *infra* § 3.2.
2.2.2 *On-line versus Off-line*

Databases are either on-line or off-line. An on-line database is any collection of information stored on a remote computer, which is accessed by using a telecommunication link or a network. Off-line databases are databases that have been incorporated in material media.\(^{76}\)

This distinction suggests that a different policy may be applied. For instance, on-line databases may qualify for protection as a *cable programme* under current English law.\(^{77}\) Moreover, the application of contractual terms that will govern the rights and obligations concerning databases is arguably more suitable for on-line databases.\(^{78}\)

This distinction also implies that on-line databases are considered as services whereas off-line databases are considered as goods or products. Therefore, any rules applicable to 'goods' or 'services' will be applicable to 'off-line' or 'on-line' databases respectively. For instance, the question of exhaustion of the right\(^{79}\) of distribution does not arise in cases of on-line databases, which come within the field of provision of services.\(^{80}\) On the other hand, the rules regarding the above question will apply to copies of off-line databases.

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\(^{76}\) Such as CD-ROMs, disks, tapes and other digital media. In this sense, a printed database can be also considered as 'off-line'.

\(^{77}\) This view was expressed by Tapper, Colin *Copyright in Databases* 5 CL&P 20 (1988).

\(^{78}\) See infra § 3.3.3.

\(^{79}\) Database Directive, Articles 5 (c) and 7.2 (b) state the rule of the so-called 'first sale doctrine'. Accordingly, the first sale of a *copy* of the database by the right-holder shall *exhaust* the right to control resale of that copy.

\(^{80}\) See: Database Directive, Recital ¶ (33).
Furthermore, product liability rules\(^{81}\) arguably apply to off-line databases only,\(^{82}\) whereby these databases may be considered as 'products' within the meaning of the stated rules.

### 2.2.3 Static versus Dynamic

This distinction closely relates to the above distinction. Whereas off-line databases normally\(^{83}\) have fixed and static boundaries, on-line databases are subject to constant changes.\(^{84}\) This distinction is concerned with the stability of the materials in the database in question. The collection of information in a dynamic database is continuously changing, as new entries are being added or modified.\(^{85}\) For instance, the inventory database of a shop may be updated for each transaction.\(^{86}\) The

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82 *Ibid.* at p. 218. The stated Directive applies to 'products' and therefore will arguably apply to off-line databases only when information is incorporated in material media, such as books and CD-ROMs. The author asserts that 'providing information to somebody is a service', but in the case of off-line databases, the providing of the information service is accompanied by the delivering of products. On liability of on-line databases see: Sieber, Urlich (Ed.), *LIABILITY FOR ON-LINE DATA BANK SERVICES IN THE EUROPEAN COMMUNITY*, (Koln: Heymanns, 1992).

83 Off-line databases may be dynamic as well. Consider, for instance, the DataCase database (*supra* § 1.2.3), this database is continuously updated. This means that the database in question goes through changes from time to time. The information contained in such a database depends on the actual moment of consulting this database.

84 Note that on-line databases may be relatively fixed as well, e.g., historical databases that hold a stable collection of information. In this sense, they will be treated as off-line databases.

85 Consider, for instance, the Lexis-Nexis collection of materials. In every instance in the time-line, it contains different set of materials.

86 Note that this particular database may be on-line (e.g., in a big shop maintaining many points-of-sale that are connected in a network) or off-line (e.g., a small shop with one point-of-sale).
boundaries of such a database are flexible and adaptable. On the other hand, static
databases contain fixed collection of materials, which are capable of being
identified.

The implications of this distinction are far-reaching. One should define precisely the
boundaries of the object of protection before prescribing rights and obligations to
that object. For instance, the TRIPS Agreement\textsuperscript{87} states that copyright subsists\textsuperscript{88} in
databases “which by reason of the selection or arrangement of their contents
constitute intellectual creations”. If the database at issue is dynamic defining its
content in the first place will not be an easy task. Consequently, it will be quite
difficult to examine its ‘selection or arrangement’. It is true that a dynamic database
has identified boundaries in any particular moment. Therefore, the stated
examination should be referred to the relevant time in question. However, there are
still unresolved issues regarding dynamic databases, for example, regulating its term
of protection. Indeed, the Database Directive includes a specific provision to handle
the term of protection where dynamic databases are concerned.\textsuperscript{89}

Issues regarding the ownership\textsuperscript{90} of dynamic databases become complex when these
databases are updated and modified by multiple contributors. The ownership in such
databases when the additions and modifications are executed within one

\textsuperscript{87} Article 10.2.

\textsuperscript{88} The same rule is asserted in the Database Directive (Article 3) and the WIPO Copyright
Treaty (Article 5).

\textsuperscript{89} Database Directive, Article 10.3. Compare to the Draft Treaty on Databases, Article 8
(3).

\textsuperscript{90} Presuming that databases are compilations, and therefore literary works (see \textit{supra}
§1.2.1), the first owner of a work is its creator. See: CDPA s. 11 (1).
organisation by its employees can be easily resolved. However, when the collection of information in the database at issue is created by undefined multiple contributors, the question of ownership becomes difficult. Indeed, Internet technologies have created the ability to construct a database by its users. For instance, the information in the database of a search engine is collected by way of multiple submissions by its users. It is here that intellectual property law fails to provide a neat solution of database ownership.

2.2.4 Data versus Works

A different method of classifying databases is according to the type of information they contain. Text, images and sounds can be represented in digital form. Accordingly, databases may contain one type of data or a mixture of types. A multimedia application is an example of a database whose content is comprised of separate works bundled together to create a new entity. In this case, the contents of

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91 CDPA s. 11(2) states that when a work ‘is made by an employee in the course of his employment, his employer is the first owner of any copyright in the work subject to any agreement to the contrary’.

92 Search engines are services provided on the Internet for allocating available resources according to a particular user’s needs. Arguably, these ‘engines’ are on-line databases that can be consulted over the Internet. There are many services in this genre over the Internet. See, for example: <http://www.altavista.digital.com>.

93 The above employment rule will not apply, as these contributors are not employees. On the other hand, the database at issue may be regarded as a ‘computer generated work’. Therefore, the ownership in it will be vested in ‘the person by whom the arrangements necessary for the creation of the work are undertaken’ [CDPA s. 9 (3)] who is deemed to be ‘the author’ of such work. See also: Potter, Richard B., Electronic Data Bases: Sleeping Issues, INTERNATIONAL COMPUTER LAW ADVISER, November 1987, p. 13 at p. 18.

94 Authorship, and consequently, ownership of databases are dealt with infra § 5.2.
such databases comprise of works which are entitled to intellectual property rights in their own right.

In other circumstances, databases may contain pure data. Each individual item of information in these databases does not enjoy protection through intellectual property law and is deemed to be in the public domain. The problem such databases pose on traditional copyright is the extent to which the accumulation of information is protected or indeed ought to be protected. In other words, as a matter of law, the circumstances or attributes of a database that can be said to give rise to protection at law. This particular topic is not new. For many years, courts and legislatures have dealt with it in the context of compilation law. However, the emergence of databases has brought this problem to its limits.

When the content of a database is based on protected works, the issue will be whether a distinct database right exists. However, when the content is based on unprotected items of information, a further question arises. That is, what protection, if any, will be provided to such databases? Certainly, these questions are a major concern in this study, and therefore this distinction is significant and will be explored below.

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95 Unless the data is confidential, the general principle is that ideas, facts and other raw data are not subject to copyright protection. This principle will be closely explored infra § 5.3.2. On confidential information see infra § 3.3.3.

96 See infra Chapter 4: Copyright as Applied to Databases.

97 Ibid.
2.2.5 Digital versus Print

Arguably, there is no rationale for distinguishing between printed and digital databases. Indeed, the international instruments dealing with databases address them in general without any distinction as to their form or media.98

There are remarkable considerations to favour a separate regime for electronic databases. These considerations are mainly concerned with the nature of the digitally stored information. In addition, the attributes of the current copyright regime are firmly rooted in print technology,99 which is significantly different from digital technology. Moreover, an electronic database differs in value and nature from its printed counterpart.

Nevertheless, certain rules are confined to non-electronic databases. For instance, the Database Directive allows Member States the option of providing exceptions to the restricted acts in the case of reproduction for private purposes of a non-electronic database only.100 In other respects, many of the issues within the topic of database protection are applicable regardless of their form. It should be noted, however, that many of the stated issues derive from the nature of digital media and the transitions in the law of intellectual property, which are due to the emergence of digital technologies.

In summary, one can state two complexity layers regarding database protection. The first layer concerns those database issues that are indifferent to the medium in question. An issue such as the distinct protection of data collection is one example.

98 See infra § 2.4.
100 Database Directive, Article 6.2 (a) and 9 (a).
The second layer concerns database issues that owe their complexity to the nature of
digital media. It should be noted that issues within the context of the stated first
layer were intensified by digital technologies. Consider, for instance, a printed data
collection. In old days, there were limited ways of producing it as well as its
reproduction. Furthermore, the possibilities of extraction and re-utilisation of the
information contained within it were also limited. With the advances of information
technologies, the situation has dramatically changed. Printed data collections are
created with digital databases in the first place. In fact, a particular printed collection
is one possible output from the database that it is based on. Moreover, reproduction
of printed collections became easy, widespread and cheap. At last, a particular
printed collection can be converted into a digital database.

For the above reasons, database protection will be viewed in this study within the
context of digital databases. Indeed, some of the legal arrangements that will be
discussed in this research are applicable to databases in any form. However, it
should be noted that digital databases and their nature were the impetus of database
regulation in the first place.

2.3 Databases and Digital Works

The issue of databases is part of the 'digital agenda'\textsuperscript{101} in the initiatives for reforms
in intellectual property law. Indeed, this agenda places databases within the broader
issue of works in digital form. In fact, the nature of digital media is a major cause
for disruptions in the copyright system that initiates the mentioned reforms. In the

\textsuperscript{101} The phrase ‘digital agenda’ for describing the initiatives for the adaptation of
intellectual property law to the digital environment is accredited to the EC Commission.
of certain aspects of copyright and related rights in the Information Society, OJ C 108,
7 April 1998, p. 6, Recital, ¶(11).
following section, some observations as to the nature of digital media will be considered. Then, the legal treatment of this media under the British copyright Act will be analysed as applied to databases.

2.3.1 The Nature of Digital Media

Samuelson has argued that the characteristics of digital media distinguish it significantly from traditional media with respect to its treatment under the norms of intellectual property law. Six features make it difficult for existing categories of intellectual property law to adapt to the emergence of works in digital form. These characteristics, on Samuelson’s analysis, are the following:

1. the ease with which works in digital form can be replicated,
2. the ease with which they can be transmitted,
3. the ease with which they can be modified and manipulated,
4. the equivalence of works in digital form,
5. the compactness of works in digital form, and
6. the capacity they have for creating new methods of searching digital space and linking works together.

Samuelson reaches a conclusion that owners of copyright in digital media will have more interest in controlling access to protected works and their uses. Thus, changing the delicate balance of rights achieved by current detailed legal rules. Therefore, reforms in the law of intellectual property are inevitable, as Samuelson concludes:


103 Ibid. at p. 324.
Any one of the six characteristics of digital media mentioned in this essay would be enough to cause some disruption and adjustment in the doctrines of the existing intellectual property systems. But the six of them in combination to me seem likely to change the face of intellectual property law, as we know it. Probably the old legal forms, copyright and patent, will continue to exist and be called by their old names. There will undoubtedly be some significant family resemblance between the old legal forms and the new ones we will create to deal with digital media. But the law of intellectual property will look different after coming to terms with digital media.\textsuperscript{104}

These observations serve here to reconstruct the features of digital media. The above analysis has been adopted and followed with certain modifications. Accordingly, the following are the concluded features, which make digital media distinguishable from the traditional forms.

\textbf{Copy-ability}

The digitalisation of a work, indeed, facilitates its reproduction. Moreover, the copies made in the digital process are ‘perfect’. Consequently, one may conclude that intellectual property rights must be strengthened. On the other hand, digital technology can be observed as expanding the protection of intellectual property rights’ owners. As it has been asserted by Cate:\textsuperscript{105}

\textsuperscript{104} Ibid. at p. 340.

\textsuperscript{105} Cate, Fred H., \textit{The Technological Transformation of Copyright Law}, 81 IOWA LAW REVIEW 1395 (1996), at p. 1397.
Digital technologies are rapidly changing the application of copyright law to prohibit access, protect ideas and facts, and dramatically expand the monopoly granted to copyright holders. Whether on a disk or network, digital expression cannot be accessed without being copied into RAM or onto a hard drive, floppy disk, or printer. This violates the exclusive right to reproduce granted to copyright holders.

There are two sides to this coin of the copy-ability of digital media. On one hand, it probably creates more opportunities for the misappropriation of protected works, but on the other hand, it also creates more opportunities for right-holders to expand the scope of the works' protection.

Data Efficiency

In fact, most of the above characteristics are concerned with a better handling of information. Indeed, digital technologies facilitate the transmission of information, its modification and manipulation and its storage. Moreover, the digital process enables the creation of new forms of referring to discrete items in a work, by ways of hypertext or by other means. Digital technology has the capacity for creating new methods of searching digital space and linking works together. All kinds of novel creations are happening in the digital environment, some of them are not yet conceivable.

Therefore, it is quite definitive that digital technology enable efficient treatment of information in all facets. This efficiency benefits users and creators alike. Creators of works, such as database makers, have powerful tools at their disposal to enhance database features and to add to its value. Concurrently, users benefit from better access to the information in the database and improved ways of use. Therefore, reforms in the law of intellectual property should take into account both sides. That

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106 See: Lea, supra note 60.
is, the new capabilities of data efficiency were not be meant to enhance protection while lessening users' abilities.

Software Dependency

Digital works are accessible using the adequate software. Databases, as it has been stated, are created and accessed employing DBMS. As a result, databases, as other digital works, are dependent on the software used to access them. These software tools can be employed for the administration of the licenses, which creators grant users with respect to their works. For instance, built-in features in the database will enable certain permitted uses, handle the term of use and so on. In this sense, digital technologies have opened new opportunities for the commercial exploitation of works.

2.3.2 The Legal Treatment of Digital Works

Databases share common characteristics with computer programs and generally, with works in digital form. The latter are labelled here as 'digital works'. This class of works is a general category, and is comprised of computer programs, databases and other works in digital form other than 'computer programs' or 'databases'.

A typical word-processing environment can serve to illustrate these distinctions, while all of these categories are represented in it. Various computer programs control the functions of word processing activities. It is likely that the word processing

107 See supra § 2.1.2.

108 On technological measures see infra § 3.3.2.

109 See the discussion in Millard, Christopher, Copyright in Reed, Chris (Editor) COMPUTER LAW (3rd Edition, London: Blackstone, 1996) at 108. A typical word-processing package consists of various copyright works and definitely cannot simply be described as one single work.
package includes several databases. The dictionary in the spell-check program is not a computer program; it is simply a list of legitimate words. If this list appeared in a human-readable form on paper, it would be a compilation. Instead, in its machine-readable form, this list does not turn into a 'computer program'. It is considered a digital compilation and therefore a 'database'. The same is true for a thesaurus, a list of grammar rules and so on. A word processing package also includes pages of 'help screens' for facilitating the use of the software features. These pages are simple literary works in digital form, which contain the instructions authored by the software manufacturer. Graphical images included in a typical word processing package, are artistic works in digital form. On the other hand, documents prepared by the user with the word processing programs, are simple literary works in digital form which are created and owned by that user.

Accordingly, three classes of works are distinguishable. A given 'digital work' involves one of the following three categories: a 'computer program', a 'database' or a work (other than a 'computer program' or 'database') in a digital form. It has been stated that any of these works share common properties, which stem from the nature of their representation in digital form. Consequently, specific legal provisions are emerging to address these properties, and to adapt copyright law to deal with these classes of works. The following discussion will identify and analyse these provisions in the British Copyright Act.

The Act addresses works in 'electronic form' and defines it as follows\textsuperscript{110}:

\textit{“electronic” means actuated by electric, magnetic, electro-magnetic, electro-chemical or electro-mechanical energy, and “in electronic form” means in a form usable only by electronic means.}

\textsuperscript{110} CDPA, s. 178.
Indeed, in a broad sense this definition is meant to catch-up with recent storage and recording technologies. However, the list of technologies is exhaustive and no room has been left to allow other technologies to be included. With this in mind, one may ask whether technologies, such as optical storage, are covered by these definitions. It may be that the technology in question can be covered within the term, 'actuated by electric ... energy', as stated in the definition above. Certainly, all digital presentation, or storing and recording are also 'electronic forms'. Therefore, one may conclude that the rules in the Act concerning 'electronic form' are applicable to all classes of 'digital works'.

The Act formulates specific rules, which are applicable to 'works in electronic form'. These rules are concerned with transfer of copies and with provisions concerning devices designed to circumvent copy protection.

< Transfer of Copies in Electronic Form

The transfers of copies in electronic form by a purchaser to third parties are subject to certain rules. The Act states that

Anything which the purchaser was allowed to do may also be done without infringement of copyright by a transferee; but any copy, adaptation or copy of an adaptation made by the purchaser which is not also transferred shall be treated as an infringing copy for all purposes after the transfer.

However, this rule is subject to two conditions. Firstly, it applies where a copy of a work in electronic form has been purchased on terms that allow the purchaser to

111 CDPA, s. 56.
112 CDPA, s. 296.
113 CDPA, s. 56.
copy the work with his use of it.\textsuperscript{114} Secondly, no express terms are available that prohibit the transfer of the copy by the purchaser.\textsuperscript{115} This rule will also apply when the original purchased copy is no longer usable and when a further copy used in its place is transferred.\textsuperscript{116}

\section*{\textit{\textless} Circumvention of Copy-Protection \textit{\textgreater}}

The Act introduces a specific rule, which applies ‘where copies of copyright work are issued to the public... in an electronic form, which is copy protected.'\textsuperscript{117} The Act provides the owners of rights of such works the power against a person who

- makes, imports, sells or lets for hire, offers or exposes for sale or hire,
- or advertises for sale or hire, any device or means specifically designed or adopted to circumvent the form of copy-protection employed.\textsuperscript{118}

A device, for this purpose, includes any device or means \textit{intended} ‘to prevent or restrict copying of a work or to impair the quality of copies made.'\textsuperscript{119} The copy-protection technology, therefore, does not have to be effective;\textsuperscript{120} the technology is examined by its intended results only.

\begin{itemize}
\item \textsuperscript{114} CDPA, s. 56(1).
\item \textsuperscript{115} CDPA, s. 56(3).
\item \textsuperscript{116} CDPA, s. 56(4).
\item \textsuperscript{117} CDPA, s. 296 (1).
\item \textsuperscript{118} CDPA, s. 296 (2) (a).
\item \textsuperscript{119} CDPA, s. 296 (4).
\item \textsuperscript{120} See: Laddie, Hugh, Peter Prescott and Mary Vitoria, The Modern Law of Copyrights and Designs (2\textsuperscript{nd} Edition, London: Butterworths, 1995) ¶ 20.94, p. 850-G.
\end{itemize}
It should be noted that this provision also covers a software device to 'unlock' the copy protection from a copy-protected computer program. Accordingly, a software tool used to decrypt unlawfully an encrypted database would be also caught by this provision.

The Australian case of *Autodesk v Dyason*\(^{121}\) illustrates this topic. The plaintiff, Autodesk, is a well-known software firm that owns the AutoCAD software copyright. This software is a compilation of computer programs for computer-aided-design.\(^{122}\) To avoid piracy, AutoCAD is marketed with a hardware device known as the "AutoCAD lock". Users cannot run the software unless this device is installed. This lock is operated in conjunction with a part of the AutoCAD software, by comparing recorded data in the lock to a look-up table in the program.

After a close examination of the AutoCAD lock, the defendant, Dyason, developed an alternative device\(^{123}\) in which he recorded the above-mentioned look-up table of the AutoCAD program. The Court held that this alternative device infringed upon Autodesk's copyright in its program, holding that the look-up table is a substantial part of the AutoCAD program. Although this table is not a computer program in its own right,\(^{124}\) the Court employed a qualitative test for determining substantiality.\(^{125}\)

\(^{121}\) *Autodesk Inc and another v Dyason and others*, No. 1: 22 IPR 163; 104 ALR 563. No. 2: 25 IPR 33 (High Court of Australia, 1993).

\(^{122}\) As known as "CAD" software.

\(^{123}\) Dyason used an EPROM (a type of semiconductor chip: Erasable Programmable Read Only Memory).

\(^{124}\) The look-up table consists of 127 bits only. The AutoCAD software is a compilation of computer programs. One of these programs is the "Widget.C" program which functions in conjunction with the lock by comparing recorded data in the lock to a look-up table in the "Widget.C" program. The size of this program is 20 to 30 KB.

\(^{125}\) The look-up table is less than one percent of the Widget.C program. Arguably, it was not a 'substantial' part according to a quantitative test.
Therefore, the alternative device developed by Dyason infringed upon the copyright in AutoCAD.

This conclusion is not crystal clear. The analysis of the above-mentioned look-up table as a 'computer program' is doubtful. However, as the Australian copyright Act lacks a provision targeted specifically at copy-circumvention devices, these conclusions and argumentations are tolerable.

 Exceptions to the Restricted Act of Copying

 According to the Act, the owner of copyright has the exclusive right to copy the work. This right applies to all copyright work descriptions, and therefore it applies to computer programs, databases and digital works in general. However, copying is an essential act in operating any of the digital works. In normal work with computers, copying occurs often and several times. A digital work is initially received by its user on digital media. Then, the user must copy it onto the local hard disk. When a program is run, or the database or a digital work is retrieved, it is copied from the hard disk into the computer memory. Normal procedures require backing up the data in the hard disk. Sometimes this is done daily, normally

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126 The *Autodesk v Dyason* case was heard twice in the High Court of Australia. Dyason argued that the look-up table was not a 'computer program' as it is defined in s. 10 of the Australian Copyright Act, 1968. The Act refers to a 'computer program' as 'a set of instructions', while the look-up table includes data only.

127 CDPA, s. 16(1)(a).

128 CDPA, s. 17(1).

129 The delivery media may include floppy disks, CD-ROMs, tapes etc. With the advances of networking, many works are delivered through the network links directly to the local computer's storage devices. The various modes of delivery do not affect the analysis above.

130 This is the case with recent software, which typically can be used only with a hard disk due to its large size.
including several sets of back-up copies.\textsuperscript{131} At the end of the day, a normal use of
digital works requires multiple copying of the original work. The Act is very
restrictive in allowing any copying; the Act makes it clear that any act of copying is
included in the owner's exclusive right. Furthermore, this exclusive right is
applicable to any work description including 'the making of copies which are
transient or are incidental to some other use of the work.'\textsuperscript{132}

In summary, it could be stated that the exclusive right of copying goes to the heart of
copyright while the act of copying goes to the heart of normal use of digital works.
The clash between these two systems is, therefore, inevitable.

The Software Directive\textsuperscript{133} repairs some of the above-mentioned distortions by
releasing the total control of the copyright owner over the copying of a computer
program. In the Regulations implementing this Directive,\textsuperscript{134} a new provision has
been introduced to the Act, which reads as follows:

\begin{quote}
It is not an infringement of copyright for a lawful user of a copy of a
computer program to make any back up copy of it, which it is
necessary for him to have for the purpose of his lawful use.\textsuperscript{135}
\end{quote}

\begin{footnotes}
\textsuperscript{131} See, Copying and Safeguarding Information in: The British Computer Society, A
GLOSSARY OF COMPUTER TERMS (7\textsuperscript{th} Edition, London: Pitman, 1991) at 120. E.g., a
recommended backing up procedure is to use a number of back-up sets for current files
in rotation, and not to rely on a single back-up copy. This procedure is known as the
'Grandfather-Father-Son' method (\textit{ibid.} at 121).

\textsuperscript{132} CDPA, s. 17(6).

\textsuperscript{133} Article 5: Exceptions to the Restricted Acts. The Directive secures the normal use of a
program, including error correction, and the making of a back-up copy.

\textsuperscript{134} The Copyright (Computer Programs) Regulations 1992, SI 1992 No. 3233. The
Regulations were made on 16 December 1992 and came into force on 1 January 1993.

\textsuperscript{135} \textit{Ibid.} reg. 8 — the addition of a new Section 50A to the CDPA.
\end{footnotes}
Note that the permission is for any back-up copy. This means that multiple back-up copies are permitted in accordance with the normal procedure of use as stated above.

It has been submitted that\footnote{136}{See: Laddie, supra note 120, ¶ 20.47, p. 830.}

even in the absence of express authority the right to make back-up copies would probably be implied, if not to give business efficacy to the transaction, then by virtue of a well understood industry custom.

The question then is, if this applies to computer programs only or to any work in digital form. It is has been stated that the rationale for back-up copies is common to any work in digital form. For instance, an off-line database,\footnote{137}{E.g. CD-ROMs; disks; databases accompanying software packages such as spell checker (dictionary, lexicon and thesaurus).} which is distributed in digital form, may also need to be backed up for the same reasons allowing the back-up of computer programs. This is also true for any work in digital form.

The case of *Gower v BBC*\footnote{138}{*Grower and Others v British Broadcasting Corporation*, [1990] FSR 595 (Chancery Division, 1990).} is an interesting case that concerns the issue of whether digital copying may be constructed as *de-minimis*\footnote{139}{With respect to the doctrine of *de minimis non curat lex*, see: W.R. Cornish, *INTELLECTUAL PROPERTY: PATENTS, COPYRIGHT, TRADE MARKS AND ALLIED RIGHTS* (2nd edition, London: Sweet & Maxwell, 1989) at 269.} and by extension a non-infringing act.

The BBC, the respondent of this case, held a master audiotape of a musical performance recording. In this performance, a guitarist by the name of Kroner, was invited to perform as an artist in the performance at issue. The BBC made a digital master tape of this performance as a back-up copy of such performance. The action, subject to the proceedings, was brought by Kroner's estate, *inter alia*, on the
grounds of copyright infringement. It is interesting to consider the approach taken by the Court regarding the making of the back-up copy. It was held that it is arguably a breach of the plaintiffs' copyright.

Certainly, the making of the back-up copy by the BBC followed normal security procedures. This is a common practice in dealing with digital media, although it contradicts the exclusive right of the right-holder to control copying of his work. However, the question at issue was not resolved on the interlocutory nature of the instant proceedings.

The Act, in its original enacted form, allows certain adaptations of a computer program which occur 'incidentally in the course of running a program'. By virtue of the Regulations and in accordance with the Software Directive, a new provision replaced the above-mentioned permission. Accordingly, it is not an infringement of copyright to copy or adapt a computer program by a 'lawful user', provided that such copying or the adaptation 'is necessary for his lawful use.' This permitted act is meant to allow the running of a program which requires verbatim copying, and sometimes copying by way of adaptation, while being converted to a machine code.

### 2.3.3 Database Protection Implications

The nature of digital media challenges the fundamental concepts of intellectual property law, and in particular copyright law. Various issues regarding works in digital form have been exposed above. There are, indeed, further issues and

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140 CDPA, s. 21 (4). This paragraph was deleted following reg. 5 of the Regulations *ibid*. The new section (50C.) is now dealing with that situation.

141 CDPA s. 50C (a) as amended by reg. 8 of the Regulations *ibid*. 
questions that need to be resolved.\textsuperscript{142} Database protection, in this sense, will be affected from any regulation of digital media.

Indeed, reforms to the law of intellectual property have been introduced in response to information technologies. It seems that the view that has been taken relates, so far, to three distinct areas of information technology, namely hardware, software and data. The European Union authorities have therefore adopted Directives that address these areas. Hence, the Semiconductor Directive,\textsuperscript{143} the Software Directive and the Database Directive respectively correspond to the stated areas of information technology.

It is tempting to consider the Database Directive as completing the treatment of intellectual property rights with respect to digital technology. According to this hypothesis, whatever exists in the computerised environment, leaving aside the hardware components, would be either a ‘computer program’ or a ‘database’. The flaw of this assumption is obvious. At least one further category may be clearly identified, namely works in digital form. These works are to be treated precisely as their analogous counterparts, except for specific measures, which may be laid down to resolve any anomaly which is due to their digital nature. For instance, musical works, which are traditional candidates for copyright law,\textsuperscript{144} are nowadays distributed in digital form.\textsuperscript{145} Despite being in digital form, their treatment by


\textsuperscript{143} \textit{Supra} note 55.

\textsuperscript{144} A ‘musical work’ is defined as ‘a work consisting of music, exclusive of any words or action intended to be sung, spoken or performed with the music’ [CDPA s. 3 (1)] and it is protected by copyright [CDPA s. 1 (1) (a)].

\textsuperscript{145} By means of audio compact disks (audio CDs). Note that a particular CD contains further copyrighted works, notably, ‘sound recordings’ [CDPA s. 1 (1) (b) and s. 5A].
copyright law is the same as that for their non-digital counterparts subject to measures addressing works in electronic form.

It should be noted that although there is an emerging body of law targeted at resolving certain distortions deriving from the fact that the copyrighted work is distributed in digital media, the principles of protection remain unchanged. However, intellectual property law is still in the process of ‘coming to terms with digital media.’

Therefore, further initiatives are being considered to resolve the disruptions caused by information technologies. Undoubtedly, these measures when enacted will affect database protection as well.

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146 E.g., the measures discussed above regarding works in electronic form. Note that further measures are specifically tailored to deal with sound recordings. Thus in the United States, the Audio Home Recording Act of 1992 (incorporated in 17 USC Chapter 10) introduces the compulsory use of a technology known as ‘Serial Copy Management System’ for digital audio recording devices. This measure aims to resolve, inter alia, the use of Digital Audio Tapes (DAT) to copy a CD at the fraction of cost of buying a CD, and still get a perfect copy.

147 Supra note 104.

148 E.g., WIPO Copyright Treaty; Commission of the EC, Copyright and Related Rights in the Information Society, COM(95) 382 final, 19 July 1995; The Digital Millennium Copyright Act, H.R. 2281, 105th Congress, 2nd Session. The Bill passed the House of Representatives on 4 August 1998, and was received by the Senate on 31 August 1998 for further legislative actions. See further updates and status at the US Congress Website at: <http: thomas.loc.gov>.

149 See infra § 3.4.2.
2.4 The Legal Definition of the Term ‘Database’

2.4.1 The Various Definitions

The definition of the term ‘database’ is essential mainly within a context of introducing a *sui generis* right\(^{150}\) for database protection. In fact, international measures\(^{151}\) addressing database copyright refer to ‘compilations’\(^{152}\) although it is understood that the objects of protection are databases.\(^{153}\) However, the introduction of a new intellectual property right demands a precise definition regarding its object of protection. Indeed, both the Database Directive\(^{154}\) and the Draft Treaty on Databases introduce a definition of the term ‘database’. It seems that the accepted legal definition of a ‘database’, for the purposes of intellectual property law, is modelled on the definition that concluded the long debates and discussions on the Database Directive. This definition,\(^{155}\) as can be observed below, has been adopted almost precisely by the Draft Treaty on Databases.\(^{156}\)

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\(^{150}\) References to the *sui generis* regime will be referred to, hereafter, as ‘dataright’.

\(^{151}\) TRIPS, Article 10.2; WIPO Copyright Treaty, Article 5.

\(^{152}\) The reason, it seems, is to place databases within the established regime of compilation copyright. See *infra* § 4.2.

\(^{153}\) The heading of Article 5 of the Copyright Treaty explicitly mentions ‘databases’.

\(^{154}\) The definition in the Database Directive is applicable to database copyright as well to dataright. Consequently, the definition introduced by the Database Regulations is applicable to database copyright (reg. 6 that inserts a new section – 3A – to the CDPA) and to the ‘database right’ (reg. 12 (1) refers to CDPA s. 3A (1) as amended). Dataright is referred in the Regulations as ‘database right’ (reg. 13).

\(^{155}\) Database Directive, Article 1.2.

\(^{156}\) Article 2 (i).
This definition was preceded by an initial definition in the proposal\textsuperscript{157} towards the adoption of the Database Directive. The following discussion traces the changes made in the definition of a ‘database’ and clarifies the alterations that had been introduced into the definition when it reached its final form.

The initial definition\textsuperscript{158}, as was introduced in the stated proposal, is compared below to the final definition.

\begin{tabular}{p{0.4\textwidth}p{0.5\textwidth}}
\textbf{Proposed Definition} & \textbf{Final Definition} \\
A ‘database’ means a collection of data, works or other materials arranged, stored and accessed by electronic means, and the materials necessary for the operation of the database such as its thesaurus, index or system for obtaining or presenting information. & ‘database’ shall mean a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means. \\
\end{tabular}

The proposed definition is different from a previous proposal\textsuperscript{159} in including data as one of the possible components of a ‘database’. In other respects, it is the same


\textsuperscript{158} Proposed Directive, Article 1.1.
definition introduced in the initial proposal with some minor changes in style. By including data as one of the possible components, this definition is in line with the TRIPS Agreement and it resolves a potential controversy over the eligibility of data to be included as one of the database components. However, it is more a matter of clarification and not of substance, since the phrase other materials could possibly cover 'data' as well.

A substantial difference between the proposal and the final definition concerns the form of databases. Whereas the proposal is confined to digital databases, the final definition covers databases in any form. The current accepted view is that databases in any form should be covered. It seems that the Commission's view in the proposed Directive was to preserve the status quo in the topic of manual databases.
by introducing measures concerning electronic databases only. In any other respects, the rationale to deal with databases in any form prevails.\textsuperscript{164}

In the initial proposal for the Database Directive, the term ‘database’ was expanded to include its auxiliary materials. Furthermore, all definitions exclude computer programs from the scope of a ‘database’.\textsuperscript{165} The following sections will explore the scope of databases that are covered by these definitions.\textsuperscript{166}

2.4.2 Databases as Qualified Collections

A database is based upon pre-existing materials. It is an assemblage of such materials. Having characterised databases as such, it suggests that there is nothing new in a database in terms of materials. It is a derivative work based on other materials. The implication of this observation is that the incorporation of materials into a database will not necessarily be performed by the originator or the right-holder of the materials upon which the database is based. Furthermore, incorporation of materials into a database\textsuperscript{167} is subject to any right in those materials.\textsuperscript{168} In addition, it implies that the rights in the database are distinct from the rights in the underlying materials that form the database, and do not extend to such materials.\textsuperscript{169}

\textsuperscript{164} See \textit{supra} § 2.2.5.

\textsuperscript{165} Database Directive, Article 1.3; Proposed Directive, Article 1.1; Draft Treaty on Databases, Article 1 (4).

\textsuperscript{166} The discussion below mainly refers to the Database Directive. However, due to the substantial similarities, the analysis is valid to the wordings of the Draft Treaty on Databases, and, as appropriate, to the wordings of the US Database Bill.

\textsuperscript{167} See \textit{infra} § 5.3.

\textsuperscript{168} The Database Directive, Article 13, asserts the continued application of other rights in the materials.

\textsuperscript{169} Database Directive, Article 3.2.
The significant distinction is that between unprotected and protected materials. As has been asserted above this distinction can be termed as the distinction between data and works. Whereas works are protected in their own rights, data is normally in the public domain. That is, where copyright law is concerned. However, as it will be seen throughout the discussion in this study, the nature of materials within a particular database is significant.

The category of ‘other materials’ is of a general nature. Materials in this sense could be in any form, so different kinds of expressed information may be included in a particular database. For instance, segments of musical or artistic works, which do not amount to ‘works’, might be considered as ‘materials’.

If the database definition was simply stated as a ‘collection of materials,’ then it allows the inclusion of any work in digital form to be covered by it. Consider, for instance, a humble audio CD containing the latest hit-parade songs. It could be easily regarded as a ‘database’ under the above-mentioned definition. Clearly, the Database Directive does not intend to have audio CDs covered by it. It is quite

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170 See supra § 2.2.4.

171 See e.g., infra § 4.2.

172 When ‘materials’ include ‘data, works and other materials’. Compare to the definition of ‘collection of information’ in the US Database Bill. See infra § 2.4.5.

173 See: Database Directive, Recital ¶ (19). The compilation of several recordings of musical performances on a CD does not come within the scope of the Directive. The provided explanation is that as a compilation it does not meet the conditions for copyright protection and because it does not represent a substantial enough investment is not eligible under the sui generis right. Note that this is a ‘general rule’ only. There may be well CDs that are qualifies as ‘databases’.
clear which products and industries this Directive aims to address. These do not include all products stored on digital media, but only those collections, which aim to provide information by virtue of being collections of materials. Therefore, it is necessary to provide qualifying attributes to the term ‘collection’ to reflect this conclusion.

Qualifying Attributes

Indeed, the Database Directive provides not less than three qualifying attributes. Firstly, the materials incorporated into the database have to be ‘independent’. Presumably, this means discrete items that can be identified as such. In other words, each of the items included in the database should be known and recognised. Furthermore, two attributes have to be demonstrated by the collection in question.

The qualifying attributes of a ‘collection’ are clearly defined in the Database Regulations as follows:

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174 The Explanatory Memorandum attached to the initial proposal listed the following industries: ASCII Database Services (i.e. on-line Databases); Videotext Services; CD-ROM and Audiotext. Another category, New Delivery Media, is mentioned also (probably, a reference to CD-I and Multimedia). See: COM (92) 24-SYN 393, 15 April 92. The intended industries and products are also referred to in many paragraphs of the Recital to the Database Directive, see e.g.: ¶ (10) – (14) and ¶ (22).

175 Reg. 6; CDPA s. 3A (1).
2 The Nature of Databases

Database Regulations

"database" means a collection of independent works, data or other materials which -

(a) are arranged in a systematic or methodical way, and

(b) are individually accessible by electronic or other means.

Database Directive

‘database’ shall mean a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means.

It seems that attribute (b) above is closely related to the ‘independent’ attribute. In other words, the ‘independent’ attribute is redundant. If the items in the database could be ‘individually accessible’, then they are identified and discrete items. On the other hand, attribute (a) warrants further considerations.

Systematic or Methodical Arrangement

This requirement may be confusing. The database definition is applicable to both copyright and dataright, which require further qualifications. Notably, database copyright is confined to ‘original’ databases only. This issue of ‘originality’ will be closely discussed later. At the outset, it can be stated as the ‘selection and arrangement’ criteria. Now, if ‘arrangement’ is a requirement for a collection to be considered as a ‘database’ in the first place, how does this arrangement differ from those required for copyright protection? Indeed, one can say that for the purposes of

176 See infra § 5.2.

177 Database Directive, Article 3 asserts that “databases which, by reason of the selection or arrangement of their contents, constitute the author's own intellectual creation shall be protected as such by copyright.”
copyright, this arrangement must be 'original'\textsuperscript{178} whereas for the purposes of the definition, any arrangement will be sufficient. However, the definition requires that this arrangement be 'in a systematic or methodical way', which may be parallel to the further criterion of 'originality'. Hence, confusing questions are raised by this requirement. Furthermore, the arrangement of materials in a database, at least in electronic ones, is done by the software employed in creating the database, and is changeable according to the user's requests. Then, what is the meaning of arranged materials?

It should be noted that further confusing questions could be asked with respect to 'systematic and methodical'. However, it seems that the rationale of this requirement is to assert the structured nature of databases. A database does not simply store materials in an information warehouse. It provides, by its inherent nature, information with respect to the materials, such as description, location, relationship to other materials and so on. This process of 'tagging' the materials is, probably, the 'systematic arrangement' requirement.

2.4.3 The Exclusion of Computer Programs

The objectives of the Database Directive are very clear, namely leaving the protection of computer programs to be dealt with by the Software Directive, and confining the Database Directive to 'databases' as distinguished from 'computer programs'.\textsuperscript{179} However, the distinction between these two entities is not

\textsuperscript{178} I.e., "constitute the author's own intellectual creation".

\textsuperscript{179} See: Database Directive, Recital, ¶ (23).
straightforward and requires careful clarification, as confusion between a database and a computer program can be observed in some cases.\footnote{See: John Richardson Computer's Ltd v Flanders and Chemtec Ltd, [1993] FSR 497 (Chancery Division, 1993) (See detailed discussion below); Dun & Bradstreet Ltd v Typesetting Facilities Ltd and others, [1992] FSR 320 (Chancery Division, 1991) at 324 (although it was a database which was at issue in this case, Harman J. made references to computer programs, and it seems that he is not aware of the distinction between the data and the program). The same also happened in: Corsearch Inc v Thomson and Dialog Information Services Inc, 792 F.Supp. 305; [1992] Copyright Law Decisions ¶26,912 (Dist., Southern District of NY, 1992) at ¶ 25,298.}

It is true that data processed and presented by computer programs could form part of the coding of a particular program. Once this particular program is compiled to form an executable object code, the distinction between the data and the set of instructions that form the ‘computer program’ is inseparable. In this case, one should make a logical distinction between the data and the computer program, and not a physical distinction based on the examination of the converged coding. This means that the test for distinguishing between data and computer programs is the examination of the purpose, the content and the context of the information at issue. If this information were intended to control the flow, the processing, the manipulation and the presentation of objects held in the computer storage, then this would be a ‘computer program’.

However, when the information is the object to be processed, manipulated or presented, it is ‘data’ and not a ‘computer program’. Otherwise, any data held in the computer memory could be defined as a ‘computer program’ by virtue of being able to be presented by an output device.\footnote{Indeed, such suggestions have been made. See, for instance: Bull, Gillian, Licensing and Distribution of Market Data, 10 CLSR 50 (1994) at 51 stating that “Under English law it is unlikely that a single datum which reflects a fact (e.g. ‘Megatron shares - 120p’) is copyright protected. However, when such a single datum is supplied as electronic text, that is, as a program, then that program is protected by operation of s. 3 of the CDPA} If this were the case, there would be no need
for a Directive dealing with databases, since databases are, by definition, stored in computer storage, and therefore, according to this line of reasoning, constitute a ‘computer program’. Although the flaw in the above argument is obvious, it is still hard to draw the exact line between ‘data’, a ‘database’ and a ‘computer program’. For instance, in the case of Richardson v Flanders the Court discussed the issue of an infringement claim in a computer program named Pharm-Assist. This program, as suggested by its name, helps pharmacists in their work. One feature of this program, which was alleged to be copied, was a list of medicine dose codes. Certainly, this list is not a computer program, but could be well defined as a ‘database’ under the database Directive. Under current English law, this list is a ‘compilation’ which happened to be in digital form. Indeed, the Court viewed the list in question as a ‘compilation’ and applied the normal rules governing compilations in general. However, when the Court went on to assess the infringement claim in the computer program, on finding that the a list of dose codes had been copied, the Court considered this list to be a part of the computer program as a whole. This case and its holdings illustrate the difficulty in drawing Continue which provides that computer programs shall fall within the definition ‘literary work’ and thus be copyright protected.”


183 Ibid. at p. 557.

184 Per Ferris J. ibid. at p. 558: ‘I find that the dose codes supplied with the Chemtec program are copies of substantial parts of the codes which in turn form a substantial part of the BBC program.’ To add more to that confusion, the BBC program itself was viewed as a ‘compilation’ (ibid. at p. 521). Hence, a logical loophole is inevitable: if a compilation in electronic form is a database, a modest computer program is by itself a ‘database’ and may consist of ‘databases’ which are compilation of data in electronic form etc.
distinctions between a ‘database’ and a ‘computer program’ whenever data is a part of a program. However, it is submitted that this task is feasible if the components are analysed for their logical and intended purposes and not simply by identification of their physical appearance in the work in question.

It should be stressed that electronic databases could not stand alone as a complete work. Databases need, in fact, a computer program to manage them. Notably, such a computer program is usually referred to as *Data Base Management System (DBMS)*, but it might also be referred to by any other name or even form a part of a program which would hardly be suspected of consisting of a ‘database’ or a DBMS. For instance, the spell-checker, a common feature in most word-processors, functions logically in the same way as a DBMS and a ‘database’. It is possible that the files holding the ‘database’ and the DBMS are separate and identifiable as such. However, it is also possible for these modules to be converged into one inseparable file or even converged with the entire word-processing instructions and program into a single inseparable file. Therefore, the simple examination of files is not enough to identify the separate works from the copyright perspective, namely drawing the lines between the ‘computer programs’ and the ‘databases’.

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185 See *supra* § 2.1.3.

186 I.e. the list of legitimate words or the lexicon.

187 I.e. the set of instructions to operate the checking of a given document, matching its words with the lexicon, suggesting corrections accordingly etc.

188 See: US Database Bill, § 1204 (b) (2) deals specifically with this situation and asserts that “A collection of information that is otherwise subject to protection under this chapter is not disqualified from such protection solely because it is incorporated into a computer program.”
2.4.4 Auxiliary Materials of a Database

The definition of a 'database' in the proposed Database Directive also includes a 'system for obtaining and presenting information' as a part of a 'database'. This statement has been removed from the final definition in the Database Directive. However, the Directive declares in its Recital that the "protection under this Directive may also apply to the materials necessary for the operation or consultation of certain databases such as thesaurus and indexation systems".\(^{189}\) It is not clear what the reasoning of this declaration is; there is no explicit reference in the Database Directive to support it. Presumably, these auxiliary materials can be described as 'other materials', which are themselves components of the database in question.

The removal of the auxiliary materials from the scope of a 'database' definition was as it should be. Indeed, confusion may arise by their inclusion. The task here is to draw a distinction between those auxiliary materials that form a part of a 'database' and the computer program, which is necessary to manage the database at issue. It is submitted that the test is to examine the contextual dependency of the entities which are being examined. If the entities are content-dependent, then they are auxiliary materials and therefore form part of a database. For instance, an index and a thesaurus are content-dependent. These entities will be different from a database containing share prices or bibliographical data. However, when the examined entities are not dependent on the data contained in the database, i.e. they could be employed in relation to different sets of data, then it is likely that these entities are a part of the DBMS, or simply a computer program. Furthermore, one might interpret the above-mentioned system to be the command language and procedures to instruct

\(^{189}\) Database Directive, Recital ¶ (20).
the DBMS to present the required sub-set or a view of the database.\textsuperscript{190} However, in applying the above-mentioned test, it is clear that these commands form a part of the computer program for the management of the data in the database. Therefore, it is suggested that the command language and procedures are a part of the DBMS and not part of the database.\textsuperscript{191}

2.4.5 The Adequate Database Definition

Generally, the definition of 'database' is adequate. However, a fine-tuning of the drafting should be made in light of the analysis made so far. Possible confusion could arise between a 'database' and a 'computer program' within the context of the inclusion of auxiliary materials. As this possible inclusion suffers from other weaknesses, as discussed above, it would seem only sensible to omit it. Clearly, the exclusion of computer programs is adequate, although, as it has been demonstrated, the distinction is not always easily definable.

The main weakness of the above-discussed definition is the precise scope of the qualifying attributes. Therefore, a closer examination of a further definition could possibly be helpful.

In the recently introduced Bill\textsuperscript{192} in the United States Congress regarding database protection, a database is referred to as a 'collection of information', which is defined\textsuperscript{193} as follows:

\begin{flushleft}
\textsuperscript{190} This interpretation is expressed by Pattison, Michael, The European Commission's Proposal on Protection of Computer Databases, [1992] 4 EIPR 113 at 115.

\textsuperscript{191} Pattison observed (ibid. at 115) that 'As anyone who has written a lengthy command procedure will be aware, the task of doing so is identical of writing a computer program'.

\textsuperscript{192} Collections of Information Antipiracy Act. See supra note 48.
\end{flushleft}
The term ‘collection of information’ means information that has been collected and has been organized for the purpose of bringing discrete items of information together in one place or through one source so that users may access them.

The term ‘information’ is defined as:

The term ‘information’ means facts, data, works of authorship, or any other intangible material capable of being collected and organised in a systematic way.

At first sight, this definition is substantially different from the above-mentioned definitions of the Database Directive and the Draft Treaty on Databases. However, a closer examination will reveal that they share common characteristics. There are three common requisites in order for an entity to be considered as a ‘database’. Firstly, a ‘database’ is a collection of components; secondly, possible components may be data, works or other materials; and thirdly this collection of materials should be qualified by certain conditions. The differences between the stated definitions are concerned with the qualifying attributes that should be employed.

The qualifying attributes in the US Bill resemble that of the Database Directive in two aspects, and differ from it in other aspects. The Bill asserts the discrete nature of the materials; this corresponds to the ‘independent’ criterion in the Database Directive. Secondly, both instruments refer to a ‘systematic’ manner. However, the Bill refrains from using the phrase ‘arrangement’, thus avoiding the aforementioned confusion with respect to this phrase. Moreover, the Bill asserts the purpose of the collection as the major qualifying attribute. Hence, it provides a clear subject matter

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193 Ibid. § 1201 (1).
194 Ibid. § 1201 (2).
and avoids the hurdles of the extensive and confusing qualifying attributes laid down by the Database Directive.

2.5 Towards Database Protection Rules

Having concluded the definition of a ‘database’ and having examined the nature of databases, the background necessary for the examination of database protection rules has been provided. In this respect, two database protection regimes will be primarily discussed, database copyright and dataright. Both of these regimes are within the realm of intellectual property law. However, as it has been asserted throughout the discussion, the nature of information technology should be observed while prescribing and interpreting legal rules within the context of this technology. Therefore, the impact of information technology on database protection precedes the analysis of intellectual property rights in databases. Furthermore, one should ask whether intellectual property rights in databases is the adequate regime in the first place. Hence, an account of other methods of protection, both legal and technical, has to be considered.
THE JURISPRUDENCE OF DATABASE PROTECTION

This chapter aims to place the issue of database protection in the context of Information Technology Law. This task is accomplished by following three lines of inquiry. First, by providing an account of the impact of information technology on law and the common themes of the various legal issues and problems that arise in using innovative information technologies. Second, by outlining the diverse methods of legal protection for databases generally. Third, by an analysis of the various means of protection, both legal and technological, as applied in the protection of the commercial value of databases.

In concluding these inquiries, the context of database protection is clarified. Consequently, the need for intellectual property rights in databases is demonstrated. Thus, the paths that will be followed in the rest of this study, namely intellectual property rights in databases, are well placed in their broader scope.
3.1 The Impact of Information Technology

The world is undergoing a technological revolution and entering the age of the Information Society. The combination of information technology and high-speed communications is breaking down the traditional barriers to the movement of information (distance, location, time and volume) at an unprecedented rate. Information technology is becoming widely accessible and as a result, a vast new range of applications and opportunities is arising.195

This extract from a recently published report of the House of Lords seems to encapsulate the essence of the impact of information technology on society. The degree to which these changes are fundamental in scope and in character cannot be under-estimated. It has been said that “this revolution adds huge new abilities to human intelligence and constitutes a resource, which changes the way we work together and the way we live together.”196 It is now commonly accepted that the sweeping changes brought about by the advances in information technology are leading to a new era - the so-called Information Age. This new phase in social development “could be of the same order of magnitude as those arising from the shift away from an agricultural to an industrial economy”.197 These profound changes will not leave the law untouched. Indeed, information technologies necessarily have an impact on law. This impact may be classified into two


197 Ibid. at §1.6.
distinctive classes: applications of information technologies in law and the law of
information technology.\textsuperscript{198}

The first class, applications of information technologies in law, concerns the uses of
information technologies in legal practice and legal administration. Normally, these
applications do not have clear effects on the substance of law. Information
technologies, in this sense, are mere tools that bring about increased efficiency and
effectiveness to matters touching the practice of law.\textsuperscript{199} However, interesting
observations have been made as to possible influences in matters of substantive law,
which stem from the intensive use of information technologies.\textsuperscript{200} There are also

\textsuperscript{198} There is yet a different starting point for which the focal concern is the notion of
'information', and hence the study of so-called Information Law. This approach is being
developed in academic circles in Continental Europe. See, for example: Korthals-Altes,
Dommering, Hugenholtz, Kabel (Editors), INFORMATION LAW TOWARDS THE 21\textsuperscript{ST}
CENTURY (Deventer: Kluwer, 1992). For a discussion regarding the classification of the
legal studies concerning the impact of computerisation and its theoretical basis, see:
Saxby, Stephen, A Jurisprudence for Information Technology Law 2 (1)
INTERNATIONAL JOURNAL OF LAW AND INFORMATION TECHNOLOGY 1 at p. 2 (1994).

\textsuperscript{199} For an account of the uses of IT in law, see: Perritt, Henry H. COMPUTER
APPLICATIONS IN LAW (NY: 1993). Application includes tools to enhance productivity
such as word-processing etc.; tools for the retrieval of legal materials (e.g. Lexis) and so
forth. These uses of IT could be the last resort to enable the handling of complex cases.
See for instance the suggestion made by the judge in: Minories Finance Limited v
Arthur Young Limited and Others, Lexis: UK;ENGCAS (Queen's Bench, 1988). The
primary documents involved in that case exceeded 1000 files and a quarter of a million
documents, which could lead to the conclusion that "It comes close to being the
untriable case". Therefore, it has been suggested to employ "... an independent team of
computer literate lawyers to be there at the hearing putting all the cross references onto
a data base common to all parties, including the judge, it might bring the judge's task
somewhere within the bounds of possibility in this matter."

\textsuperscript{200} See for example: Katsh, M. Ethan, THE ELECTRONIC MEDIA AND THE
TRANSFORMATION OF LAW (New York: OUP, 1989); Also by the same author: LAW IN
change, a so-called 'Paradigm Shift', in the many aspects of the legal practice due to
considerations of issues in the field of Jurisprudence that are affected by the uses of these technologies. In particular, topics in the realm of legal theory are inspired by inquiries about the developments of expert systems in law.\textsuperscript{201} Although this sort of impact is referred to in this study, it is not the main concern and will only be discussed peripherally. This study is primarily concerned with the second class referred to above, namely, information technology law.

"Computer Law" or "Information Technology Law" in its most simple form refers to legal questions, which are associated with information technologies. The bundle of topics, which share a common accommodation under these titles, varies.\textsuperscript{202} Probably, many of these topics are nothing more than commercial law with a particular technological orientation.\textsuperscript{203} It seems that these topics share the need to review existing legal concepts in order to define possible adaptations for addressing the changing environment brought about by the use of information technologies.

One might point out the fundamentally important nature of these issues by virtue of the fact that the studies are conducted at the highest levels of institutions. For instance, the opening extract at the beginning of this chapter is taken from a comprehensive report that was published recently by the House of Lords. The


\textsuperscript{203} Napier, B. W., The Future of Information Technology Law 51 CAMBRIDGE LAW JOURNAL 46 (1992) at p. 47.
following quotations belong to one of the many inquiries undertaken by institutions of the European Union. 204

Initiatives by legal and governmental bodies investigating the needs for fundamental systematic reform are being made in other places as well, 205 notably, in the United States through the Information Infrastructure Task Force. 206

The various studies referred to above are, first and above all, aimed to provide the precise definition of the legal questions that should be addressed with the emergence of information technology. This is an important point, as the definition of the parameters of the problem influences the nature of the solution proposed. The various individual issues include questions relating to data protection, computer crime, electronic commerce and governmental intervention and regulation. Among the topics that are regularly referred to as a major concern, is the adequacy of intellectual property law to address the new digital environment. 207 This last point shall be the central focus of this thesis.

As one considers the various issues and problems that arise in using innovative information technologies, certain trends can be discerned. These main trends are

204 The European Commission has greatly contributed to the development of the Information Society. The Bangemann Report is a cornerstone in these initiatives. See summary of the EU initiatives in: Information Society - HL Report, §3.25-§3.29.

205 See review of these initiatives in: Information Society - HL Report, Chapter 3: International Perspectives.

206 Also known as IITF. See Information Society - HL Report, §3.2-§3.12. Documentation of the activities of the IITF is available online over the Internet at: <http://iitf.doc.gov>.

207 See for example the report of the Working Group on Intellectual Property of the IITF (September 1995) ibid.
phrased here as *globalisation*, dematerialisation, and proliferation, and shall be considered below.

### 3.1.1 Globalisation

Normally, law is territorial by nature and characterises a particular state. In other words, legal systems are characterised by being enforceable within the borders of a given state. On the other hand, computerised systems are by their very nature unrestricted by geographical boundaries. Global networking allows information exchange that does not recognise geopolitical borders. Thus, “information is inherently global; it respects no boundaries.”

Global computerisation therefore, creates pressure on diverse internal legal systems enclosed by the different states insofar as there is a need for harmonisation of the various national legal systems. This need for harmonisation ultimately results in a global legal arrangement taking shape. This process may come about overtly through the formation and application of international conventions. Nevertheless, it is also likely to occur as a function of recognition of the *New World Order* by the legislatures and judiciary in the various states as a matter of legal policy. In the

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absence of any such global arrangement, the measures that purport to regularise the global information environment have limited significance and utility.

The only way to solve the legal complexity produced by information technology and global networking is through substantive provisions of positive law that are identical, or at least substantially similar on fundamental points, which become binding on all states participating in the global network. A high degree of global harmonisation is required concerning the legal norms that govern matters related to the global network.\textsuperscript{210}

Indeed, and in a very real sense, the national systems aimed to regulate matters of intellectual property must become harmonised within the context of global information networks to maintain any reasonable degree of efficacy. This observation is applicable to a number of other important issues as well. Notably, the issues regarding the protection of privacy, as well as topics in the realm of freedom of expression and its proper limitations\textsuperscript{211} should be adapted to the emergence of the global information environment. That is, the extent and the scope of national control over informational materials must take into account the existence of the global Network.

Moreover, it seems that the range of laws in need of adjustment to the global environment is far wider than one might expect at first glance.

\begin{itemize}
\item \textsuperscript{210} On legal and policy issues of the global network see: Kahin, Brian and Nesson, Charles, BORDERS IN CYBERSPACE: INFORMATION POLICY AND THE GLOBAL INFORMATION INFRASTRUCTURE (Cambridge, MA: MIT Press, 1997).
\item \textsuperscript{211} Consider, for example, issues on the following domains: censorship; control of pornography and other indecent materials; libel and defamation and so on.
\end{itemize}
Consider the implications for remote computer access. Even unsophisticated criminal conduct can take place in a variety of locations ignoring national borders. Similarly, contracts and business transactions are conducted through these global computer networks regardless of national borders. In fact, the computerised environment is boundary-free to the extent that it may be deemed space in a different dimension, one entirely lacking geographical parameters. Not without reason was the term “Cyberspace” coined to define this new notional space. Now, the question is whether this space does not in fact constitute a new juridical sphere in which rules of its own ought to be applied. At least, whether the time has not come for uniform global laws to be operative in all states using the global network. At all means, there is no doubt that we are witnessing a continuous process of globalisation of the legal rules governing digital environment.

Concerning intellectual property rights in databases, the TRIPS Agreement is a step forward in establishing an international standard. Consequently, the Copyright Treaty reissues the TRIPS Agreement formulation of database protection. However, these provisions are concerned with database copyright, and therefore have a limited application. The Draft Treaty on Databases is an initiative that might resolve

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212 See supra § 1.1.


214 The term is originated in a novel by William Gibson, Neuromancer referring to a futuristic computer network that people use by plugging their brains into it. According to The New Shorter Oxford Dictionary (1993 edition) the term denotes: “The notional environment within which electronic communications occurs, especially, when represented as the inside of a computer system.”

database protection issues. This initiative is an understandable necessity towards settling on the acceptable international standards regarding database protection.

Yet, even where international conventions are concerned, and according to the applicable law in most countries, the applicability of the rules established by these conventions is among the Member States only. For the convention to become valid, internal legislation is required, making convention provisions binding in local law. Therefore, an adequate implementation of the database international standards must supplement the mentioned international conventions.

3.1.2 Dematerialisation

The other process, also at its peak, stemming from the information revolution is the transition taking place from the material and tangible to the abstract and intangible. This is affirmed by the increasing importance of intellectual property as a source of wealth and economic profit by individuals, firms and even states.

Traditionally, the legal system is concerned with the concrete, the material, matters which have a corporeal effect and impact that may be defined in time and space. This does not mean that legal systems disregard abstract subjects. However, in every such abstract subject, material anchors are available for defining the workable legal norms.

However, while modern economic and commercial activity has been adapting to the changing times, the legal system for the most part is trailing behind. The legal system is still contending with questions of the 'transportation of atoms' rather than the 'transportation of bits', to use the graphic expression of a researcher concerning
the effects of computerisation on society.\textsuperscript{216} However, in advanced legal systems we seem to be witnessing the beginnings of attention to the dematerialisation of human activity in general and of economic and commercial activity in particular.\textsuperscript{217}

One may consider this trend by examining the importance of 'copies' in copyright legislation.\textsuperscript{218} Although, normally it is commonly accepted that a 'copy' of a work, in which copyright subsists, includes a copy in electronic form,\textsuperscript{219} a closer examination will reveal that the provisions of the law are more confident in relation to physical media. For instance, provisions regarding the enforcement of copyright by means of restricting the importation of infringed copies into the country are typically dealt with at length in copyright laws.\textsuperscript{220} Arguably, a cross-border transmission of a digital copy of copyrighted works via international telecommunication links may be considered as an 'importation' of those copies. However, for all practical purposes, customs authorities are hardly regarded as being able to inspect the data streams on the international network. Thus, the concept of

\textsuperscript{216} Nicholas Negroponte in his well-known book: \textsc{Being Digital} (NY: Knopf, 1995). The author is one of the chief researchers of the Media Lab at MIT. The book itself is a fascinating account of the implications - beyond technology - of the digital age.

\textsuperscript{217} For example, many laws refer to terms such as 'documents', 'writings' and 'signature'; does the law permits these objects to appear in digital form? The answer to this question is essential for the development of electronic commerce. On this particular topic see: Reed, Chris, \textsc{Digital Information Law: Electronic Documents and Requirements of Form} (London: The Centre for Commercial Law Studies, 1996).

\textsuperscript{218} References to a 'copy' of a work are made not less than 120 times in the English Copyright Act, the CDPA.

\textsuperscript{219} S. 17 of the CDPA states that 'Copying in relation to a literary, dramatic, musical or artistic work means reproducing the work in any material form. This includes storing the work in any medium by electronic means'.

\textsuperscript{220} CDPA, s. 111 onwards: Remedies for Infringement: Provision for Preventing Importation of Infringing Copies. Compare to 17 USC § 602. The exclusive right to distribute copies includes the right to limit the importation into the United States of copies of a work acquired outside the United States without the authority of the copyright owner.
'importation' is effective regarding physical copies of a work, and less effective when electronic copies of a work are at issue.

Other provisions in copyright law are also attached to 'physical anchors' and must be dematerialised so that the challenge of information technology is properly addressed. Hence, a 'technological transformation' of copyright is taking a shape that probably calls for the reworking of current copyright notions.

Regarding database protection, the process of the dematerialisation of copyright law must be presented in any attempt to formulate the standards of protection. In other words, intellectual property rights in databases must comply with digital technology, so that the optimal protection can be achieved.

3.1.3 Proliferation

Another process that has perhaps not been subject to detailed study is that of the disintegration of institutions, or the transition from conditions of established institutions to conditions absent institutions. Here, the process has obtained the name of proliferation. Arguably, legal systems have striven for well-defined institutions and regulations through appropriate legal arrangements. Through this process of proliferation, much of the matters that the law purports to regulate will fall outside

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221 For instance, subsistence of copyright in a work requires it to be "recorded, in writing or otherwise" [CDPA, s. 3 (2)]. Hence, the acts of 'recording' and 'writing' must be dematerialised. The same is true concerning the requisite in US copyright law of "fixed in any tangible medium of expression" [17 USC § 102 (a)].


223 Ibid. Cate concludes that digital technology demands a more thorough revision of copyright law, in such a way that the fundamental balance of rights will be preserved.
the scope of the law’s ability to enforce its own regulations or provide the necessary remedies to resolve disputes.

The Internet\textsuperscript{224} is an obvious example of this process. As is commonly known, no central body\textsuperscript{225} manages this entity of the Internet. In fact, anyone wishing to be connected to the Internet may do so, as long as she meets certain technical specifications, and has a nearby point linked to the Internet to which she can become attached. This system operates without any central administration and almost without legal intervention through legislation or international conventions regularising its operation. In comparison, telecommunications systems, which are a fitting parallel to the Internet system, are governed by detailed legislation,\textsuperscript{226} and through a long list of international institutions\textsuperscript{227} and international conventions.

\begin{footnotesize}
\begin{enumerate}
\item[	extsuperscript{225}] See: The Governance of the Internet, in: Lloyd, supra note 202, p. 15. The author states that “Although no organisation can be identified as having responsibility for the uses to which the Internet is put, a variety of organisations play technical and organisational roles in securing its functioning and development.” Ibid. at p. 17. Then, the main said organisations are detailed.
\item[	extsuperscript{226}] See: Angel, John and Walden, Ian (Editors), TELECOMMUNICATIONS LAW HANDBOOK (London: Blackstone, 1997).
\item[	extsuperscript{227}] The main organisation within which governments and the private sector co-ordinate global telecommunication networks and services is the ITU - International Telecommunication Union. See details on its Website at: <http://www.itu.org>.
\end{enumerate}
\end{footnotesize}
Moreover, copyright law was arguably crafted to regulate, inter-alia, the publishing trade. There is a rather significant difference if the publishing activities take place within established organisations, or if any school-student can act as a ‘publisher’ by distributing and publishing copyrighted works over the Internet. The same is true where media regulation is concerned. There is a rather big difference between the burden that can be placed upon on giant media organisations, such as broadcasters, and on applying rules that considering every Internet user a ‘broadcaster’.

This proliferation process, or the questioning of recognised institutions, challenges the traditional legal order, sometimes with the need for a re-examination and re-definition of accepted terms and concepts. Therefore, the adequate database regime must be reasonably workable and enforceable for both industries and users. Accordingly, this regime should recognise the proliferation of database creators and users in a balanced level of protection. This level of protection should not bring about over-protection or under-protection of database, but a balanced level of protection.


See: ACLU v Reno (ibid. note 224). The case concerns the constitutionality of the so-called “CDA” – the Communications Decency Act of 1996 – which seeks to protect minors from harmful materials on the Internet. The CDA incriminates certain conducts including knowingly transmission of ‘obscene or indecent’ messages to recipients less than 18 years of age. Throughout the decisions, both in the District Court and in the Supreme Court, the nature of Cyberspace is distinguished from other media. Thus, the applicability of legal rules regulating the media was found inappropriate. The Court also rejected the Government’s argument that providers of materials may ‘tag’ their materials, having a ‘verification defence’ against incrimination. Note that the tagging enables screening software – and accordingly parents – to identify the type of material in question. The Court asserted that this solution is not economically feasible for most non-commercial speakers.

Over-protection of databases is when the balance of rights between the IPR role-players, i.e. providers and users, are disturbed in such a way that database providers
3.2 The Diverse Methods of Protection

The legal protection of databases is not confined to intellectual property law. As has been noted above, databases are recognised by the Law as valuable assets that are worthy of legal protection in the light of the public interest and of social values. Thus, many branches of law have been challenged by the emergence of databases.

For instance, Data Protection Law also deals with database protection, following an entirely different point of view from the one discussed in this study. The main aim of data protection regulation is to guard the right of privacy of natural persons. Databases that contain personal data are protected against the dangers that the capacities of computer processing can impose.

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gain additional protection, or otherwise, the allowance of inappropriate limits on database users. See: on copyright role-players infra § 4.1; on database user's rights concerning the creation of new databases see infra § 5.3.

Under-protection occurs when database providers do not have sufficient protection, or when certain databases are not protected at all. Arguably, this is the impelling force for the extensive initiatives of database protection dealt with in this thesis.

Supra § 1.1.


See generally: Lloyd, supra note 202, p. 27 onwards.


The Data Protection Directive does not refer to ‘databases’ but rather to ‘filing systems’ which are defined in Article 2 (c) as follows: “Any structured set of personal data which are accessible according to specific criteria, whether centralized, decentralized or...
Accordingly, one can say that data protection law protects databases. However, this protection is targeted at the protection of specific features of certain databases.

Intellectual property rights in databases concerns the commercial exploitation of the database asset. In this sense, the legal protection of databases is distinguished from that of the protection of personal data in data protection law. The aims and the object of protection are different.

Nevertheless, both criminal law and the law of confidentiality can provide indirect protection to the commercial value of databases. In the following sections, a brief account of these observations is detailed.

**Criminal Law**

Not only is the database feature of access-ability a restricted act in certain conditions; other features of databases are restricted in Criminal Law as well. For instance, the integrity of a database is protected. Therefore, unlawful modification of data in a database can amount to a criminal offence in certain conditions.

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dispersed on a functional or geographical basis.” In essence, ‘filing systems’ are databases that contain personal data.

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238 In Article 2 (a) of the Data Protection Directive the term ‘personal data’ is defined as: “any information relating to an identified or identifiable natural person (‘data subject’); an identifiable person is one who can be identified, directly or indirectly, in particular by reference to an identification number or to one or more factors specific to his physical, physiological, mental, economic, cultural or social identity.” Compare this definition to s. 1 (3) of the Data Protection Act 1984.

239 I.e. the act of access to databases. *Supra* § 1.1.

3 The Jurisprudence of Database Protection

In fact, the entire field of Computer Crime\(^\text{241}\) has a direct reference to databases, as it deals with crimes that are connected to computers. Arguably, the crimes at issue are mainly attached to the information held in computers. This information is likely to be held in databases. Hence, databases are involved in computer crimes. Legal protection is provided to the database at issue by the criminalisation of certain conduct concerning databases.\(^\text{242}\)

**Confidentiality**

The law of confidentiality\(^\text{243}\) is applicable for providing database protection in certain circumstances, notably where in-house\(^\text{244}\) databases are at issue. Moreover, when information held in a database had been obtained by improper means, the Court may restrain even third parties from reaping benefits of that information.

The case of *Dun & Bradstreet v Typesetting Facilities*\(^\text{245}\) illustrates this point. Although the case deals with a motion to order an inspection of the defendant's database, some interesting topics regarding database law are examined in this case. The plaintiff (D&B) is a well-known company that deals with credit rating and marketing. For its affairs D&B created a database mainly based on public domain materials, but also on materials prepared by its own employees. The defendant (TF)


\(^{242}\) See: Nimmer and Krauthaus, *supra* note 233, p. 27.


\(^{244}\) I.e. a private database which has not been commercialised for public access. See *supra* § 2.2.1, on the distinction between public and private databases.

is a new company that deals with marketing and in direct competition with D&B. TF purchased databases from a third party (PBA), pleaded by the plaintiff to infringe D&B copyright and to breach confidentiality. In finding that it was an arguable case for breach of confidentiality, the judge made an order for the inspection of the database. Note that the obligation of confidentiality, under terms of contacts, had been between D&B and PBA. Nevertheless, the evidence showed that TF and its directors had known from the circumstances that there was a duty of confidence imposed.²⁴⁶ Moreover, the Court observed that "there is no need for the creation of an obligation of confidentiality to have a clear contractual term."²⁴⁷ The Court concluded that the stated obligation arises from the circumstances and the knowledge of the industry in question.

Closely related to confidentiality, and indeed to criminal sanctions regarding information, is the issue of 'theft of information'.²⁴⁸ Normally, English Law is reluctant in attaching property rights to raw items of information.²⁴⁹ However, in certain circumstance, one could infer that certain items of information might be considered as quasi property.²⁵⁰ The inquiry of this topic is beyond the scope of this study. Arguably, the impact of this theory is limited to specific information in very special conditions and consequently does not affect databases in general. Moreover,

²⁴⁶ Ibid. The Court put an emphasis on the fact the TF directors and employees at a very high level were former directors of PBA.

²⁴⁷ Ibid. Per Harman J. at 327.

²⁴⁸ See: Lloyd, supra note 202, at p. 207.


the remedy for violation of the stated rule would be criminal sanction, which has only indirect consequences on the exploitation of databases commercial value.

3.3 Protection of Database Commercial Value

In concluding the previous section, the legal protection of certain features of databases has been detected. However, this protection is not attached to the commercial value of databases, but to specific features of the databases or to their content. In this section, the protection of the commercial value is analysed. This is the type of protection provided to the commercial exploitation of intellectual efforts, which is normally placed in the domain of intellectual property law. Indeed, intellectual property rights in databases will be the focus of the rest of this study. Nevertheless, it is important to put the task of protection for commercial value within its context. It is evident that these commercial values are protected by many other means, both legal and technical. Therefore, it is unnecessary to place the burden of their protection solely on the law of intellectual property. In fact, what matters to database providers is the aggregate protection to their assets.251

The protection for the commercial value of databases is classified hereafter to one of the three types: *natural, technical and legal*.252 The following paragraphs analyse these types of protection.

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252 This classification method is slightly different from the one Hardy, *ibid.*, develops. Hardy is concerned for a 'four-part taxonomy of incentives': entitlements; contracts; the state-of-the-copying art; special purpose technical restrictions. Inspired by Hardy 'taxonomy', the analysis in this study holds a different approach.
Inherent features in database services and products can support the commercial value of a particular database. Users of this database benefit from these features in such a way that any supplemental legal protection seems almost redundant. Indeed, legal protection may be desired, but its necessity is minimised. For this reason, these features of inherent value are referred to here as *natural* protection.

Some of these inherent values are discussed below.

### Completeness

A great feature of the Lexis-Nexis service is the comprehensive coverage of certain domains. For instance, one can be sure that all cases in a particular jurisdiction are presented in the relevant database. A complete and up-to-date set of all materials is provided in a particular database according to its specification. This point is illustrated in the following example. Suppose that a legal researcher is trying to locate judgements held in the House of Lords regarding compilation copyright. She turns to the appropriate Lexis-Nexis database\(^{253}\) to perform the search.\(^{254}\) Once it is done,\(^{255}\) she can be sure that her search is being conducted on a complete specified

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\(^{253}\) The relevant database would be Lexis: UK;ENGCAS file.

\(^{254}\) This example was performed on August 1998 by employing the search request: “Court (House of Lords) AND (Copyright W/7 Compilation)”. This search phrase means: “find all cases of the House of Lords that contains the terms ‘copyright’ and ‘compilation’ within seven words”.

set.\textsuperscript{256} Hence, this particular database is valuable, among other reasons, as it is comprehensive.

\textbf{Expertise}

In today’s information overload,\textsuperscript{257} there is a significant value obtaining the requested information and only it. Consequently, services that filter, review and evaluate information in a specified domain are flourishing. Instead of giving users access to endless items of information, these services provide the precise information following the particular users’ needs.\textsuperscript{258} Such commercial value services are based on users’ readiness to pay for the expertise of the information providers, and not necessarily on the access to the content held in the providers’ databases.

\textbf{Timeliness}

Yet, another value for users is getting timely information. Consider, for instance, the financial sector. News items that may affect financial decisions are highly valued

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ER 465, [1964] 1 WLR 273 (HI, 1964); (5) \textit{G A Cramp & Sons Ltd v Frank Smythson Ltd}, [1944] 2 All ER 92 (HL, 1944). All cases are discussed infra § 5.2 and § 5.3.

\textsuperscript{256} The ENGCAS database contains all reported English cases from January 1945 and unreported cases from January 1980. This information is based on the LEXIS-NEXIS DIRECTORY OF ONLINE SERVICE (1996).

\textsuperscript{257} See: Lewis, David, \textit{DYING FOR INFORMATION?} (London: Reuters, 1996). This is a Reuters commissioned research that investigated the effects of information overload. The research uncovered a new strain of illness brought on by the stress associated with this deluge of information: information fatigue syndrome (IFS). See details in Reuters Website: <http://www.reuters.com>.

\textsuperscript{258} See for instance, Reuters Business Briefing, a service by the well-known information provider, that provides varying levels of content according to the user’s needs. Most of this information can actually be found over the Internet. However, Reuters believe that users will subscribe to this service to overcome information overload. See: \textit{Frequently Asked Question} about this service at: <http:/ www.bizinfo.reuters.com/faq.html>.
provided that these items are delivered as soon as possible.\textsuperscript{259} Sometimes, this timing is a matter of minutes\textsuperscript{260} rather than of hours or days. Again, the commercial value of the database is based on its characteristics rather than on its content.

Presumably, database providers supply informational content. They provide this by selling copies of their compiled content, or by charging for the access to their online databases. However, database providers can rely on other qualities of their services and products. Three of such qualities are detailed above; additional qualities are: convenience of use, ease of information retrieval, user-friendly software, added value to raw data and so on. User's choice of a particular database is based not only on the merit of its content, but also on its characteristics satisfying the user's needs. Therefore, one may conclude that intellectual property law has a moderate task in securing the commercial value of databases. Indeed, there are suggestions along this line.\textsuperscript{261} Moreover, whenever the exploitation of the commercial value is based on the supply of services, the necessity of guarding the content by legal regime is shrinking.\textsuperscript{262}

\textsuperscript{259} In fact, Reuters, the world leading news provider, sets the charges of its products on elements that also count the timeliness of its news feedings. Services and products are defined according to the 'freshness' of the news. Real time news information is provided via dedicated devices at high cost. The same news -- but after several hours -- were supplied to cable programmers. After another period, the very same news feedings, or part of them, may be put free of charge on a Website. See details on Reuters products including pricing in the Reuters Website at: <http://www.reuters.com>.

\textsuperscript{260} E.g., while trading in the Stock Exchange.

\textsuperscript{261} See: Dyson, Esther, \textit{RELEASE 2.0} (London: Viking, 1997). The author suggests new ways of exploiting INTELLECTUAL PROPERTY RIGHTS. For instance, instead of selling copies of a copyrighted work, some business models are detailed, which secure income to the work's creator.

\textsuperscript{262} Consider, for instance, the Lexis-Nexis service. Regarding certain materials (e.g. US new cases), they are in the public domain and can be retrieved over the Internet. Still, a user may prefer to search these materials at cost in the Lexis-Nexis service, eventhough

\textit{Continue}
3.3.2 Technical Protection

Technical means and sophisticated data security technologies can provide additional protection to databases. A proprietor of physical objects secures his property by making use of fences, locks, security devices and so on. Much like that, database proprietors can use technical protection. This analogy goes one step further. Misconduct regarding the physical security tools is normally punishable and raises tortious liability. The same is true regarding technical protection to informational materials. This is a clear manifestation of the process of dematerialisation noted above.263

≤ Technological Measures

Hence, the new Copyright Treaty imposes obligations on the Treaty members concerning the protection of technological measures. This provision264 reads as follows:

Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law.

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retrieval over the Internet is free of charge. There are many reasons for this user’s choice: the ease and convenience of the service; the added value to the raw materials (e.g. links to referred cases and statutes); the completeness of the search request and so on. Therefore, subscriptions to the Lexis-Nexis will last.

263 See supra § 3.1.2.

264 WIPO Copyright Treaty, Article 11.
In fact, measures along this line are already in place. The Treaty provision seeks the harmonisation of this standard worldwide.

Among these methods of protection, sophisticated software can control the uses of the information in the databases, as well as restrict the copying of the materials contained within. Furthermore, it should be noted that the software that manages the database could provide derivative protection to the materials held in the database in question. As noted earlier, the distinction between the computer program used in the browsing of materials in the database, and the database itself are not always clear. Therefore, any attempt to extract materials from the database at issue might also result in acts that infringe on the copyright of the computer program. Thus, the materials gain a derivative protection that stems from software protection.

Rights Management Information

The Copyright Treaty also requires its members to provide protection to "rights management information", which is defined as

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265 See: CDPA, s. 296. See also the Audio Home Recording Act of 1992 (incorporated in 17 USC Chapter 10) that introduces the compulsory use of a technology known as "Serial Copy Management System" for digital audio recording devices.

266 See: Autodesk Inc and another v Dyason and others, No. 1: 22 IPR 163; 104 ALR 563. No. 2: 25 IPR 33 (High Court of Australia, 1993. Australian copyright law lacked, at that time, provisions against the circumvention of software 'locks'. Nevertheless, copyright principles are employed to prevent distributing unlock software. See detailed analysis supra § 2.3.3.

267 Supra § 2.3.

268 WIPO Copyright Treaty, Article 12 (2).
information which identifies the work, the author of the work, the owner of any right in the work, or information about the terms and conditions of use of the work, and any numbers or codes that represent such information, when any of these items of information is attached to a copy of a work or appears in connection with the communication of a work to the public.

The Treaty requires its members to provide adequate and effective legal remedies against unauthorised removal or alteration of any electronic rights management information.\textsuperscript{269} Note that this provision is targeted to secure works in digital forms. The treaty also requires the enactment of measures that will prevent the distribution of works or copies of works, knowing that electronic rights management information has been removed or altered without authority.\textsuperscript{270}

Technical protection for copyrighted works is on the current agenda of the EU authorities. In 1995, the Commission published a Green Paper entitled \textit{Copyright and Related Rights in the Information Society},\textsuperscript{271} in which technical systems for identification and protection of copyrighted works, were defined.\textsuperscript{272} The issue that the Commission sought to resolve was whether legal measures that guarantee compliance with these technical methods should be made.

\textsuperscript{269} Ibid. Article 12 (1).
\textsuperscript{270} Ibid. Article 12 (1) (ii). The restricted acts are not limited to distribution; they also cover importation for distribution, broadcast and public communication.
\textsuperscript{272} Ibid. Section IX, p. 79 onwards.
Consequently, the European Parliament adopted a Resolution\textsuperscript{273} calling for considerations of regulation of technical protection devices,\textsuperscript{274} and the harmonisation of liability rules concerning circumvention devices.\textsuperscript{275} Indeed, soon after a proposal for a Directive\textsuperscript{276} seeking the harmonisation of technical protection measures\textsuperscript{277} among the EU members was presented. This proposal was the European Union response\textsuperscript{278} to the Copyright Treaty. This proposal asserts that its provisions are applicable without prejudice to the existing measures laid down in the Database Directive.\textsuperscript{279} Thus, the proposed measures aim to provide additional protection to databases.

The implementation of the Copyright Treaty measures regarding technical protection have been also considered by the United States Congress, in an Act entitled ‘Digital Millennium Copyright Act’.\textsuperscript{280} The Bill, as introduced, included some amendments

\begin{itemize}
\item \textsuperscript{274} \textit{Ibid.} ¶ 29-30.
\item \textsuperscript{275} \textit{Ibid.} ¶ 33.
\item \textsuperscript{277} \textit{Ibid.} Article 6 (technical devices) and Article 7 (rights-management information).
\item \textsuperscript{278} \textit{Ibid.} Recital, ¶ (11).
\item \textsuperscript{279} \textit{Ibid.} Article 1.2.
\item \textsuperscript{280} Public Law 105-304 (Signed by the President on 28 October 1998). Formerly, H.R. 2281, 105\textsuperscript{th} Congress, 2\textsuperscript{nd} Session. It was introduced on the House of Representatives on 29 July 1998 as the WIPO Copyright Treaties Implementation Act. The Bill, as amended, was passed the House of Representatives on 4 August 1998, and was received by the Senate on 31 August 1998 for further legislative actions. The Senate asked for a conference which was held on 24 September 1998. Finally, the final text of this legislation has been approved by both houses on 12 October 1998. Then, it was signed
\end{itemize}
to comply, *inter alia*, with the requirements of the Copyright Treaty. Along the path of the legislative process, the title of the Bill has been changed to ‘Digital Millennium Copyright Act’, and the scope of the Bill has been extended to cover other issues concerning copyright in the digital environment, such as the issue of copyright liability of on-line providers.

The Act contains detailed provisions with respect to ‘copyright protection systems’ and ‘copyright management information’. The Act also calls for continuous evaluation of the impact of these measures.

### 3.3.3 Legal Protection

#### Contracts

Databases, especially online services, are provided to users based on contractual relationships. These contracts define the terms and conditions of utilising the

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281 S. 103 of the Digital Millennium Act amends Title 17 of the US Code by adding a new chapter (numbered ‘12’) entitled ‘Copyright Protection and Management Systems’. This amendment provides measures regarding civil remedies (§ 1203) and criminal liability, in certain circumstances (§ 1204), for the violations of these means of protection.

282 17 USC § 1201 as amended by the Digital Millennium Act includes provisions concerning circumvention of technological measures that effectively control access to copyrighted works.

283 17 USC § 1202, as amended by the Digital Millennium Act, provides protection for the integrity of ‘copyright management information’ [see definition in § 1202 (c)].

284 S. 104 of the Digital Millennium Act and 17 USC § 1201 (c) as amended by the Digital Millennium Act. Impact on certain uses including teaching and research has to be periodically evaluated.

285 It is true for off-line databases as well. See discussion below on the so-called ‘shrink-wrap’ licenses; also, see: Nissley, Meta & Nelson, Nancy M., *CD-ROM LICENSING*
database at issue. It is evident that the terms in these contracts do not prejudice any intellectual property rights in the database at issue.\textsuperscript{287}

However, certain contractual terms are deemed null and void.\textsuperscript{288} The Database Directive makes provisions in this respect in two instances. Firstly, securing the lawful user rights of access and normal use,\textsuperscript{289} and secondly, regarding rights and obligations of lawful users with respect to the \textit{sui generis} rights.\textsuperscript{290} These users' rights\textsuperscript{291} cannot be restricted by contracts.

\textit{ProCD v Zeidenberg}\textsuperscript{292} dramatically demonstrates the interface between intellectual property rights in databases and contracts. The plaintiff compiled information from more than 3,000 telephone directories into a computer database, which was

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\textsuperscript{286} See, for example, \textit{General Terms and Conditions for Use of the Lexis-Nexis Services} at: <http://www.lexis-nexis.com/lnc/about/terms.html>.

\textsuperscript{287} Article 13 of the Database Directive.

\textsuperscript{288} Article 15 of the Database Directive states that “any contractual provision contrary to Articles 6 (1) and 8 shall be null and void”.

\textsuperscript{289} Article 6.1 of the Database Directive asserts that actions of a database lawful user which are necessary for the purposes of access to the database content and for its normal use shall not require any authorisation. Normal use of a database might be involved in performing acts that otherwise infringe database copyright.

\textsuperscript{290} Article 8 of the Database Directive secures the right of a lawful database user to extract or re-utilise insubstantial parts of the database contents for any purposes whatsoever.

\textsuperscript{291} On user's rights within the context of the creation of new databases see \textit{infra} § 5.3.

marketed on CD-ROMs. In applying *Feist v Rural*,\(^{293}\) the District Court concluded that the massive extraction of data by the defendants from the database at issue did not infringe on any copyright. Therefore, the defendants were not found liable for utilising the extracted data in their database service provided over the Internet.

Leaving aside the copyright issues,\(^{294}\) the Court of Appeal focused on the contractual issues. It was evident that the defendants purchased the plaintiff's CD-ROMs in a retail store, and the so-called 'shrink-wrap' licenses were attached to them. Shrink-wrap licenses are written agreements attached to software packages that, arguably, become effective when a consumer removes the package’s wrapping. These licenses commonly contain provisions that limit the purposes for which the software may be used. In this case, the commercial use of the defendants was contrary to the terms in the particular contract attached to the CD-ROMs at issue. The Court of Appeal held that shrink-wrap licenses are enforceable “unless their terms are objectionable on grounds applicable to contracts in general.”\(^{295}\) Therefore, it found the defendants liable for their actions.


\(^{294}\) Easterbrook, Circuit Judge, *ibid.* at 1449, observed that: “We may assume that this database cannot be copyrighted, although it is more complex, contains more information (nine-digit zip codes and census industrial codes), is organized differently, and therefore is more original than the single alphabetical directory at issue in Feist ...” Note that this is one of the few instances that the rulings in *Feist v Rural* were distinguished. See infra § 4.4.1.

\(^{295}\) *Ibid.* at p. 1449. The Court offers the following examples of objectionable terms: if they violate a rule of positive law, or if they are unconscionable.
Shrink-wrap licenses are still a controversial issue.\textsuperscript{296} Another genre of related licenses, the so-called "point-and-click"\textsuperscript{297} agreements will undoubtedly create more controversies.\textsuperscript{298}

\section*{Unfair Competition}

Unfair competition rules refer to diverse protected interests\textsuperscript{299} that do not normally include the exploitation of other's achievements.\textsuperscript{300} The latter is confined to the specific subject matters that are protected by intellectual property law.\textsuperscript{301} It should be noted that English law is reluctant in formulating a general norm of unfair

\footnotesize
\begin{itemize}
\item \textsuperscript{297} These agreements are employed in electronic commerce and in software licenses alike. They attempt to conclude an agreement by way of introducing the agreement's terms on-line so that they become effective when users click on the 'accept' button.
\item \textsuperscript{298} See: Kent Stuckey, \textit{Shrink-Wrap / Point-and-Click Agreements}, in: \textsc{Internet and Online Law}, available at: <http://www.ljextra.com/internet/excerpt.html>.
\item \textsuperscript{299} See: The Paris Convention of Industrial Property (1883, last revised at Stockholm, 1967 and amended in 1979) includes provisions regarding causing confusion and misleading and discrediting competitors. TRIPS, Article 39 introduces the protection of undisclosed information in the course of ensuring effective protection of unfair competition as provided in Article 10bis of the Paris Convention. See also: Model Provisions on Protection against Unfair Competition, drafted by the WIPO International Bureau (Geneva, 1996).
\item \textsuperscript{301} I.e. patents; copyrights; trademarks; industrial designs and so on.
\end{itemize}
3 The Jurisprudence of Database Protection

3.02 Furthermore, the scope of protected interests under the heading of unfair competition significantly varies among different jurisdictions.303

Nevertheless, unfair competition law may complement the protection of exploitation of intellectual property in certain conditions.

In particular, any legal doctrine304 that implies the principle of ‘One should not reap where one has not sown’305 is applicable in these circumstances. The law of unfair competition and its related doctrines are, indeed, a means to fill gaps in database protection.306

The foundations of unfair competitions are undoubtedly well presented in the law of intellectual property307 in general, and in the tailor-made intellectual property rights

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302 See: Kamperman Sanders supra note 300 at p. 52.

303 Ibid. The author suggests developing an action of “malign competition”, which is based on the doctrine of unjust enrichment, to overcome these varieties. Sufficient elements of this action exist, as the author demonstrates, both in civil and common law jurisdiction.

304 I.e. ‘misappropriation’ (United States); ‘unjust enrichment’ (Civil Law jurisdictions) and ‘restitution’ (Common Law jurisdiction). See: Kamperman Sanders supra note 300 at p. 22 onwards.

305 Per Pitney J in International News Service v Associated Press, 248 US 215 (Supreme Court, 1918) at p. 221. The wordings are paraphrased from the teachings of the Holy Bible. The passage “They that sow in tears shall reap in joy” (The Holy Bible, King James Version, Psalms 126:5) encapsulates the perfect Universe ruled by fairness and justice. Hence, the contrary is when ‘They have sown wheat, but shall reap thorns; they have put themselves to pain, but shall not profit: and they shall be ashamed of your revenues because of the fierce anger of the Lord.” (The Holy Bible, King James Version, Jeremiah 12:13).

306 Database copyright may provide a limited protection, thus resulting in gaps in the optimal scope of protection. See: infra Chapter 5: The Limits of Database Copyright.

in databases\textsuperscript{308} in particular. Therefore, as regards to unfair competition as a conceptual model, it is closely related to the underlying theory of database protection. However, as a legal doctrine that will be solely employed in the protection of databases, it lacks the clarity and the particularity in providing a stable regime of database protection.

### 3.4 Database Protection Justification

#### 3.4.1 Incentives

The rationale for protecting the database’s commercial values is summarised in the Database Directive as follows:\textsuperscript{309}

> the making of databases requires the investment of considerable human, technical and financial resources while such databases can be copied or accessed at a fraction of the cost needed to design them independently.

Indeed, incentives that are provided to database makers are necessary to secure database production and availability.\textsuperscript{310} A broadly cited argument, in this matter, is

\textsuperscript{308} The \textit{sui generis} right in the Database Directive is based on notions of unfair competition, see: Kamperman Sanders \textit{supra} note 302, at p. 97. The US Database Bill was introduced in the House of Representatives as a response ‘to a need to complement copyright law with a federal misappropriation law’. See: Report 105-525 of the Committee on the Judiciary, 105\textsuperscript{th} Congress, 2\textsuperscript{nd} Session, 12 May 1998, p. 5.

\textsuperscript{309} Database Directive, Recital, ¶ (7).

\textsuperscript{310} \textit{Ibid.} ¶ (12). The Directive asserts that “investment in modern information storage and processing systems will not take place within the Community unless a stable and uniform legal protection regime is introduced for the protection of the rights of makers of databases.”
based on economic analysis of information.\textsuperscript{311} According to this school of thought, information is considered to be 'public goods', which accordingly results in certain effects. Notably, information has the attribute of \textit{non-appropriability},\textsuperscript{312} which means that it is hard for information producers to appropriate the production value through sales of this information. Once the producer sells the information to one consumer, that consumer becomes a potential competitor. In fact, consumers desire to become \textit{free riders} for information. In other words, it is difficult to prevent non-paying consumers from consuming that information. Economists call this situation a \textit{market failure}, which means that in free market there will be under production of information. Therefore, producers of informational products need incentives in order to create them in the first place. Thus, incentives in the form of legal protection can secure the provision of informational products.\textsuperscript{313}

Accordingly, databases would be developed and made available in the marketplace if there was a legal guarantee that the resources invested to create the database could be recouped through commercial exploitation in the form of income derived from sale or use. Otherwise, in the absence of legal protection, 'free riders' would benefit from lower required investment for the creation of databases. Ultimately, there would be no incentive to be the originator of any database. On the contrary, there would be an incentive to wait for others to incur the risks of investment, which are

\textsuperscript{311} See: Cooter, Robert and Ulen, Thomas, \textit{LAW AND ECONOMICS} (Glenview, IL: Scott, Foresman and Company, 1988) at p. 112.

\textsuperscript{312} This attribute is also known as 'non-excludability'. See: Mackaay, Ejan, \textit{Economic Incentives in Markets for Information and Innovation}, 13 \textit{HARVARD JOURNAL OF LAW AND PUBLIC POLICY} 867, at p. 880. The author suggests another characteristic of 'public goods' termed as 'non-rivalry', which means that one person's consumption does not reduce the quantity of the good available for consumption by others.

\textsuperscript{313} In fact, this analysis is applicable to all forms of intellectual property rights. See: Besen, Stanely M. and Leo J. Ruskind, \textit{An Introduction to the Law and Economics of Intellectual Property}, 5 (1) \textit{JOURNAL OF ECONOMICS PERSPECTIVES} 3 (1991).
needed to make the database. At the end of the day, the volume of database production would be insufficient, and society at large would suffer from the lack of these viable tools for industry, commerce and education. Therefore, a legal protection, which will secure the investment in compiling databases, is desirable and necessary. Indeed, there is little controversy over the validity of the above analysis. However, the incentive-to-create rationale must be regarded in its proper perspective.

3.4.2 *Incentives versus Access*

There is another side to the *incentive-to-create* coin. Information forms the building blocks of knowledge[^14] and is a cardinal element in securing competition and free market economy.[^15] Therefore, safeguards that ensure access to information must accompany the provided protection, which has been concluded from the incentive-to-create principle. Indeed, safeguards in this respect are built in any intellectual property regime. These are referred to in this study as user's rights and will be dealt with at a later stage.[^16] One point, though, is considered at the outset below.

It has been argued that a clear relationship exists between the extent and degree of database protection and the breadth of database availability in a particular market.[^17]

[^14]: See *supra* § 2.1.1.


[^16]: See *infra* § 5.3 and § 6.4.3.

[^17]: E.g., Opinion of the Economic and Social Committee on the proposed Database Directive, OJ C 19 3, 25 January 1993. This argument also suggests that the strength of the United Kingdom database industry is linked to the higher level of protection provided in the UK. However, the Intellectual Property Committee, British Computer Society, concluded that “although the Committee does not suggest that this situation is a
The argument is based on the above-mentioned postulate commonly referred to as incentives-to-create. The new feature that has been added to this line of argumentation is, that the stronger the protection, the greater the likelihood that potential investors would seek to invest in the making of databases rather than in the production of other goods. In other words, there is a direct correlation between the strength of the protection and the availability of databases in the market.

It is submitted that this extension of the incentives-to-create justification is fallacious as it ignores the "real-world" creation of new databases. One creates databases simply by, amongst other things, building upon existing databases. Granting an extensive protection to the first database maker means that any successive database maker is required to start from scratch. Hence, the incentives must be balanced in such a way that database makers are not provided with excessive power to discourage the creation of new databases.

Furthermore, a database protection regime must secure the public domain that is used to create databases. There is a danger that in granting rights in databases, these rights will monopolise materials otherwise in the public domain. This risk derives from the fact that databases are made of pre-existing materials, some of them in the public domain. In fact, many databases are based on public domain materials.

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318 See infra § 5.3.
319 See infra § 5.3.2.
320 See supra § 2.4.2.
321 For instance, the Lexis-Nexis service is comprised of many databases in the public domain. See supra note 262.
and securing the public domain ensures a flourishing database market. In addition, the public domain is employed in providing value-added databases for relatively low investment, which in turn creates new markets for the benefits of users and creators alike.

3.5 Balance of Rights

The TRIPS Agreement\textsuperscript{322} set up the objectives of intellectual property as follows:

\begin{quote}
The protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.\end{quote}

Careful reading of this provision reveals the fundamentals of determining the adequate database protection regime. That is, a delicate balance of justifiable interests must be demonstrated in such regime. The rest of this study will try to expose this delicate balance regarding database protection.

\textsuperscript{322} In Article 7.
4 COPYRIGHT AS APPLIED TO DATABASES

The following discussion shall review the legal rules defining databases as a subject matter in international copyright law through relevant international conventions and treaties. The goal of this analysis is to place databases as eligible intellectual creations within the copyright system.

A brief account of the concept of copyright precedes the main analysis of the current legal treatment of databases in international copyright law. The analysis then proceeds with the status of databases in the United Kingdom law within that international setting. Finally, database copyright in other jurisdictions, mainly in the United States, is discussed.

It should be noted, at the outset, that the current copyright system, with some exceptions, applies the well-established notions of compilation copyright to databases. The extent to which these notions fit the optimal level of database protection will be discussed later.\textsuperscript{323} At this stage, the main concern is the subsistence of copyright database.

\textsuperscript{323} Infra Chapter 5: The Limits of Database Copyright.
4.1 The Concept of Copyright

4.1.1 Definition of ‘Copyright’

The law of copyright provides legal protection for works.\textsuperscript{324} This protection is achieved through various exclusive rights,\textsuperscript{325} granted to the copyright owner of the work at issue. These rights are limited in their duration,\textsuperscript{326} and are subject to exceptions\textsuperscript{327} set-forth by the applicable law.\textsuperscript{328}

The applicable legal system also defines who is deemed the author of the work and who is the owner of the rights attached to the work in question.\textsuperscript{329} The catalogue of rights in an eligible copyrightable work are mainly economic rights that give the

\textsuperscript{324} S. 1(1) of the CDPA states that: “Copyright is a property right which subsists ... in the following descriptions of work...”.

\textsuperscript{325} Exclusive rights include \textit{inter alia} the reproduction of the work; its public performance; adaptation and publication of the work and other rights. See: CDPA, s. 16. These rights are negative in their nature and provide the right-holder with the power to stop others from carrying out the restricted acts without proper authorisation by the copyright owner. See: Laddie, Hugh, P. Prescott and M. Vitoria, \textsc{The Modern Law of Copyright and Designs} (2\textsuperscript{nd} Edition, London: Butterworths, 1995) § 1.1 at p. 1.

\textsuperscript{326} The term of copyright throughout the European Union has been recently settled to expire 70 years after the death of the author. See: Council Directive 93/98/EEC Of 29 October 1993 Harmonising the Term of Protection of Copyright and Certain Related Rights, O.J. L 209/9 (24 November 1993). Formerly, the law in the United Kingdom set the duration of copyright to 50 years after the death of the author. See: CDPA, s. 12 as amended by SI 1995/3297, reg. 5(1).

\textsuperscript{327} The most important exception is the permitted acts of ‘fair dealing’ for research and private study and for criticism, review and news reporting, subject to the detailed rules governing these permitted acts. See: CDPA, Ch. III, s. 28 onwards.

\textsuperscript{328} The applicable law is the national law where rights are claimed. See infra § 4.1.2.

\textsuperscript{329} Normally, the first owner will be the creator of the work. This rule is subject to certain exceptions. For instance, the employer owns the copyright in works made by employees in the course of employment. See: CDPA, s. 11.
copyright owner the ability to collect licensing fees in return for authorisation with respect to the exclusive rights in the work. Most legal systems also grant the author moral rights regarding the protected work.\textsuperscript{330}

The definition of ‘copyright’ set above is a general abstraction of copyright law as it is conceived in modern legal systems. However, it is necessary to grasp a concrete copyright concept in the context of a particular legal system. The following analysis will provide an actual account of copyright law as it is conceived in the UK legal system.

The roots of the copyright system as established in Anglo-American law are usually traced back to the enactment of the Statute of Anne in 1709.\textsuperscript{331} However, it seems that copyright as a distinctive legal field made its first appearance in the publication of the first edition of the textbook now known as \textit{Copinger on Copyright},\textsuperscript{332} which appeared in 1870. In the following paragraphs, an attempt to draw the development process of copyright is conducted through readings from the various editions of the stated treatise.

\textsuperscript{330} Moral rights were first introduced in the United Kingdom by the enactment of the CDPA in 1988. See: CDPA, Part I, Ch. IV, s. 77 onwards. These rights include: the right to be identified as author or director (s. 77); the right to object to derogatory treatment of work (s. 80) the right conferred by s. 84 (false attribution) and s. 85 (right to privacy of certain photographs and films). These rights are subject to specific rules governing their duration: CDPA, s. 86.

\textsuperscript{331} See: Katsh, M. Ethan, \textit{The Electronic Media and the Transformation of Law} (New York: OUP, 1989) at p. 173. Katsh asserts that ‘Copyright came into being as state censorship controls were relaxed and as the concept of authorship changed’. Until the Statute of Anne, the control of printing was the main concern. See also: \textit{Copinger on Copyright}, § 1-21, p. 3 onwards.

The definition and nature of 'copyright' as stated in the first edition of the treatise was\textsuperscript{333}

Copyright may be defined as the sole and exclusive liberty of multiplying copies of an original work or composition.

The right of an author to the productions of his mental exertions may be classed among the species of property acquired by occupancy; being founded on labour and invention.

This definition was sustained throughout the subsequent editions.\textsuperscript{334} Note that in this earlier concept of copyright, emphasis was placed on the reproduction right with respect to \textit{multiple}\textsuperscript{335} copies. Undoubtedly, the publication of a printed edition is the model asserted in this view. Indeed, historically,\textsuperscript{336} 'books' were the first protected works by copyright and extensions of copyright law, which occurred over the time, brought other works within the principles of the same law.\textsuperscript{337}

\begin{footnotesize}
\begin{itemize}
  \item \textsuperscript{333} \textit{Ibid.}, Chapter I, p. 1.
  \item \textsuperscript{335} Compare to current law when any copying of the work is restricted by the exclusive right of reproduction including the 'making of copies which are transient or are incidental to some other use of the work'. See: CDPA, s. 17(6).
  \item \textsuperscript{336} For a historical perspective of copyright law see: Rose, Mark, \textit{AUTHORS AND OWNERS: THE INVENTION OF COPYRIGHT} (Cambridge, MA: Harvard University Press, 1993).
  \item \textsuperscript{337} The main statutes that extended the scope of protected works were the Engraving Copyright Act 1743; the Sculpture Copyright Act 1814; the Dramatic Copyright Act 1833; the Fine Arts Copyright Act 1862.
\end{itemize}
\end{footnotesize}
Extensions of copyright law took place in another direction, namely in expanding the list of the exclusive rights of the copyright owner. Initially, copyright law applied the reproduction right, hence the term 'copy-right', however

In the process of time, however, the expression has come to include another and analogous right, namely, the sole and exclusive right of performing a work in public.

In those days, copyright law was based on common law and a few statutes, but following the enactment of the Copyright Act of 1911, a major turn in the concept of copyright had occurred. This Act defines 'copyright' as

'copyright' means the sole and exclusive right to produce or reproduce the work in any material form whatsoever, to perform, or, in the case of a lecture, to deliver the work or any substantial part thereof in public; if the work is unpublished, to publish the work or any substantial part thereof...

A clarification of this extension of the concept of copyright is dealt with in the seventh edition of the treatise as follows:

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339 In Donaldson v Becket (1774), the House of Lords held that with regards to published works, the Statute of Anne extinguished the common law copyright. Thus, the statutory basis of copyright was established. See: Rose supra note 336 at p. 92. The common law copyright was finally abolished by the Copyright Act 1911 at s. 31. The CDPA, s. 171(2), repeated the principle on the statutory basis of copyright by asserting that 'no copyright or right in the nature of copyright shall subsist otherwise by the virtue of this Part or some other enactment in that behalf'. Note that this principle is subject to savings listed in the Act, notably 'the operation of any rule of equity relating to breaches of confidence.' See: CDPA, s. 171(e).

340 Supra note 337, and notably, the Copyright Act 1842. See: COPINGER ON COPYRIGHT, §1-32, at p. 8.
Before the Act of 1911, it seems that the expression "copyright" was confined to the right of multiplying copies and did not include the performing right in dramatic or musical works. It is thought, however, that since the passing of the Act common usage has extended the meaning of the expression "copyright" and that, apart from any special content, it would, in any recent document, be construed as including all those rights referred to in the Act of 1911.

The next major reform of copyright law took place with the enactment of the Copyright Act 1956. Consequently, the concept of copyright turned to

Copyright law is concerned, in essence, with the negative right of preventing the copying of physical material existing in the field of literature and arts.

Hence, the changes in copyright law occurred not only on the conceptual meaning, but also in the list of the eligible creations and on the rights conferred. Interestingly, the last phrase in the above quote 'in the field of literature and arts' has been omitted from the current edition of the treatise. Indeed, copyright is used now as a 'catch-all for the protection of new subject matter'.

The works covered, the scope of the

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341 Copyright Act 1911, s. 1(2).
exclusive rights and the duration of copyright were all extended over time, making the question "Copyright: over-strength, over-regulated, over-rated?" possible of being affirmed.

4.1.2 International Copyright Principles

The applicable rights for a particular work are determined within the sphere of a particular national law. On the other hand, as it has been noted above, in the global computer network, national borders are meaningless. Databases are created in one country, probably using computers in another country and containing contributions from individuals in yet other countries. Databases are reproduced and distributed at electronic speed, ignoring any national legal barriers that attempt to control these acts. Therefore, the main concern is to place databases within international copyright law.

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Continue

345 Copyright in the United Kingdom covers, among other things, computer programs, sound recordings, films, cable programmes and the typographical arrangement of a published edition. Some of these subject matters are dealt with in the so-called 'neighbouring rights' in other European countries. See: Stewart, S. M., INTERNATIONAL COPYRIGHT AND NEIGHBOURING RIGHTS (London: Butterworths, 1989) p. 57.

346 The right of reproduction covers all modes of copying (see: CDPA, s. 17), including "the making of copies which are transient or are incidental to some other use of the work" [ibid., s. 17(6)]. On the bundle of exclusive rights, see supra note 325.

347 The question was asked by Mr Justice Laddie in an article bearing that question as its title in: [1996] 5 EIPR 253.

348 The law of the country where a property is acquired normally determines the rights in material objects. However, the property in a copyright work is determined by the law of the country where rights are claimed. See: Stewart, supra note 345, at p. 34.

349 See supra § 3.1.1.
Indeed, the necessity of international protection in intellectual property law is a long-established concept. International conventions governing intellectual property had already emerged in the nineteenth century. In the field of copyright, various bi-lateral agreements preceded the leading multi-lateral agreement, namely the Berne Convention. Initially it started as a European-centred treaty, over time however, it became the major international copyright convention.

The Berne Convention does not provide a uniform copyright law, which can be applied worldwide, it merely provides principles of private international law that are applicable to foreigners by virtue of any particular national law. This means that there is no such a thing as a globally valid ‘international copyright’. The rights in a particular work are determined within a particular jurisdiction, and are possibly different according to the various copyright laws that will be applied.

However, by the principles set out in the Berne Convention, these differences shrink, so in most practical cases one may talk about global protection. This is achieved

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On the history of international copyright treaties, see Stewart supra note 345 at p. 36.

See infra § 4.2.1 further details on the Berne Convention.

Ibid. Among the original ten signatories of the Convention in 1886, there were three non-European countries, and it remained for many years European oriented. In parallel, various inter-American conventions were made, which led to the foundation of the Universal Copyright Convention (UCC) in 1952, lead by the United States, that governed the relations between Berne Union members and the US.

The importance of the UCC has been diminished by the accession of the United States to the Berne Union in 1988. See: Berne Convention Implementation Act 1988, Pub. L. 100-568, 102 Stat. 2853.

‘Global’ in this context means the Berne Union. Certainly, when a non-member country of the Berne Convention is concerned, then the rights, if any, will be determined by that country’s laws.
by the principle of national treatment, by the definition of eligible creations and by setting minimum standards for protection.

National Treatment

The principle of national treatment, as formulated by the Berne Convention, asserts that

Authors shall enjoy, in respect of works for which they are protected under this Convention, in countries of the Union other than the country of origin, the rights which their respective laws do now or may hereafter grant to their nationals, as well as the rights specially granted by this Convention.

It should be noted that this is a rule of private international law, which applies the lex fori when a question of foreign work is at issue.

In addition, the Berne Convention defines a certain point of attachment regarding qualifying persons who are protected by it. Accordingly, qualifying persons in the United Kingdom are authors who were, at the material time, British citizens or residents. Alternatively, the point of attachment refers to the place of first publication, so a work first published in the United Kingdom will be protected. However, by the application of the rules set out by the Berne Convention, the above national rules are applicable mutatis mutandis to foreigners from one of the

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356 Berne Convention, Article 5(1).
357 See: Stewart supra note 345 at p. 38.
358 Berne Convention, Article 3 and Article 4.
359 CDPA, s. 154. This rule also applies to other British-related persons (i.e. British Territories and the like).
360 CDPA, s. 155. This rule also applies for simultaneous publication. Hence, a publication elsewhere within 30 days is considered as simultaneous.
countries of the Berne Union. Therefore, "today, such requirements present relatively few problems: most countries are convention countries" so foreigners are protected as nationals in the United Kingdom.

Eligible Creations

Clearly, 'work' is the key-term for copyright protection. The categories of works that are the subject matter of copyright law vary from one legal system to another. These include, inter alia, 'every production in the literary, scientific, artistic and musical domain'. Once an object is defined as a 'work', copyright protection is achievable for that object. Therefore, in order to apply copyright protection for databases, it is essential that a database would be listed among the eligible works, or at least could be perceived as one of the legitimate works in copyright law.

A fundamental requirement regarding eligible creations is that the work must be original. Broadly, 'originality' does not mean 'novelty'; it means that the work is originated from its author.

However, as it will be discussed below, the application of the 'originality' requirement regarding databases is significant and requires distinct consideration.

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361 See: Dworkin, Gerald, United Kingdom, in: Stewart supra note 345 at p. 496.
362 The Berne Convention, Article 2(1).
363 As discussed infra § 4.2 onwards.
364 CDPA, s. 1(1) refers to 'original literary, dramatic, musical or artistic works'; 17 USC 102 relates to 'original works of authorship'.
365 See infra § 5.2.
Minimum Standards

The Berne Convention provides minimum rights, that may be claimed by a qualifying person, in all convention countries regardless of their national rules. In practice, the introduction of this principle led to the situation that the Convention members adopted these minimum rights before joining the Convention. This way, differences between national copyright systems were minimised. Indeed, regarding the main rights, copyright rules closely match worldwide. Variants are mainly found concerning secondary rights.

4.1.3 The Typology of Databases

A ‘Database’ has been defined as a qualified collection of materials. The components of a database may be any informational material, but the significant distinction, regarding copyright law, is between those components that are protected by copyright and those components that are not protected by copyright. In addition, to become an eligible creation, copyright law requires that creation to be ‘original’. Hence, the fundamental classification, or typology, of databases requires that the constituent parts of a given database are examined and a decision is made as to whether the assemblage of its elements is original within the meaning of copyright law. Thus, the database in question should be examined in two dimensions: content and structure.

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366 By virtue of Article 5 cited above.
367 See supra § 2.4.
368 As defined in THE OXFORD ENGLISH DICTIONARY, the word 'typology' means in this section, “the study of classes with common characteristics; classification”.
The first distinction concerns the database content. The database elements can be one of two categories, namely works or data.\(^\text{369}\) A work is a copyright subject matter, while data is considered to be in the public domain. These two categories are not distinguished by their intrinsic nature, but by the applicable copyright law. For instance, the texts of Acts and Laws are regarded by the American copyright law to be outside the sphere of copyright protection and within public domain, while under the United Kingdom law they are protected by copyright.\(^\text{371}\) Therefore, texts of legislation are 'data' in the United States and 'works' in the United Kingdom.

The second dimension relates the database structure. The database structure can be either original or non-original, depending on the test of "originality" in any given jurisdiction. For the purpose of this discussion, the above-mentioned distinction will be named the distinctions between 'set' and 'stack'.

A 'set' means that the collection of elements constitutes a distinct unit. In this sense, the database is 'original' within the meaning of that term given with respect to the applicable copyright law. On the other hand, a 'stack'\(^\text{372}\) means that the elements put

\(^{369}\) See supra § 2.2.4.

\(^{370}\) The US Copyright law excludes 'United States Government works' from copyright protection. See 17 USC § 105. Arguably US Acts and Laws are 'Government works' and therefore copyright is not available for them.

\(^{371}\) Under UK law, the texts of Acts and Laws are defined as 'crown copyright'. See: CDPA, s. 164. See discussion on the nature of this special copyright in: COPINGER ON COPYRIGHT, Chapter 13, p. 381 onwards.

\(^{372}\) The choice of the term 'stack' derives from its meaning as a random collection within the computing field.
in the database are not assembled in an ‘original’ fashion, when ‘original’ is defined within the meaning in the applicable copyright system.\footnote{The issue of ‘originality’ is discussed below in details. In this stage, the sole objective is to categorise the classes of databases within the copyright system. It is not intended, in this section, to provide a full account of the copyright status of each of the categories.}

Four categories of databases are available regarding this two-dimensional classification, which relate to the elements of the content and to the structure of the collection. Accordingly, the table below shows the typology of database:

The four categories of databases may warrant distinct treatment in copyright law. Preliminary consideration is given below.

✓ Work-Set: original collection of works

In this case, copyright subsists not only in the individual components but also in the collection as a whole. Certainly, incorporation of works into this type of database requires authorisation from the respective owners. Anthologies, encyclopaedias and the like are examples of this category. Each article in an encyclopaedia, for instance, is a work of its own merit. The structure of an encyclopaedia is arguably ‘original’ by virtue of the editorial value that has been added to the articles. Consequently, the collection of works that forms the encyclopaedia is a database that may be considered for copyright protection.
✓ Data-Set: original collection of data

As defined above, the components are not subject to copyright protection. However, the database, as an original work, is copyright protected. One possible issue, in this category, is the extent to which extraction of the non-protected materials is allowed. Yellow Pages and other classified directories are examples of this category. Normally, the items in these directories are not protected as such by copyright. The collection, however, is a database that may be protected by copyright.

✓ Data-Stack: non-original collection of data

Arguably, databases of this type cannot be protected by copyright. The fundamental requirement of 'originality' is missing. The absence of protection to databases of this category may require alternative modes of protection. White Pages telephone directories are instances of this category. The items in the stated directories are not protected by copyright as such. Arguably, there is no originality in the structure of this type of databases, and therefore they are not copyright-protected.374

✓ Work-Stack: non-original collection of works

As non-original works, databases classified this way are not protected by copyright. However, as copyright is attached to the components, it seems that for most practical reasons this category does not pose serious problems. Comprehensive or random collections of works are examples of this category. For instance, a random collection

374 Note that this statement depends on the interpretation of the notion 'originality' in copyright law. For instance, under United States law, White Pages directories are not protected by copyright. As was held in the well-known case of: Feist Publications Inc v Rural Telephone Service Company Inc, 111 S Ct. 1282; 113 L Ed 2d 358; 20 IPR 129 (US Supreme Court, 1991). See also infra § 4.4.1. Under the law of the United Kingdom, before the enactment of the Database Regulations, such White Pages were arguably protected by copyright. See infra § 4.3.2.
of clip-arts in a CD-ROM without any systematic arrangement or without any selection criteria is such a database. Each item of the clip-art is arguably a work protected by copyright. However, there are doubts as to the eligibility of the collection as a whole for the purposes of copyright protection. Arguably, random collections do not demonstrate any originality in their structure and therefore do not qualify for copyright protection.

4.2 The International Legal Framework

4.2.1 The Berne Convention

The Berne Convention for the Protection of Literary and Artistic Works (the "Berne Convention") is the main international instrument regarding copyright law. It was concluded in 1886 and since then it has been revised and amended several times.\textsuperscript{375} The current text is the last revision made in Paris in 1971 and amended in 1979. The signatories to the Berne Convention constitute the Berne Union, comprising most of the countries in the world.\textsuperscript{376} Consequently, this Convention provides comprehensive global jurisdictional application of copyright norms, which is relevant to the global information network.

Article 2 of the Berne Convention lists the works governed by it; its relevant provisions are set out herein where appropriate. The present study is concerned with

\textsuperscript{375} The Convention was concluded in 9 September 1886, and was revised in Paris (1896) and in Berlin (1908) and completed in Berne in 1914. Thereafter, the convention was revised in Rome (1928), in Brussels (1948), and in Stockholm (1967). The current version was formulated in Paris in 1971, and amended in 1979 (usually referred to as the "Paris Act"). See: WIPO web-site on the Internet: \texttt{<http://www.wipo.int>}.  

\textsuperscript{376} As of June 1998, 131 states became members of the Berne Convention. Current updates regarding accessions and ratification of the Convention are available at the WIPO site \textit{ibid.}, at: \texttt{<http://www.wipo.int/eng/ratific/e-berne.htm>}.  

one specific creation, namely databases. As will be discussed further on, one could try to fit databases into this list through either Article 2.5 ("collections") or Article 2.1 ("literary and artistic works").

Databases as Collections

Article 2.5 reads as follows:

Collections of literary and artistic works such as encyclopaedias and anthologies, which by reason of the selection and arrangement of their contents constitute intellectual creations, shall be protected as such.

The current wording was introduced in 1928 at the Rome Conference and adopted in the Brussels Act in 1948. Before that, and since the Berlin Act in 1908, this clause was phrased as "collections of different works" only. This category of works is termed here as collections. According to this clause, collections are protected under the Berne Convention under certain conditions.

First, the collection at issue must be an assemblage of works. This means that the components, that are assembled in the collection, are protected works in their own right. Therefore, whenever the assembled elements do not meet the requirements of being considered as 'works' for the purposes of the rules of the Convention, this clause is inapplicable. Databases may contain works as underlying elements. In this case, there is no difficulty in applying the clause to databases. However, many databases contain unprotected materials and not works. For instance, a simple library catalogue database consists of titles of books and other materials as its constituent elements. Titles are not works and therefore are not subject to copyright

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378 See supra § 2.4.2.
Copyright as Applied to Databases

Consequently, such a database is not a collection within the scope of Article 2.5 of the Berne Convention.

Secondly, the collection must be an intellectual creation. That is, there is a requirement of *originality*. Not all assembled works qualify as collections. An authorship element must be demonstrated through acts of selecting, editing and arranging the various works, which have been brought together. These are editorial acts regarding the structure of the collected works. The author of a collection “starts with pre-existing works and by an intellectual input of his own creates a new work”. These acts of authorship are protected as a work other than the protection provided to the underlying works. In other words, collection copyright is distinct from the various copyrights in the constituent works that form the collection.

Article 2.5, therefore, requires both criteria to be fulfilled: the content ought to be *works* and the structure has to be original. Compilations of facts, however original their structure, are not protected within the meaning of this article, since they are not collections of works.

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379 See: COPINGER ON COPYRIGHT, § 21-29 at p. 747. Regarding short and normal titles of books, although it may require much skill and judgement to produce them, are not subject to copyright as a literary work. See also: *Exxon Corp. v Exxon Insurance Consultants International Ltd.* [1982] Ch. 119. However, complex and long titles may attract copyright protection. See: COPINGER ON COPYRIGHT *ibid.* concluding that “a title, unless it is sufficiently lengthy and original to have had labour in construction as well as in choice expended upon it, will not be protected as an original literary work”.


381 Ricketson, *supra* note 377, at p. 298.

Accordingly, the above Article refers to the Work-Set category of databases. All other categories, according to the above typology, are excluded from the scope of this Article.

Databases as Literary Work

Article 2.1 of the Berne Convention provides the general definition of literary and artistic work. It reads as follows:

The expression ‘literary and artistic works’ shall include every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression, such as books, pamphlets and other writings...

Ricketson points out that the term ‘writings’ refers to “anything in written form, provided that it complies with the basic requirement of intellectual creation”.

These writings include *inter alia* directories of information and catalogues. Therefore, it is possible to place databases as literary works insofar as the requirement of intellectual creation is fulfilled. In other words, databases are literary works if they are original writings. However, directories of information and catalogues include mainly an assemblage of public domain information or facts. It is hard to attribute intellectual creation to items listed in a directory or a catalogue. Each item, if it were separately examined, would not cross the threshold of originality. Therefore, one must examine the work in question as a whole in order to locate its originality. Inevitably, any intellectual creation can only be found in the structure of the assemblage of facts, because the content is not original.

In principle, then, a database may qualify as a ‘writing’, and therefore as a literary work. However, if it contains works, it would seem that Article 2.5 is applicable...

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being the *lex specific* which prevails over Article 2.1, which is the *lex generalis*. Thus, Article 2.1 may only be applicable when the database contains facts.

Accordingly, this Article may be applicable to the Data-Set category.

### 4.2.2 Databases under TRIPS

Another relevant international context is the *Agreement on Trade Related Intellectual Property Aspects* (TRIPS) of the Uruguay Round of the negotiations on the *General Agreement on Tariffs and Trade* (GATT). On 15 December 1993, the *Final Act Embodying the Results of the Uruguay Round* was concluded. After its formal signing, in April 1994, its provisions came into force after a period of one year. The agreement established the World Trade Organisation (WTO), which administers the vast array of agreements concluded in the above-mentioned Final Act, including the agreement containing the results of the TRIPS negotiations.

The TRIPS agreement referred to databases and set up a framework for their protection. It concluded the topic of database protection in a concise paragraph,

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384 The GATT negotiations started after the Second World War in 1947. The last round of negotiations, also known as the Uruguay Round, was launched in Punta del Este, Uruguay in September 1986.


386 Article 65 of the TRIPS agreement. The presumption is that most of the European Union member states are considered as 'developed countries'. Otherwise, other periods for implementation apply (Article 65 and 66).


which is a distillation of intensive international negotiations. The TRIPS formula reads as follows:

Compilations of data or other materials, whether in machine readable or other form, which by reason of the selection or arrangement of their contents constitute intellectual creations shall be protected as such. Such protection, which shall not extend to the data or material itself, shall be without prejudice to any copyright subsisting in the data or material itself.\(^{390}\)

This formula summarises and resolves the main controversies concerning database protection. The fundamental approach is that copyright in a database concerns its structure rather than its contents. It is the mode of compilation that is protected and not the materials, which are assembled to create the database in question. Certain measures are laid down from this fundamental concept.

First, the varieties of components, which are eligible to be included in a database, are defined in the broadest sense. Thus, databases may consist of any type of material. The controversy concerning data as qualified database components is resolved. The TRIPS agreement allows data items as eligible components to form a database. However, data items will not become entitled to individualised protection except in their assembled form as part of the database in question. The clarifications at the end of this formula set up the rights in the content itself. This is considered a two-fold safeguard. On one hand, the copyright in the database could not be taken to mean that copyright subsists in the database components; on the other hand, any right that exists independently in the contents is not affected by the database copyright.

\(^{390}\) Article 10 s. 2 of the TRIPS agreement.
Secondly, the database form, according to this formula, could be electronic or non-electronic. Actually, the wording of this formula is broad enough to cover any medium in which a database is recorded or fixed.

Thirdly, the requisite for database copyright is an intellectual creation by virtue of the selection and arrangement. This issue of originality is attached to the database structure and certainly not to its content.

It should be noted that this formula is a general framework, which sets up the principles and minimum requirements. This formula should be observed as a transitional settlement, rather than as a full treatment of database protection.

4.2.3 The New Copyright Treaty

Following the enactment of the TRIPS agreement, the WIPO initiated a new treaty on copyright, the WIPO Copyright Treaty. The treaty was adopted in Geneva, at a Diplomatic Conference held in December 1996. Any member of WIPO may become a party to the Treaty. It is not yet in force and ‘shall enter into force three months after 30 instruments of ratification or accession by States have been deposited with the Director General of WIPO’.

391 See supra § 1.2.1.
392 The Copyright Treaty, Article 17(1). It was opened for signature until 31 December 1997 (Article 19) and signed by 51 states, including the most European countries, the United States and the European Community.
Regarding database copyright, the Treaty\textsuperscript{394} repeated the wordings of TRIPS in the subject, with minor variances of style, as it can be observed from the following comparison:

\begin{tabular}{ll}
WIPO Copyright Treaty & TRIPS \\
Compilations of data or other material, in any form, which by reason of the selection or arrangement of their contents constitute intellectual creations, are protected as such. & Compilations of data or other materials, whether in machine readable or other form, which by reason of the selection or arrangement of their contents constitute intellectual creations shall be protected as such. \\
\end{tabular}

The changes in the wording, compared to TRIPS, do not amount to any significant change in the meaning of the rule set out by the Copyright Treaty. Therefore, the above analysis concerning TRIPS is valid to database copyright as it is formulated by the Treaty.

\subsection*{4.2.4 The Database Directive}

The Directive of the European Parliament and of the Council on the legal protection of databases\textsuperscript{395} was adopted on 11 March 1996. Although it is addressed to the European Union members,\textsuperscript{396} its impact goes beyond the European Union. By virtue of the European Economic Area Agreement,\textsuperscript{397} members of this agreement are

\textsuperscript{394} Article 5.
\textsuperscript{396} Database Directive, Article 17.
\textsuperscript{397} The Final Act of the Agreement on the European Economic Area (EEA) creates a free trade area among the European Union countries and other European countries, notably Norway and Switzerland. The Act requires the adoption of the EC measures in the field of intellectual property. See: [1994] OJ L 1 (13 December 1993), Article 65 and Annex
required to adopt in their national laws the provisions of the Database Directive. Hence, the database regime set out in the Database Directive covers a substantive part of Europe.

Regarding database copyright, the Database Directive\(^{398}\) laid down the following rule, as it is compared below to the TRIPS as follows:

<table>
<thead>
<tr>
<th>Database Directive</th>
<th>TRIPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>In accordance with this Directive, databases which, by reason of the selection or arrangement of their contents, constitute the author's own intellectual creation shall be protected as such by copyright. No other criteria shall be applied to determine their eligibility for that protection.</td>
<td>Compilations of data or other materials, whether in machine readable or other form, which by reason of the selection or arrangement of their contents constitute intellectual creations shall be protected as such.</td>
</tr>
</tbody>
</table>

By reading the ‘database’ definition\(^{399}\) into the Database Directive provision, one may conclude that the database copyright regime provided by the Database Directive broadly matches the TRIPS formula. Indeed, both instruments apply to the Data-Set and Work-Set database types in any form. However, regarding the requirements of the qualified object of protection, it seems that variances can be detected. As discussed above, the definition of a ‘database’ laid down in the Database Directive

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\(^{398}\) Database Directive, Article 3.1.

\(^{399}\) Database Directive, Article 1.2. See analysis supra § 2.4.
requires certain qualifying attributes to be fulfilled.\textsuperscript{400} The TRIPS, on the other hand, simply protects 'collections' without any qualifying requirement. Furthermore, regarding the requirement of 'originality', there are variations of style and the Database Directive asserts that "No other criteria shall be applied to determine their eligibility for that protection". The significance of this observation will be discussed at a later stage.\textsuperscript{401}

4.2.5 Databases as Copyright Work

The earlier discussed typology of databases is in accordance with traditional copyright norms and describes the state of the Law at present regarding databases. Accordingly, it may be employed to summarise the current state of international database copyright as follows:

\begin{center}
\begin{tabular}{|l|l|}
\hline
\textbf{DATA-SET} & \textbf{WORK-SET} \\
\hline
Berne, Article 2.1 (?) & Berne, Article 2.5 \\
TRIPS, Article 10.2 & TRIPS, Article 10.2 \\
Copyright Treaty, Article 5 & Copyright Treaty, Article 5 \\
Database Directive, Article 3 & Database Directive, Article 3 \\
\hline
\end{tabular}

data-set

\begin{tabular}{|l|l|}
\hline
\textbf{DATA-STACK} & \textbf{WORK-STACK} \\
\hline
No copyright. & Copyright in the database components only. \\
\hline
\end{tabular}

\end{center}

\textsuperscript{400} See supra § 2.4.2. The 'database' definition requires three qualifying attributes: (1) independent components; (2) systematic or methodical arrangement; (3) individually accessible components.

\textsuperscript{401} See infra § 5.2.
4.3 Databases Under UK Copyright Law

Database protection under UK law is discussed below in two distinct phases. Initially, database copyright as it is conceived by applying existing copyright rules is analysed. Then, the discussion proceeds by evaluating the new database regime provided by the Database Directive implementation and its implications on the current database copyright law.

4.3.1 The New Copyright Act

The most recent version of the governing United Kingdom copyright statute\(^{402}\) was enacted as a major reform to copyright law, and was aimed to provide an up-to-date modern law of copyright "which may well survive into the next century".\(^{403}\) Therefore, it is expected that new technologies, in particular information technology, will be well presented and well regulated within its terms. Indeed, this Act is unique among its kind in providing legal treatment to 'computer-generated' work,\(^{404}\) works

\(^{402}\) Copyright, Designs and Patents Act 1988, c. 48 (Hereafter: "CDPA" or "The Act"). The Act received Royal Assent on 15 November 1988. By virtue of The Act (CDPA, s. 305) the commencement date varies for different sections of the Act. Notably, the Act empowers the Secretary of State to appoint by a statutory order the dates that any of the provisions of the Act come into force. Accordingly, several statutory instruments have been made. The majority of the Act provisions, including all of Part I of the Act which deals with copyright, came into force by The Copyright, Designs and Patents Act 1988 (Commencement No. 1) Order 1989, SI 1989 No. 816 (1 August 1989).

\(^{403}\) COPINGER ON COPYRIGHT § 1-48 at p. 14.

\(^{404}\) CDPA, s. 178 defines 'computer-generated' in relation to a work as: "the work is generated by computer in circumstances such that there is no human author of the work". Section 9 of the Act attributes authorship in such a work to "the person by whom the arrangements for the creation of the work are undertaken" [s. 9 (3)]. The Act makes particular provisions to 'computer-generated' works concerning duration of copyright [s. 12 (3)] exclusion of moral rights [s. 81 (2)] and others. The Act also refers to 'computer-generated' design, identifying the designer by a similar approach to computer-generated work [s. 214 (2)].
in 'electronic form'\textsuperscript{405} and works that are transmitted through a 'telecommunications system'.\textsuperscript{406} Naturally, the Act makes specific and detailed provisions for a 'computer program'.\textsuperscript{407} Databases are hardly referred to in the Act in an explicit manner. However, it is true that their existence is taken into consideration. For instance, the Act refers to an 'electronic retrieval system' regarding publication, and hence to databases.\textsuperscript{408} However, databases are not explicitly provided for within the terms of the Act. Therefore, one should consider the general provisions regarding copyright works to formulate the principles regarding database copyright.

\textsuperscript{405} CDPA, s. 178 (definition of 'electronic form') and s. 56 (transfer of copies of works in electronic form).

\textsuperscript{406} CDPA, s. 178 defines 'telecommunications system' as a "system for conveying visual images, sounds or other information by electronic means". For instance, s. 24 (2) attributes an infringement of copyright in a work if it is transmitted by means of a telecommunications system in circumstances that the alleged infringer is "knowing or having reason to believe that infringing copies of the work will be made by means of the reception of the transmission in the United Kingdom or elsewhere". Accordingly, an upload of an infringed copy into a BBS would be covered by these provisions.

\textsuperscript{407} CDPA, s. 3(1)(b) defines a 'literary work' as including a 'computer program'. Consequently, computer programs are treated as literary works for the purpose of copyright. Nevertheless, there are specific provisions concerning a 'computer program'. For instance, s. 66 makes provisions for the rental of computer programs; s. 79 excludes the moral right of parenthood for a 'computer program' (and also 'computer generated work'); and so on. The provisions regarding computer programs were extensively modified pursuant of the provisions of \textit{EC Council Directive of 14 May 1991 on the Legal Protection of Computer Programs} (Directive 91 250/EEC, OJ L 122/42; [hereafter: "the Software Directive"]) as being implemented in \textit{The Copyright (Computer Programs) Regulations 1992} (SI 1992 No. 3233; [hereafter: "the Software Regulations"]). The Software Regulations amended the Act, including the additions of some provisions with respect to copyright in computer programs.

\textsuperscript{408} CDPA, s. 175 (2) (b) states that the "making of the work available to the public by means of an electronic retrieval system" is considered as 'publication' and 'commercial publication' for the purposes of the Act.
The Act draws a distinction between 'copyright' and 'copyright work'. The latter means a work "in which copyright subsists". The nature of 'copyright' is deemed to be a 'property right'. However, this right is confined only to the provisions of the Act, or any enactment, which derives from the Act. Subject to certain exceptions, "no copyright or right in the nature of copyright shall subsist".

The Act is aimed to be a comprehensive codification of copyright law. In this respect, it should be noted that certain measures are laid down regarding the previous law of copyright. Generally, the Act "restates and amends the law of copyright". This is not a revolutionary reform of the previous law of copyright. Rather, it is a restatement of current law with certain evolutionary modifications. Therefore, the previous law is still a good law, subject to the provisions of the Act itself.

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409 CDPA, s. 1(2).
410 CDPA, s. 1(1).
411 CDPA, s. 171(3).
412 CDPA, s. 171(1). The savings are concerned with rights and privileges under enactment in force, and certain rights and privileges of the Crown and Parliament.
413 CDPA, s. 171(2).
414 CDPA, s. 172.
415 CDPA, s. 172(1).
416 Millard pointed out that the provisions concerning reliance on previous law are 'not at all clear'. See discussion on this matter in: Millard, Christopher, Copyright in: Reed, Chris (Editor) COMPUTER LAW (3rd Edition, London: Blackstone, 1996) at p. 106.
Another safety valve departing from the strict boundaries of the Act can be found in the provisions relating to the operation of other rules with respect to matters dealt with in the Act.\textsuperscript{417} It should be noted that the Act makes it clear that:

\begin{quote}
Nothing in this Part affects any rule of law preventing or restricting the enforcement of copyright, on grounds of public interest or otherwise.\textsuperscript{418}
\end{quote}

This provision may be relevant to and effective for issues concerning the possible clash between copyright and the public interest in the free flow of information and access to information. These issues are beyond the scope of the present study. However, in discussing database protection one should take into account the balance between the public interest and private property rights as formulated in the Act. This balancing mechanism is critical in the database environment. Databases are a means of information dissemination. They are vital tools for education, industry and commerce. Any property rights in information in the form of copyright or otherwise must and ought to take into account the public interest by virtue of the Act.\textsuperscript{419}

An essential issue concerning copyright protection is the constituent nature of a 'work' for copyright purposes. There is no definition in the Act of what is to be

\textsuperscript{417} CDPA, s. 171(1)(e) with regard to the operation of 'any rule of equity relating to breaches of trust and confidence'; s. 171(3) with regard to any rule of law on grounds of public interest; s. 171(4) civil or criminal actions and remedies.

\textsuperscript{418} CDPA, s. 171(3).

\textsuperscript{419} For instance, the public interest in securing free competition in the marketplace can affect the exercise of property rights. Therefore, when database materials can solely be retrieved from an exclusive source, then a compulsory licence will be imposed. See \textit{Radio Telefís Eireann v. EC Commission (Magill TV Guide intervening)}, [1991] 4 CMLR 586; \textit{BBC and BBC Enterprises Ltd. v. EC Commission (Magill TV Guide intervening)}, [1991] 4 CMLR 669; \textit{ITV Publications Ltd. v. EC Commission (Magill TV Guide intervening)}, [1991] 4 CMLR 745. On the issue of exclusive source of database materials see \textit{infra} § 6.5.
considered as a 'work'. Instead of a formal definition, a description of eligible categories of works is laid down. These categories are:

(a) original literary, dramatic, musical or artistic works,
(b) sound recordings, films, broadcasts or cable programmes, and
(c) the typographical arrangements of published editions.\(^{420}\)

In the absence of any definition of what constitutes a 'work' for copyright purposes, it is evident that in order to claim copyright in databases, one should be able to demonstrate that a 'database' falls within one of the enumerated categories.

Furthermore, certain requirements are to be met,\(^{421}\) which shall be discussed later.\(^{422}\) Initially, the threshold for defining databases as a 'copyright work' for the purposes of the Act is the *sine qua non* for bringing databases into the sphere of copyright law in the United Kingdom.

### 4.3.2 Databases as Compilations

The commonly held opinion is that a database is, for the purposes of copyright protection under the Act, a compilation. *Copinger on Copyright*, the standard text on copyright law in the United Kingdom, while discussing the principles of compilations under UK law, expresses this view as follows:
On similar principles, a computer database, stored on tape, disk or by other electronic means, would also generally be a compilation and capable of protection as a literary work.\textsuperscript{423}

In the same line of reasoning, Dworkin and Taylor point out that

There is no doubt that most databases will initially rank as compilations of information qualifying as original literary works.\textsuperscript{424}

This opinion, regarding databases as no more than electronic compilations, has been adopted by many other authors.\textsuperscript{425} A ‘compilation’ is a ‘literary work’ by virtue of the Act,\textsuperscript{426} and therefore, the argument maintains, if a database is simply an electronic compilation, it seems that the appropriate legal analysis concerning the protection of databases should be concentrated in the law of compilations.

It may be true that certain databases share common features with compilations. However, it is submitted that databases are probably more than mere compilations.\textsuperscript{427} Furthermore, other opinions have been offered that consider databases as fitting within other classes of protected works. Therefore, a brief discussion on the above-mentioned opinions precedes the main analysis of databases as compilations.

\textsuperscript{423} COPINGER ON COPYRIGHT, § 2-8 at p.21.
\textsuperscript{424} G. Dworkin & R.D. Taylor, BLACKSTONE'S GUIDE TO THE COPYRIGHT, DESIGNS & PATENTS ACT 1988, (London: Blackstone, 1989) at p. 188.
\textsuperscript{425} See, for example, Millard, supra note 416, at pp. 112-3; Black, Trevor, INTELLECTUAL PROPERTY IN INDUSTRY (London: Butterworths, 1989) at p. 202; Lloyd, Ian J. INFORMATION TECHNOLOGY LAW (London: Butterworths, 1993) at p. 302.
\textsuperscript{426} CDPA, s. 3(1)(a).
\textsuperscript{427} See infra § 5.2.
4 Copyright as Applied to Databases

4.3.3 Classes of Works Attributed to Databases

A Database as a ‘Computer Program’

Neither a ‘computer program’ nor a compilation is defined in the Act. However, computer programs and compilations are ‘literary works’ under the Act. Therefore, in practice, the distinction between a ‘computer program’ and a ‘database’ is not always necessary. The general rules, which are attributed to literary works, apply to databases and computer programs in the same manner. However, some rules are applicable to a ‘computer program’ only.\(^{428}\) This distinction may be important in the application of these rules. In addition, in many cases the different modules of programs and data in software or a database product may have different rights’ owners. In these cases the distinction is, again, of significant importance.

Although it is hard to draw the precise line separating computer programs from databases, this task is feasible and essential in many cases.\(^{429}\)

A Database as a ‘Cable Programme’

A ‘cable programme’ is an explicitly protected work.\(^{430}\) Therefore, if a database can be described as a ‘cable programme’ it is to be protected by copyright. The Act defines a ‘cable programme’ and a ‘cable programme service’ as follows:

“cable programme” means any item included in a cable programme service; and

\(^{428}\) See supra § 2.3.2.

\(^{429}\) See supra § 2.4.2. The distinction between ‘computer program’ and ‘database’ has to be made according to the nature of the object at issue.

\(^{430}\) CDPA, s. 1 (1) (c).
"cable programme service" means a service which consists wholly or mainly in sending visual images, sounds or other information by means of a telecommunications system, otherwise than by wireless telegraphy, for reception

(a) at two or more places (whether for simultaneous reception or at different times in response to requests by different users), or

(b) for presentation to members of the public,

and which is not, or so far as it is not, excepted by or under the following provisions of this section.431

At first sight, this definition is broad enough to cover a database service and accordingly, a database work. In fact, it might be stated that the definition is so broad that a host of services are caught by it. In contrast to what is colloquially considered to be a cable programme service, namely, cable-television, the definition suggests that other services such as audio-text, video-text and electronic databases services are also ‘cable programme services’.432

Certainly, this definition is applicable to on-line databases433 only. For instance, the Lexis database service,434 is certainly a service which ‘consists wholly or mainly in sending ... other information’. However, it is clear from the definition that the targeted objects are not database services per se. The reference to data transmitted through a telecommunications system is understood as intended for audio-visual transmission. However, the definition expands to cover the transmission of any kind

431 CDPA, s. 7 (1).
432 In fact, offering WWW pages over the Internet may be considered as ‘cable programme services’. See: See: Reed, Chris, Copyright in WWW Pages, 13 (3) CLSR 167 (1997).
433 On the different types of databases, see supra § 2.2.
434 On the Lexis-Nexis database service see supra § 1.2.3. In this section it is referred to as ‘Lexis’.
by the inclusion of the phrase 'or other information'. Consequently, a database service, which is mainly a transmission of text, is caught by the definition.

The above definition of a 'cable programme service' excludes systems transmitted via wireless telegraphy. It is clear that the main intention is to draw a line between broadcasts and cable programme. Broadcasts are governed by other provisions of the Act in their own right, therefore, this distinction is sensible. However, what is the situation when one accesses a database service via a mobile phone? Is it still a 'cable programme service'?

The Act proceeds with a detailed description of services, which are excepted from the definition. Therefore, in order to describe a database service as 'a cable programme service' it is essential to demonstrate that none of these exceptions refer to a database service. No less than five services, set out in a complex description, are excluded from being a 'cable programme service'. Furthermore, the Secretary of State may by order, add or remove exceptions.

Although one may take certain phrases to exclude databases from being a cable programme service, it seems probable that on-line database services are, indeed, a cable programme service for the purposes of the Act.

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435 CDPA, s. 1(1)(b)(a) ('broadcast' as a copyright work); s. 6 (definition of a 'broadcast').

436 Since most database services can be accessed via a dial-up through the telephony system, they are also accessible via 'wireless telegraphy' i.e. mobile telephones and the like.

437 CDPA, s. 7 (2), s. (a) to (e).

438 CDPA, s. 7 (3). An order should be made by statutory instrument approved by resolution of Parliament. [CDPA, s. 7 (4)]. Up until the time of writing (August 1998), no such orders have been made.

439 For instance, the CDPA, s. 7(2)(a), excludes a service that could be considered as interactive services. Consequently, one may conclude that only passive database...
One may ask about the implications of defining a database as a cable programme. Firstly, the author is taken to be ‘the person providing the cable programme service in which the programme is included’. Secondly, the duration of copyright is fifty years from the time when the programme was included in a cable programme service. Defining a database as a ‘cable programme’ raises queries for adapting provisions concerning ‘cable programme’ in the context of databases. For instance, detailed provisions include inclusion of works in the cable programme service, copying of cable programmes, exceptions for instruction and educational, public performance, licensing and so on. Notably, attention should be paid to the provision concerning recording for purposes of time shifting. Accordingly, the making of a cable programme recording for private and domestic use ‘solely for the purpose of enabling it to be viewed or listened to at a more convenient time’ does

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services, such as videotext or audiotext are caught by the definition of a ‘cable programme service’. See: Millard, *supra* note 416, at p. 115. Millard points out that ‘whether a particular database service falls within the definition of ‘cable programme service’ will depend on the degree to which it operates interactively’. He finds a passive videotext service to be counted as a ‘cable programme service’ but he is less conclusive regarding other information services.

441 CDPA, s. 9(2)(c).
442 CDPA, s. 14(1).
443 See, for example, CDPA, s. 16(1)(d) and s. 20.
444 CDPA, s. 17(4). Note that copying includes ‘making a photograph of the whole or any substantial part of any image forming part of ... cable programme’. This means, that if Lexis is indeed a ‘cable programme’ it is an infringement to photograph it!
445 CDPA, s. 32, s. 34 and s. 35.
446 CDPA, s. 19.
447 Detailed provisions were added by the Broadcasting Act 1990 (CDPA, s. 135A-F).
448 CDPA, s. 70.
not infringe copyright in the cable programme. Consequently, the recording of a search session and its results in the Lexis database service in order to be viewed later is not an infringement of copyright in Lexis.\footnote{Technically, the recording of a session is feasible if one uses the special Lexis access software, or a communications package that offers this feature. However, when accessing Lexis via a dedicated terminal, it is impossible to record the session. In practice, the Lexis service allows users to record the session, provided that copies are kept for 28 days only (this information is based on the Lexis licence agreement).}

It is submitted that this right in a database as a cable programme is a supplementary right aimed to protect the database provider in addition to the rights in the database itself. Accordingly, there are a series of copyrights in a database of this type. Firstly, the components of a given database are possibly subject to copyright in any description of works. Secondly, in certain conditions the database work is subject to copyright. Finally, in the case of a database service, a supplementary right exists in the items included within the service as 'cable programmes' works. Each of these rights has to be defined separately, depending on the particular case.

For instance, the Lexis system is undoubtedly a database service. Consequently, it is probably a cable programme service as well. Therefore, copyright protection is available in the items provided to users through Lexis, as 'cable programmes', by virtue of the copyright in these programmes. This is not a 'database copyright' but a protection for the information provider. This sort of copyright is subject to the particular provisions regarding 'cable programmes'.

The second layer is the works that form the content of Lexis. These works own their copyright normally, as literary works.\footnote{For instance, any of the articles in the LAWREV library that consists of articles in law reviews are copyright works by their own rights.} Any of the so-called 'libraries'\footnote{The Lexis-Nexis service consists of many 'libraries' and 'files'. A library is a collection of files; a file is a collection of materials in a specified domain. E.g., the “UK” library} are...
databases and might be subject to database copyright; as is the entire organised content of the Lexis service. Accordingly, the Lexis service as a whole is 'a database of databases'. The database work of the entire Lexis service is distinct from the database works included in the service. Indeed, the owners and authors of the particular databases are different from the database provider, who may claim database copyright in the organised collection of materials, but not in the constituent materials themselves.

In conclusion, the definition of a database as a cable programme can be described as misleading. Database copyright is distinct from any additional copyright that may subsist in certain cases. Databases, as a copyright subject matter are distinguishable from any other copyrights, which may subsist in products or services that distributes or provides a particular database.

Other Classes of Works Attributed to Databases

Strangely enough, nearly all of the other classes of works mentioned in the Act, may be attributed to a database in terms of defining their eligibility for copyright protection. This means that one could find arguments to support the description of a given database as a film, as a 'design document' and even as 'sound recording'. However, it seems that these attempts do not stand on firm ground. Either they regard a specific species of databases as representing the essence and nature of databases, or they disregard basic principles like the distinction between the database and its components or the distinction between works in digital form and databases.

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Concerns legal texts of United Kingdom law, while the "ENGCAS" file consists of UK cases since 1945.
The Act defines a 'design document' as 'any record of a design' including 'data stored in a computer'. Consequently, this statutory definition may be interpreted as including databases.⁴⁵² However, one should distinguish between the constituents of databases, which may be 'design documents', and a database as copyright work. As has been discussed above,⁴⁵³ one has to distinguish between works in digital form, such as an electronic 'design document', and a database.

A multimedia database can easily fit within the definition of a 'film' under the Act. A film is defined as 'a recording on any medium from which a moving image may by any means be produced'.⁴⁵⁴ Accordingly, almost any computer game may be described as a 'film'. However, it does not mean that a multimedia database is a 'film'. Taking into consideration the nature of databases and films, it is quite evident that these are two distinct entities. Films consist of sequences of moving images which form a distinct work for copyright purposes. Multimedia databases, however, may consist of distinct items of moving images when each of these items is a 'film' on its own right, and the totality of the collection of those items form the 'database'.

Finally, one even may be tempted to describe a CD-ROM database as a 'sound recording'.⁴⁵⁵ The flaw of this opinion stems from the tendency of attributing an importance to the medium rather than to the message. It is true that common CDs contain 'sound recordings'. However, one should examine the messages which are

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⁴⁵² Indeed, based on the definition of a 'design document' Bainbridge concludes that the Act 'describes such a database as a type of design document' although the database containing these 'design documents' can also be described as a collection of artistic works or as a compilation. Bainbridge, David I., INTRODUCTION TO COMPUTER LAW (2nd Edition, London: Pitman, 1993) at p. 38.

⁴⁵³ See supra § 2.3.2.

⁴⁵⁴ CDPA, s. 5 (1) (b).

⁴⁵⁵ 'Sound recording' is defined as 'a recording of sounds, from which the sounds may be reproduced'. See: CDPA, s. 5A as amended by SI 1995 3297, reg. 9(1).
recorded on the CD-ROM medium. The content of any CD-ROM is the significant
criterion for determining its copyright class.

4.3.4 The Copyright and Rights in Databases Regulations

The Secretary of State \(^{456}\) recently issued the Database Regulations \(^{457}\) for
implementing the Database Directive, thus stating the new law concerning database
copyright \(^{458}\) in the United Kingdom.

As it has been discussed above, \(^{459}\) a definition of the term 'database' has been
inserted into the Copyright Act, \(^{460}\) following the definition introduced in the
Database Directive. Consequently, the meaning of a 'literary work' within the
Copyright Act is now \(^{461}\)

"literary work" means any work, other than a dramatic or musical
work, which is written, spoken or sung, and accordingly includes -

(a) a table or compilation other than a database

(b) a computer program

\(^{456}\) Being the Minister designated for making regulations by virtue of the European
Communities Act 1972 (c. 68) in relation to copyright (S.I. 1996/3155).

\(^{457}\) The Copyright and Rights in Database Regulations 1997, SI 1997/3032. Made on 18
December 1997 and came into force on 1 January 1998. Hereafter: The Database
Regulations.

\(^{458}\) The Regulations also include provisions with respect to the *sui generis* right in
databases, which is termed as 'database right'. Provisions concerning database
copyright amend the CDPA, while provisions regarding the new database right remain
stand-alone in the Regulations.

\(^{459}\) *Supra* § 2.4.

\(^{460}\) CDPA, s. 3A (1) as amended by reg. 6 of the Database Regulations.

\(^{461}\) CDPA, s. 3 (1) as amended by reg. 5 of the Database Regulations.
Accordingly, a remarkable observation can be made; a ‘compilation’ and a ‘database’ have been distinguished. If, and only if, a creation is not a ‘database’ within the meaning of the Act, then it is a ‘compilation’. As it noted above,\(^4\) almost any database can be perceived as a ‘compilation’. Today, only those databases that decline to fulfil the requirements of the ‘database’ definition may be considered as ‘compilations’.

It should be noted, however, that the application of this new regime is subject to savings and transitional provisions. Notably, the Regulations\(^5\) asserts that

Where a database -

(a) was created on or before 27th March 1996, and

(b) is a copyright work immediately before commencement,

copyright shall continue to subsist in the database for the remainder of its copyright term.

Therefore, the pre-Regulations database copyright rules as discussed above are effective to databases that existed in the material time set out in the above provision. In the transitional period, it is anticipated that certain issues may arise. Consider, for instance, a data collection that is eligible for full copyright protection under the old law. Suppose that this is a comprehensive collection of data items in a particular domain, so no ‘selection or arrangement’ can be claimed. If an updated version of this collection is introduced onto the market, unlike the old version, the new

\(^4\) Supra § 4.3.2.

\(^5\) Reg. 29 (1).
collection is not eligible for copyright protection.\textsuperscript{464} This situation can create confusion concerning user's rights and the like. For instance, suppose that a lawful user of this database is restricted by an attached contract from extracting insubstantial parts of the database. If all of this database is dataright protected, then by virtue of the Database Regulations\textsuperscript{465} that contract's term is void, and the user may extract insubstantial parts for any purpose, including, arguably parts of the old version incorporated into the new version. This situation can lead database providers to introducing new versions as consisting of separate databases, in order to be able to exercise control of those parts that are still within copyright.

\textbf{4.3.5 The New Database Copyright Regime}

The implementation of the Database Directive was taken as a starting point, since there was "a desire to disturb the \textit{status quo} as little as possible."\textsuperscript{466} Indeed, the Regulations generally preserve the existing database copyright protection. However, this approach also maintains the existing anomalies regarding database copyright in the United Kingdom. For instance, compilation copyright has been formulated within the literary copyright. Evidently, databases are not 'literary works'.\textsuperscript{467} They are collections of any type of materials. In this sense, the measures targeted specifically at databases do not require that databases will be classified as a 'literary work'.\textsuperscript{468} The Database Directive considers databases to be distinct category with

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\textsuperscript{464} Although it is eligible for database right, i.e. dataright.

\textsuperscript{465} Reg. 19(2).


\textsuperscript{467} See supra § 2.3 and § 2.4.

\textsuperscript{468} The Copyright Treaty and the TRIPS consider databases as belonging to a category in their own right. Indeed, the above analysis places databases under the Berne Convention.
distinct rules. Nevertheless, this concept was not adopted by the Regulations and the current notion of compilation copyright has been preserved. The implications of this observation are dealt with in a later stage.\textsuperscript{469}

The Regulations amend the CDPA regarding user’s rights in databases. Hence, any act, which otherwise infringes copyright and is necessary for the purpose of access and use of the database content is permitted.\textsuperscript{470} This assertion is significant regarding digital databases, when acts of access and use inevitably reproduce the database or part of it.\textsuperscript{471}

4.4 Database Copyright in Other Jurisdictions

4.4.1 Compilation Copyright in the United States

The American copyright law\textsuperscript{472} distinguishes between three categories of copyright works: creative works, derivative works and compiled works or compilations.\textsuperscript{473}
A creative work is a composition that owes its origin to its author and is one of the categories of works recognised by the copyright Act. Examples of this type of works include a novel, a symphony, a picture, and a computer program. Databases, as an organised collection of materials, do not fall to this type of works. Wrongfully, databases have been classified as a kind of literary work in the same way computer programs are ‘literary works’. It is true that both computer programs and databases are “expressed in words, numbers, or other verbal or numerical symbols or indicia” and hence, fall into the definition of a ‘literary work’. However, unlike computer programs, which are composed and authored originally by employing the above-mentioned methods of notation and representation, databases rely on pre-existing materials.

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473 See: *Warren Publishing Inc v Microdos Data Corp and others*, Copyright L.R. 27,667; 115 F. 3d 1509 (11th Cir., 1997) at p. 1515.

474 17 USC § 102. The types of works that the Act lists are: “(1) literary works; (2) musical works, including any accompanying words; (3) dramatic works, including any accompanying music; (4) pantomimes and choreographic works; (5) pictorial, graphic, and sculptural works; (6) motion pictures and other audiovisual works; (7) sound recordings; and (8) architectural works.”

475 Being a ‘literary work’, *ibid.*, category (1).

476 Being a ‘musical work’, *ibid.*, category (2).

477 Being a ‘pictorial work’, *ibid.*, category (5).

478 Being a ‘literary work’ by virtue of 17 USC 101 as amended, see *supra* note 472.

479 See: *Nimmer on Copyright* § 2.04 [C]: “The statutory definition of ‘literary works’ is broad enough to include computer data bases and programs...” References were made to the House Committee Report which expressly stated that the definition of ‘literary works’ included computer databases.

480 Part of the definition of a ‘literary work’ in the US Copyright Act. See: 17 USC § 101.

481 Note that some databases consist entirely of newly-created materials. For instance, press agency news feeds (e.g. Reuters) are, arguably, databases where their constituent elements are newly-created and are not pre-existing. However, one should consider any
'Derivative works'\textsuperscript{482} are works which are based on previously authored and originated works. A new work, based on a pre-existing work, is composed by way of transformation or adaptation of the pre-existing work. A translation from one language (say French) to another (say English) of a novel is an obvious and ordinary example of a 'derivative work'. The French novel is undoubtedly a 'literary work' for the purposes of copyright law and so is the English translated novel. However, the English novel is based on the French one and therefore, is a 'derivative work'. Other examples of 'derivative works' are: plays; film-scripts and screenplays based on novels; musical arrangements of musical works; abridgements and condensation of articles and books. Databases do not seem to be caught by this definition as 'derivative works', although it is common that materials incorporated into a database are derivative works. For instance, the abstracts of articles in a bibliographical database\textsuperscript{483} could be 'derivative works' subject to other requirements of the law of copyright.\textsuperscript{484}

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of the constituent elements as distinct and worthy of possible independent protection once they are created. In this sense, these elements are 'pre-existing' when they are incorporated into a database.

\textsuperscript{482} See a definition of this phrase in 17 USC § 101.

\textsuperscript{483} As was the case of Societe Microfor v Sarl Le Monde, [1988] FSR 519; [1988] ECC 287 (French Cour de Cassation (In Plenary Session), 1987).

\textsuperscript{484} In the Microfor case \textit{ibid.}, it was held that indexes and abstracts of articles do not infringe the copyright of the articles' authors, as long as there is a clear indication of the original articles, and the abstracts do not liberate the reader from consulting the original works. In the United States, the normal copyright requisites such as originality, fixation in a tangible form and so on [see: 17 USC § 102 (a)] will be applied to the abstracts in order to qualify for copyright protection. Whether the abstracts in a particular case infringe the works they are based upon will be defined according to the normal copyright rules of substantial similarity. See: Goldstein, Paul, \textit{Derivative Rights and Derivative Works in Copyright}, 30 JOURNAL OF THE COPYRIGHT SOCIETY OF THE USA 209 (1983).
The third category of works, namely 'compilations', is the one that databases fit best in. A 'compilation' is defined as follows:

A "compilation" is a work formed by the collection and assembling of preexisting materials or of data that are selected, coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship. The term "compilation" includes collective works.

Hence, a compiled work, like a derivative work, is based on pre-existing components. However, unlike the derivative work, these components are not used by way of adaptation, but are collected together to form a new work. This new work is termed 'compilation'. A particular sub-set of compilations is 'collective works'. These works are defined as

A "collective work" is a work, such as a periodical issue, anthology, or encyclopedia, in which a number of contributions, constituting separate and independent works in themselves, are assembled into a collective whole.

Accordingly, the distinguishable criterion is the nature of the components that form a particular compilation. When these components are copyrighted works in their own right, then the compilation in question is a 'collective work'; otherwise it is a 'compilation' only.

The copyright in compilations is distinct from the copyrights, if any, in the components of a particular compilation. Furthermore, the copyright afforded to a particular compilation is limited to the elements contributed by the maker of the

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485 17 USC § 101.
486 Ibid.
487 This corresponds to the above typology of databases. 'Compilations' are Data-Set and 'collective works' are Work-Set.
compilation at issue. It does not extend to the materials that the compilation is based upon, nor affect any copyright in the pre-existing materials. As it stated clearly in the Act:488

The copyright in a compilation or derivative work extends only to the material contributed by the author of such work, as distinguished from the preexisting material employed in the work, and does not imply any exclusive right in the pre-existing material. The copyright in such work is independent of, and does not affect or enlarge the scope, duration, ownership, or subsistence of, any copyright protection in the preexisting material.

Moreover, if the materials used in compiling collective works or compilations have been used unlawfully, then no compilation copyright will be granted.489

\(<\textbf{The Feist Decision}}\)

In the United States, databases are considered as ‘compilations’ or ‘collective works’490 and a requisite of originality is a threshold for protection.491 It should be noted that the American Act explicitly excludes facts and mere data from the scope

488 17 USC § 103 (b).

489 17 USC 103 (a): “(a) The subject matter of copyright as specified by section 102 includes compilations and derivative works, but protection for a work employing pre-existing material in which copyright subsists does not extend to any part of the work in which such material has been used unlawfully.”

490 See, Nimmer supra note 479. Today, this concept is well-established, see, however, earlier reference, e.g.: Joan F. Lane d.b.a. Lane & Co v The First National Bank of Boston and others, 687 F. Supp. 11; [1988] Copyright Law Decisions ¶26,328 (Dist. MA, 1988) at p. 16 (compilation copyright can apply to databases); Denicola, Robert C., Copyright in Collections of Facts: A Theory for the Protection of Nonfiction Literary Works, 81 COLUMBIA LAW REVIEW 516 (1981) (at p. 531 the author asserts that “databases are, in essence, automated compilations”).

491 Concerning compilations, the US Copyright Act requires a ‘selection, arrangement or co-ordination’. See: 17 USC s. 103 (b). The ‘originality’ issue is discussed infra § 5.2.
of copyright.\textsuperscript{492} Thus, the data items in an unprotected data collection are free for extraction and re-utilisation.

Despite the above analysis, which is based on explicit wordings of the Act, a competing theory had developed in the United States case law. This theory termed as ‘the sweat of the brow’ or ‘industrious collection’ has been accepted by some courts. According to this theory, an expenditure of time, money and labour in compiling data is sufficient to make the resulting compilation eligible for copyright protection.\textsuperscript{493} However, as \textit{Nimmer on Copyright}\textsuperscript{494} comments on this theory

Protection for the fruits of such research -- for the “sweat of the author’s brow” -- may in certain circumstances be available under a theory of unfair competition. But to accord copyright protection on this basis alone distorts basic copyright principles, in that it creates a monopoly in public domain materials, without the necessary justification of protecting and encouraging the creation of “writings” by “authors.”

An opportunity to resolve the controversy regarding the ‘sweat of the brow’ theory arose in the well-known case of \textit{Feist v Rural}\textsuperscript{495} regarding copyright in a plain (white pages) telephone directory. This case reached the Supreme Court, they concluded as follows:

\begin{itemize}
  \item[492] 17 USC s. 103.
  \item[493] \textit{See}, e.g., \textit{Leon v. Pacific Telephone & Telegraph Co.}, 91 F.2d 484 (9th Cir., 1937) (held that names and addresses taken from a telephone directory for compiling a directory arranged by telephone numbers infringed copyright in that source directory). See discussion of this case and other cases that adopt the ‘sweat of the brow’ theory in: \textit{Nimmer on Copyright} § 3.04 [B][1].
  \item[494] \textit{Ibid}.
  \item[495] \textit{Feist Publications Inc v Rural Telephone Service Company Inc}, 111 S Ct. 1282; 113 L Ed 2d 358; 20 IPR 129 (US Supreme Court, 1991).
\end{itemize}
As a constitutional matter, copyright protects only those elements of a work that possess more than de minimis quantum of creativity. Rural's white pages, limited to basic subscriber information and arranged alphabetically, fall short of the mark. As a statutory matter, 17 U.S.C. sec. 101 does not afford protection from copying to a collection of facts that are selected, coordinated, and arranged in a way that utterly lacks originality. Given that some works must fail, we cannot imagine a more likely candidate. Indeed, were we to hold that Rural's white pages pass muster, it is hard to believe that any collection of facts could fail.

Accordingly, the extraction of facts from a particular database, even for compiling a competitive database would be permitted. In this sense, the position taken by the United States law is more demanding than the regime laid down by the Database Directive, and certainly is substantially different from the law in the United Kingdom.

The landmark decision in Feist v Rural cannot be underestimated, while the impact of this decision is far-reaching. Although it is relatively new, the amount of references in American copyright cases and commentaries on it is extensive.

In Warren v Microdos, compilation copyright was clarified with respect to a computerised database. Hence, a massive extraction of data items from a printed

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496 Bellsouth Advertising & Publishing Corp v Donnelley Information Publishing Inc and another, 999 F.2d 1436; 28 USPQ 2d 1001.

497 A search in Lexis conducted on 5 September 1998 in order to evaluate the numbers of citing references in cases, showed that there were about 360 cases citing the Feist decision. The Shepard's service (a monitor of cited and referred cases) provides 566 citing references, of them only 18 citing references distinguished the decision in any point of law. Law review articles that cite the case are well over 600 in number.

498 Warren Publishing Inc v Microdos Data Corp and others, [1992] CCH Copyright Law Decisions ¶ 26,928; 3 CCH Computer Cases ¶ 46,683 (Dist., Northern District of
directory for compiling a database was allowed. The data entries are unprotected facts and therefore the plaintiff's "sweat of the brow" argument on this issue could not prevail in light of the Supreme Court's *Feist* decision.

### 4.4.2 Database Copyright in the European Union

By virtue of the Database Directive, all Member States of the European Union are required to 'bring into force the laws, regulations and administrative provisions necessary to comply with this Directive before 1 January 1998.'\(^{499}\) Thus, database protection in the European Union is harmonised according to the provisions prescribed in the Directive.

It seems premature to review the Directive implementation\(^{500}\) among Member States, since the implementation date has just elapsed. Furthermore, some of the Member States have not met the set deadline for the Directive implementation.\(^{501}\)

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\(^{499}\) Database Directive, Article 16.1.

\(^{500}\) Database Directive implementation is monitored in the Dataright Website at: [http://dataright.haifa.ac.il/eu-legis.htm](http://dataright.haifa.ac.il/eu-legis.htm).

\(^{501}\) The Spokesman's Service of the European Commission reported on 28 July 1998 that the Commission had decided to send reasoned opinions (second stage of infringement proceedings) to Belgium, Denmark, Greece, Ireland, Italy, Luxembourg, the Netherlands and Portugal for having failed in their obligation to implement the Database Directive by the set deadline. Meanwhile, Denmark has reported its implementation (see below). See: RAPID, Press Release IP 98 708 (28 July 1998). Available at: [http://europa.eu.int/en/comm/spp/rapid.html](http://europa.eu.int/en/comm/spp/rapid.html).
Among the reported implementation of the Directive,\(^{502}\) the United Kingdom implementation has been discussed above.\(^{503}\) A brief account of the German law implementing that Directive is discussed below.

\(<\) Germany  

The Federal Act Establishing the General Conditions for Information and Communication Services\(^{504}\) includes provisions\(^{505}\) regarding the amendment of the German Copyright Act,\(^{506}\) so that the provisions of the Database Directive will take effect.\(^{507}\) Regarding database copyright, the Copyright Act\(^{508}\) was amended as follows:


\(^{503}\) Supra § 4.3.4.


\(^{505}\) Ibid. Article 7.


\(^{507}\) The amendments refer to the \textit{sui generis} rights as well by adding a new Chapter Six to the Copyright Act on the Protection of the Maker of a Database (s. 87A onwards).

\(^{508}\) Ibid. Article 4.
(1) Collections of works, data or other independent elements which, by reason of the selection or arrangement of the elements, constitute a personal intellectual creation (collections) shall enjoy protection as independent works without prejudice to a copyright or neighbouring right existing in the elements included in the collection.

(2) Within the meaning of this Act a database work is a collection arranged in a systematic or methodical way, the elements of which are individually accessible either by electronic or by other means. A computer program (§ 69 a) used to create the database work or to render its elements accessible does not constitute a component of the database work.

It should be noted that the wording of the above provision closely follows that of the Database Directive. This provision clarifies the database regime in Germany, but it should not be considered as a radical change in German copyright law; it is a well-established notion to protect the so-called Kleine Münz, the ‘small change’ of copyright, such as printed forms, summaries of facts in catalogues, prospectuses and the like.\(^{509}\)

4.4.3 Explicit Database Copyright

< Japan

The definition of a ‘database’, which was introduced into the Copyright Law of Japan,\(^ {510}\) is

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\(^{509}\) See: Ulmer supra note 506 at p. 417 stating that ‘Protection here may result from the intellectual effect involved in the elaboration and arrangement of the material’.

\(^{510}\) Article 2(1) x ter, Law for the Partial Amendments to the Copyright Law (No. 64, of May 23, 1986). Source of the English version: WIPO, COPYRIGHT AND NEIGHBOURING RIGHTS - LAWS AND TREATIES. See also: Doi, Teruo, Japan in: Stewart supra note 345 at p. 782.
An aggregate of information such as articles, numerals or diagrams, which is systematically constructed so that such information can be searched for with the aid of a computer.

Note that this definition refers to digital databases only. However, copyright law in Japan protects compilations, consisting either of works or data, subject to a demonstration of creativity in the selection or arrangement of the materials. Hence, no copyright is available to a simple telephone directory, but a classified directory and an English glossary were held to be protected works.511

The provision regarding databases was added to the Copyright Act in order to clarify their status. The creativity requirement applies to databases so that only ‘databases which possess creativity in the selection or systematic organisation of those pieces of information which constitute the databases shall be protected as works of authorship’.512 Therefore, databases that fail to cross that ‘creativity’ requisite will not benefit from copyright protection.

Consequently, Japanese authorities513 initiated a review of the current database protection in Japan, including the possible introduction of a specific legislation for the protection of un-copyrightable databases, along the lines of the international initiatives in this matter.

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512 Article 12 bis (1) of the Copyright Law of Japan as cited in Doi ibid. at p. 782.

The recently enacted law of the Russian Federation\textsuperscript{514} provides a unique approach regarding database protection. Under this law, both computer programs and databases are dealt with in the same regime. This means that instead of considering databases as compilations, they are more closely related to computer programs. Database\textsuperscript{515} is defined as

\begin{quote}
'\textit{Data Base}' - an objective form of expression and arrangement of data totality (e.g. articles, calculations) systematised so as to provide these data computerised search and processing.
\end{quote}

Copyright applies to databases that satisfy the criteria\textsuperscript{516} set below

Protection granted under this Law is applied to databases representing the result of creative effort in data selection and arrangement. Databases shall be protected irrespective of the copyrightability of data they are based on or they include.

Note that the term 'creative effort' is attached to the 'selection and arrangement' criteria, which suggests a more demanding requisite of 'originality'. Furthermore, the law states that the copyright is owned by the creator of a particular database,

\begin{footnotesize}
\textsuperscript{515} Article 1 s. 1(b) of the above-mentioned law.
\textsuperscript{516} \textit{Ibid.}, Article 3.4.
\end{footnotesize}
without prejudice to the copyright, if any, in the underlined works or data. It also allows others to create new databases based on independent selection and arrangement of the same data. 517

4.5 The Subsistence of Database Copyright

The legal protection of databases within copyright law is inferred by regarding databases as compilations, which are well-established notions in the copyright system. Consequently, by applying compilation copyright to databases, the desired protection is achieved.

Almost all countries worldwide 518 provide compilation copyright if the constituent materials of the compilation are works, which are protected by copyright in their own rights. This means, that in addition to the copyright in the underlying materials, a distinct copyright is granted to the collection of materials as a whole. This observation is not surprising. Since 1908, the Berne Convention requires such works to be protected by copyright. Accordingly, any accession by countries to this Convention has normally been followed by adoption of the list of eligible creations and of the minimum standards set out in the Convention.

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517 Ibid., Article 5.4.

518 WIPO, Existing National And Regional Legislation Concerning Intellectual Property In Databases, Memorandum prepared by the International Bureau, WIPO document DB/IM/2 (30 June 1997), at ¶ 26 states that: “An examination of the national copyright legislation in the member States of WIPO shows that most copyright laws, indeed almost all, include explicit provisions on copyright protection of collections of literary and artistic works, such as encyclopaedias and anthologies.”
Hence, the first gap to close in achieving international protection is to recognise items of data as eligible components of compilations. Indeed, many countries\textsuperscript{519} recognise data collection as an eligible compilation. International measures have been introduced to close that gap, notably the TRIPS, the Copyright Treaty and the Database Directive. In addition, broad interpretation of existing laws may well place databases within the meaning of the eligible creations.\textsuperscript{520}

However, it seems from the discussion so far,\textsuperscript{521} that the main barriers regarding database protection are the detailed application of the notions of compilation copyright to databases.

Therefore, the adequacy of compilation copyright in providing the optimal level of database protection is the main concern considered below.

\textsuperscript{519} \textit{Ibid.}, at ¶ 29 (about 50 countries explicitly recognise data items as eligible components) and ¶ 30 (in addition, compilation law in about 30 countries is broadly formulated so that data items can be eligible components).

\textsuperscript{520} For instance, the broad interpretation of Article 2.1 of the Berne Convention as discussed above at § 4.2.1, or the various classes attributed to databases in the United Kingdom as discussed above at § 4.3.3.

\textsuperscript{521} In particular the notion of 'originality' which has been left in this chapter to further consideration.
5 THE LIMITS OF DATABASE COPYRIGHT

Database copyright has a limited application towards a proper and well-balanced protection of databases. Firstly, this regime is set within the traditional copyright system, which is arguably incapable of dealing with the nature of databases and providing them with appropriate legal protection. Secondly, detailed analysis of the copyright rules as applied to databases will reveal many unresolved issues. Finally, the copyright regime as applied for databases can lead to under-protection of certain databases, and over-protection of others.

This chapter explores these limits of database copyright.

5.1 Compilation Law as Applied to Databases

5.1.1 International Compilation Law

The examination of the international standards concerning database copyright has been apparently concluded with the existence of internationally accepted norms. Indeed, most countries protect databases by applying compilation copyright law.

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522 See supra § 4.5.
Any variance in applying this rule\textsuperscript{523} is intensively dealt with in the recently introduced copyright instruments, both at international\textsuperscript{524} and regional\textsuperscript{525} levels, with a view to reach a commonly accepted norms. International norms concerning databases have emerged, notably within the TRIPS Agreement, which is currently the significant, internationally adopted\textsuperscript{526} instrument in this matter. The TRIPS Agreement formulation can fairly represent the scope of the stated norms. Accordingly, the following features conclude the database copyright regime as it is laid down by the TRIPS Agreement.

\textbf{✓ The components of a database may be data, works or other materials.}

The significant development was accomplished by including data as eligible components of a database. As it has been discussed, collections of works are

\textsuperscript{523} That is, the different interpretations to the Berne Convention. See \textit{supra} § 4.2.1.

\textsuperscript{524} I.e., the TRIPS Agreement and the WIPO Copyright Treaty.

\textsuperscript{525} Apart from the Database Directive, which has been discussed above, other economic regional agreements have adopted the database copyright regime. For instance, the North American Free Trade Agreement, which entered into force on 1 January 1994, includes detailed provisions on intellectual property issues, and a reference to copyright in 'compilation of data and other materials' at §1705. Article 4 of the Decision No. 351 of the Cartagena Agreement, which came into force on 21 December 1993, between Bolivia, Colombia, Ecuador, Peru and Venezuela, provides copyright protection to 'anthologies or compilations of assorted works and also databases'. See: ¶11-¶16 of WIPO, Existing National And Regional Legislation Concerning Intellectual Property In Databases, Memorandum prepared by the International Bureau, WIPO document DB/IM/2 (30 June 1997).

\textsuperscript{526} On 22 October 1997, 132 members of the World Trade Organisation, adopted the TRIPS agreement. Among the non-members, it should be noted that China and the Russian Federation (though both are Berne Convention members) are observer countries that have applied to join the WTO. See status of WTO members at: \url{<http://www.wto.org/wto about/organsn6.htm>}.
protected by the Berne Convention\textsuperscript{527} and this norm has been widely adopted.\textsuperscript{528} The controversy in this matter remains the status of data collections. Hence, the clarification of the TRIPS Agreement aims to resolve this issue.

✓ Protection is provided regardless of the database form.

The initial approach was to limit database protection to electronic databases only.\textsuperscript{529} This approach, however, has been abandoned and it is commonly accepted that there is no justification in distinguishing between electronic and non-electronic databases.\textsuperscript{530}

Protection is for databases 'which by reason of the selection or arrangement of their contents constitute intellectual creations'.

Hence, the protection is for the database structure. Moreover, the 'selection and arrangement' criterion constitutes the 'originality' requisite for protection. Arguably, the act of authorship, which is protected by copyright, is the element that the compiler contributes in forming the compilation. This feature is the keystone of database copyright and will be analysed in details below.\textsuperscript{531}

\textsuperscript{527} See \textit{supra} § 4.2.1.

\textsuperscript{528} See \textit{supra} § 4.2.5.


\textsuperscript{530} See \textit{supra} § 2.2.5.

\textsuperscript{531} See \textit{infra} § 5.2.1.
Databases are protected by copyright as such.

Copyright in computer programs has been done with a reference to literary works.\textsuperscript{532} This is not the case with databases. Databases constitute a new copyright class, and protection is not within the boundaries of literary copyright.\textsuperscript{533} In addition, this statement suggests that normal copyright rules are applicable for database protection, subject to any modification set out by this regime.

Such protection shall not extend to the data or material itself.

Database protection is confined to what the compiler contributes and accordingly, constitutes an intellectual creation. By providing protection, the compiler cannot claim copyright in the underlined materials by virtue of compiling them. This feature closely relates to the above point concerning the criterion of 'selection and arrangement' and, therefore, will be dealt together below.\textsuperscript{534}

Such protection shall be without prejudice to any copyright subsisting in the data or material itself.

This feature is self-evident. If a database is based on pre-existing materials, then any copyright in the underlined materials is preserved. Therefore, where the database

\textsuperscript{532} This is the commonly adopted regime. See: TRIPS, Article 10.1; the Copyright Treaty, Article 4; CDPA, s. 3(1)(b); 17 USC § 101.

\textsuperscript{533} See: Kartzenberger, Paul, *TRIPS and Copyright Law*, in: Beier, Friedrich-Karl and Gerhard Schricker (Editors), FROM GATT TO TRIPS – THE AGREEMENT ON TRADE-RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS, 18 IIC Studies 59 at p. 83. The author asserts (at p. 84) that 'the adoption of copyright protection for computer programs and data compilations into the TRIPs Agreement as “Berne-Plus” elements can be explained by the uncertain protection thereof under the Berne Convention, as relatively types of work…’

\textsuperscript{534} See infra § 5.2.1.
type termed above as Work-Set is concerned, copyright subsists in two tiers; first, in
the constituent materials and second, in the collection as a whole.

The TRIPS Agreement provides an improved resolution of database copyright
compared to the Berne Convention. The uncertainties in applying the Berne
Convention\textsuperscript{535} for database copyright have been resolved by the TRIPS Agreement.
It should be noted, however, that the Berne Convention already binds most countries
in the world,\textsuperscript{536} while the TRIPS Agreement is still in a process of accession\textsuperscript{537} and
implementation. Although the TRIPS Agreement came into force on 1 January
1995,\textsuperscript{538} only developed countries\textsuperscript{539} are already bound by it. Developing countries\textsuperscript{540}
will be bound by the TRIPS Agreement by 31 December 1999. Least developed

\textsuperscript{535} See \textit{supra} § 4.2.1.

\textsuperscript{536} As for June 1998, 131 states became members of the Berne Convention. Current
updates regarding accessions and ratification of the Convention are available at the
WIPO Website at: \texttt{<http://www.wipo.int/eng/ratification/e-berne.htm>}.  

\textsuperscript{537} Notably, the Russian Federation and China are still in the status of observers at the
WTO. See \textit{supra} note 526.

\textsuperscript{538} Article XIV (1) of the Agreement Establishing the World Trade Organisation states that
the Multilateral Trade Agreements annexed to it, including the TRIPS Agreement, shall
enter into force according to Article 3 of the Final Act Embodying the Results of the
Uruguay Round of Multilateral Trade Negotiations. Accordingly, the date of entry into
force was 1 January 1995.

\textsuperscript{539} Article 65(1) of the TRIPS Agreement permits a period of one year for applying its
provisions subject to further delayed period of four years for developing countries
[Article 65(2)] and countries, which are in the process of transformation from a
centrally-planned states into a market, free economy [Article 65(3)]. Least developed
countries benefit from a delayed period of ten years (Article 66). It is unclear which
countries belong to the different groups. See: Paçon, Ana María, \textit{What Will TRIPS Do
For Developing Countries?} In: Beier \textit{supra} note 533, p. 329 at p. 335 (stating that “For
practical reasons, the countries themselves have hitherto decided on their status”).

\textsuperscript{540} \textit{Ibid.}, by virtue of Article 66(2). This date is also valid to countries, which are in the
process of transformation from a centrally-planned into a market, free economy.
countries\textsuperscript{541} will only be obliged to apply the provisions of the TRIPS Agreement by 31 December 2004.

By implementing this regime among the TRIPS Agreement members, database protection will be available for many databases. Note that protection is not provided for all databases. Only those databases that cross the 'originality' barrier will enjoy protection. A major defect of this regime is, therefore, that certain databases will be deprived of protection.\textsuperscript{542}

The TRIPS Agreement, as an international instrument in force, can arguably achieve the desired goal\textsuperscript{543} of international protection for databases, by virtue of the principle of national treatment.\textsuperscript{544} In fact, the rationale for international copyright is valid for all work types, as Stewart\textsuperscript{545} observed:

\textsuperscript{541} Ibid., by virtue of Article 66 of the TRIPS Agreement.

\textsuperscript{542} It depends on the meaning of the 'originality' notion in national law. See infra § 5.2.1.

\textsuperscript{543} As it has been discussed, it is a necessity that there will be an international regime for database protection. See supra § 3.1.1.

\textsuperscript{544} See supra § 4.1.2 concerning the adoption of this principle by the Berne Convention. Note that the TRIPS Agreement also states this principle (Article 3) together with the so-called the Most-Favoured-Nation Treatment principle (Article 4). The latter asserts that "any advantage, favour, privilege or immunity granted by a Member to the nationals of any other country shall be accorded immediately and unconditionally to the nationals of all other Members." See on the implications of these rules in: Pacon supra note 539, at pp. 333-337.

\textsuperscript{545} Stewart, S. M., INTERNATIONAL COPYRIGHT AND NEIGHBOURING RIGHTS (London: Butterworths, 1989) at p. 35.
If a 'work' protected by copyright in country A is not protected in country B and C so that it can be freely reproduced in these countries it may be imported into country A where it will then compete with copies on which copyright has been paid. As the imported copies will not have paid any copyright, they will be cheaper and will therefore drive the home-made product, which has paid copyright, out of the market. The effect is the same as if a tax was put on a home product, whereas the same product was allowed to come in from abroad tax free. The greater the mobility of persons and goods the more serious will be the results of this phenomenon.

This analysis is probably based on the notion that the works are embodied in physical objects. In this case, international copyright can be reasonably effective. Moreover, provisions for preventing importation of infringing copies\textsuperscript{546} supplement the enforcement of rights, so that the above phenomenon almost disappears. Therefore, when packaged databases in material objects\textsuperscript{547} are at issue, the database protection provided by the TRIPS Agreement might be effective. However, when databases are distributed over the global telecommunication network\textsuperscript{548} the results of the above phenomenon are, indeed, very serious in any case; namely, when an international regime is in force\textsuperscript{549} and, certainly, where no such regime is present.

Diverse modes of national copyright law might be significant, thus resulting in serious distortions in the scope of international protection. Concerning databases, the

\textsuperscript{546} CDPA, s. 111.

\textsuperscript{547} For instance, where CD-ROMs or books containing databases are concerned.

\textsuperscript{548} This includes on-line databases and off-lines databases provided for downloading over the Internet.

\textsuperscript{549} This is true to other works in digital form. The WIPO Copyright Treaty aims to resolve some of these distortions, as does the US Bill in this matter, the Digital Millennium Copyright Act. See supra § 3.3.2.
diversity in the scope of protection makes doubts about the efficacy of database copyright understandable.

The following sections will demonstrate this diversity by references to the rules of database copyright in the United Kingdom and the United States. Following the enactment of the Database Regulations in the United Kingdom,\textsuperscript{550} references made to compilation law are on the presumption that this law shall be applied \textit{mutatis mutandis} for the newly introduced database copyright. Database copyright of the United States\textsuperscript{551} closely corresponds to the TRIPS Agreement regime and therefore, compilation law of the United States will be discussed in its present form. The comparison of various aspects of database copyright shows that too many issues remain unresolved, thus questioning the adequacy of database copyright in achieving the optimal database protection.

\textbf{5.1.2 The Diverse Modes of Compilation Copyright}

Protection for compilations under English law can be traced back to the early days of copyright law. As early as 1806, the Court determined that a book of receipts is entitled to copyright protection.\textsuperscript{552} Copyright protection has also been granted to a list of stock exchange prices\textsuperscript{553} and to an alphabetical list of railway stations.\textsuperscript{554} Furthermore, compilations are also any set of written symbols devised for specified purposes. Hence, copyright has been granted to such compilations as a book of

\begin{itemize}
  \item See \textit{supra} § 4.3.4.
  \item See \textit{supra} § 4.4.1.
  \item \textit{Matthewson v Stockdale} [1806] 12 Ves. Jun 270.
  \item \textit{Exchange Telegraph Co. Limited v Gregory & Co.} [1896] 1 QB 147.
  \item \textit{Blacklock (H) & Co. Limited v Arthur Pearson (C) Limited} [1915] 2 Ch 376.
\end{itemize}
invented five-letters words suitable for telegraphic cabling,\textsuperscript{555} tables of grids of five-letter sequences constructed for newspaper competition,\textsuperscript{556} and a list of mnemonics employed as commands for traffic controller.\textsuperscript{557}

Compilations are, therefore, ‘literary works’ that refer to any written or printed matter, irrespective of the quality or style.\textsuperscript{558} As any other literary work, only ‘original’ compilations are protected by copyright. ‘Original’ initially means that ‘so long as there is sufficient amount of skill and labour in constructing or selecting the material, no particular skill in the literary form itself is needed’.\textsuperscript{559}

The statutory reference to compilations was launched with the Copyright Act 1911, which defines ‘literary work’ as “including maps, charts, plans, tables and compilations”.\textsuperscript{560} The Copyright Act 1956 restated this rule by including “any written table or compilation” in the definition of ‘literary work’,\textsuperscript{561} as did the CDPA

\textsuperscript{555} D.P. Anderson & Co Ltd v The Lieber Code Co [1917] 2 KB 469. This judgement relied on two earlier cases which dealt with copyright in books of telegraphic codes: Ager v P & O Steam Navigation Co, 26 Ch 627 (1884) and Ager v Collingridge (1886) 2 TLR 291.


\textsuperscript{557} Microsense v Control Systems Technology Ltd, available on Lexis: UK; ENGCAS file (Chancery Division, Patents Court, 1991). Compare to Lotus Development Corp V Borland International Inc, F.3d 807; Copy. L. Rep. ¶ 27,367; [1997]1 FSR 61 (1st Cir., 1995) where the Lotus set of menu commands that had been used by Borland were not found to constitute an infringement of Lotus copyright.

\textsuperscript{558} University of London Press v University Tutorial Press [1916] 2 Ch. 601. Held that copyright subsists in papers set by examiners.

\textsuperscript{559} COPINGER ON COPYRIGHT, § 2-7, p. 20.

\textsuperscript{560} The Copyright Act 1911 (c. 46), s. 35.

\textsuperscript{561} The Copyright Act 1956 (c. 74), s. 48(1).
in 1988, this time not only with respect to ‘written’ compilations, but also to any “written, spoken or sung” compilation.

Having considered the magnitude of works protected by copyright as compilations, it is anticipated that databases would be generally regarded as compilations. Indeed, this is the commonly held view, at least until the enactment of the Database Regulations, which seems to indicate possible changes in this position. As it discussed above, the amended definition of a ‘literary work’ includes two distinct categories in this matter. First, a ‘compilation other than a database’ and second, a ‘database’. At first sight, this distinction could mean that databases are now a particular description of works that are subject to specific provisions. This is true with respect to the few amendments made by the Database Regulation. However, the amendments to the CDPA broadly preserve the status quo by placing

562 CDPA, s. 3(1) defines a ‘literary work’ as: “any work, other than a dramatic or musical work, which is written, spoken or sung, and accordingly includes—(a) a table or compilation...” The addition of the phrase ‘spoken or sung’ clearly includes speeches, lectures and judgements as capable of being literary works. See: COPINGER ON COPYRIGHT, § 2-4, p. 18.


564 Supra § 4.3.4.

565 CDPA, s. 3(1) as amended by reg. 5.

566 Apart from the new definition of a ‘literary work’, the Database Regulations introduced a definition of a ‘database’ and ‘originality’ considering databases (reg. 6 adding s. 3A to the CDPA); a clarification regarding adaptation in relation to databases (reg. 7 amending s. 7 of the CDPA); clarification of fair dealing regarding databases (reg. 8 amending s. 29 of the CDPA); permitted acts in relation to databases (reg. 9 adding s. 50D to the CDPA) and avoidance of certain terms relating to databases (reg. 10 adding s. 296D to the CDPA).
databases among literary works. Thus, database copyright is formulated by literary copyright, in general, and in particular compilation law, subject to the stated amendments.

5.1.3 Compilation Types

What is a 'compilation'? No definition is provided in the CDPA. The dictionary definition of 'compilation' relates to the verb 'to compile'. The meanings attached to this verb are quite interesting:

1. Collect (materials) into a list, volume etc.
2. Make up (a volume etc.) of materials from various sources.
3. Compose (a poem, story, etc.)
4. Make up, build.
5. Heap or gather together.

From a copyright perspective, it seems that two different notions of 'compilation' can be identified. Firstly, a compilation as a composition of a work and secondly, a compilation as the making up of a collection of materials, i.e. a database.

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567 THE NEW SHORTER OXFORD ENGLISH DICTIONARY (Edited by Lesley Brown, Oxford: Clarendon Press, 1993). Note that additional meanings are provided. Notably, it is used in computing to refer to 'cause (a program etc.) to be changed from a high level language into a machine language or a low-level language designed for execution'. It is also interesting to explore the origin of this term. It has been suggested that this term is originated from the French verb 'compiler' which means: 'put together, collect.' However, another view applies to the Latin word 'compilare' which means 'plunder, plagiarise'. The latter suggestion provokes some thoughts about the possible connection of the copyright status of databases and the act of compilation.
A Compilation as a Composition

This notion arguably corresponds to many cases dealt with in the United Kingdom. According to this view, a compilation results in composing a work. In this sense, there is no distinction between the act of authorship based on notation systems and the act of compilation based on materials.

According to this notion, the materials collected in a particular compilation are regarded as produced or owned by the compiler. As it has been clearly explained in a recent case:

The type of literary work at issue in this case is a compilation. Once again, it is not the mere form of words or notation used which justifies copyright protection for a compilation, it is the author's skill and effort expended in gathering together the information which it contains. For example, it is clear that the physical effort of writing down names and addresses to produce a street directory does not of itself justify the creation of compilation copyright in it. It is the effort and skill expended in finding out who lives at which addresses in which road which merits protection...

A compilation is then a written composition of records of information collected and gathered by the compiler, which is defined as 'literary work'. Accordingly, an infringement of compilation copyright is subject to the normal literary copyright tests. Consequently, the breaking down of the compilation into its components is a concept alien to this approach. As any other composition, infringement occurs when

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568 Ladbroke (Football) Ltd v William Hill (Football) Ltd, [1964] 1 All ER 465; [1964] 1 WLR 273 (House of Lords, 1964). (The Football League owns the copyright in the fixture list of matches to be played.

569 Autospin (Oil Seals) Ltd v Beehive Spinning (A Firm), [1995] RPC 683 (Chancery Division, 1995).
The infringement test does not proceed with an examination of the elements of the works. The works are regarded as 'a whole' for determining similarities. Indeed, it has been pointed out that

A wrong result can easily be reached if one begins by dissecting the plaintiffs' work and asking, could section A be the subject of copyright if it stood by itself, could section B be protected if it stood by itself, and so on. To my mind, it does not follow that, because the fragments taken separately would not be copyright, therefore the whole cannot be. Indeed, it has often been recognised that if sufficient skill and judgement have been exercised in devising the arrangements of the whole work, that can be an important or even decisive element in deciding whether the work as a whole is protected by copyright.

The results of this approach are significant. Firstly, when the components are items of data, not subject to copyright on their own right, a potential extension of the copyright protection to the data items is possible. Secondly, no distinct and separate copyright is available for the compilation itself. Both results are not in accordance with database copyright.

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570 CDPA, s. 16(3)(a). A 'substantial part' refers much more to the quality than to the quantity of the part taken. See: COPINGER ON COPYRIGHT § 8-26 at p. 175.

571 See Ladbroke v William Hill supra note 568 at p. 469.


573 See supra § 5.1.1. It should be noted, however, that this rule is defined under the old database regime of the United Kingdom. Pursuant to the Database Regulations, the law has been changed concerning 'databases' while preserving the law old law of compilation. See supra § 4.3.5.
An example for this type is the listings of the TV programmes that are discussed in *BBC v Time Out*.\(^{574}\) The programme schedule listings originated with the BBC, so to form the compilation alleged to be a work that is copyright protected. Thus, the extractions of the facts from the compilation infringed the copyright in it.

This approach explains the placing of compilations within the realm of literary copyright. Otherwise, it is incomprehensible how compilations are considered that way. If a compilation is based on pre-existing materials, then these materials can be of any type, and not only literary works. For instance, a compilation of sound-recordings is possible, as is a compilation of artistic works\(^{575}\) or photographs. The categorisation of such compilations as literary works is confusing.

\(\wedge\) A Compilation as a Database

The definition of 'database' asserts the existence of pre-existing materials as components of a database. Accordingly, the typology of databases discussed above\(^{576}\) defines Work-Set as an original collection of works, which corresponds to the definition of 'collective work' under the Copyright Act of the United States.\(^{577}\) The UK Act also includes provisions pertaining to 'collective works'. However, it

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\(^{575}\) Monotti, Ann, *The Extent of Copyright Protection for Compilations of Artistic Works*, [1993] 5 EIPR 156 (pointing out that the position toward a compilation of artistic works is unclear, because a literary work must be 'written').

\(^{576}\) See supra § 4.1.3.

\(^{577}\) 17 USC § 101, 'collective work' definition and § 103. See also supra § 4.4.1.
seems that despite the common terminology, the above notions are quite different. The Act defines a 'collective work' as a joint authorship work and a work in which there are distinct contributions by different authors or in which works or parts of works of different authors are incorporated.

It should be noted that in the Copyright Act 1911, the definition of a 'collective work' was:

(i) an encyclopaedia, dictionary, year book, or similar work,
(ii) a newspaper, review, magazine or similar periodical, or
(iii) any work written in distinct parts by different authors or in which works or parts of works of different authors are incorporated.

Only the last definition appears in the 1988 Act. However, it seems that the categories listed in the first two subsections are only examples of the more general definition in the last paragraph.

The definition of 'collective work' has been formulated in order to exclude this the application of moral rights regarding this category of work. Thus, the right to be identified as author or director is not applicable to a 'collective work'. In addition, the right to object to a derogatory treatment of work is not applicable in relation to a

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578 CDPA, s. 178, 'collective work' definition.
579 The Copyright Act 1911, s. 5(2).
580 CDPA, s. 79(6)(b) concerning 'an encyclopaedia, dictionary, yearbook or other collective work of reference...' a reference is made also to 'a newspaper, magazine or similar periodical'. [s. 79 (6) (a)]
The only other references for 'collective work' concern licensing schemes and bodies.\(^{582}\)

A 'collective work' is not one of the descriptions of works in which copyright subsists.\(^{583}\) This means either that a 'collective work' is a particular type of 'compilation', or that copyright does not subsist in a 'collective work' \textit{per se} but only in its components. Both approaches are represented in case law and no conclusive opinion\(^{584}\) is available. The ramifications of this analysis are meaningful to databases based on works. For instance, a full-text database, such as a file in Lexis, is a 'collective work'. The same applies to multimedia packages which may be described as databases consisting of works, and therefore, as 'collective works'.

In \textit{Macmillan v Cooper},\(^{585}\) it was held that a distinct copyright might subsist in the collective work as such, where skill and labour have been employed in the selection and the arrangement of the work in the collection. When such a work is copied, the copyrights of the constituent works are infringed, as well as the copyright of the arranger or the editor of the collection as a whole.\(^{586}\)

\(^{581}\) CDPA, s. 80(4)(b).

\(^{582}\) CDPA, s. 116(4) (a) and Schedule 1 para. 27.

\(^{583}\) CDPA, s. 1(1) lists the categories of works; non of them is a 'collective work'.

\(^{584}\) For instance, It was held there was no separate and independent collective copyright in the song consisting of lyrics ('literary work') and music ('musical work'); the individual copyrights in the words and in the music were not within the exclusion set forth in the Act for 'collective work'. See: \textit{Redwood Music Ltd. v B. Feldman & Co. Ltd. and Others} [1979] RPC 385 (Court Of Appeal, 1979) at pp. 402-403.


In *Total Information v Daman*,\(^{587}\) the Court held that no separate copyright exists in several computer programs which are linked together to form a software package. On the contrary, in *Ibcos v Poole*\(^{588}\) the Court found that not only individual computer programs are protected, but also the entire suite of programs are protected as a compilation.

### 5.2 The Scope of Database Copyright

#### 5.2.1 Database Originality

It is commonly agreed that the accepted threshold of originality under the law of the United Kingdom is very low.\(^{589}\) The required elements of 'originality' mean that the work must not be copied from another work\(^{590}\) and that a modest level of 'skill and labour' has been applied in order to create the work. Furthermore, 'original' does not mean a novel form, but it indicates that the work should originate from the author.\(^{591}\)

The existence of sufficient 'originality' is a question of fact and degree.\(^{592}\) As it has been laid down\(^{593}\) in the following repeatedly quoted passage:

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\(^{588}\) *Ibcos Computers Ltd and Another v Barclays Mercantile Highland Finance Ltd and Others*, [1994] FSR 275 (Chancery Division, 1994).

\(^{589}\) COPINGER ON COPYRIGHT, § 3-32, p. 60.

\(^{590}\) COPINGER ON COPYRIGHT, § 3-28, p. 59.

\(^{591}\) *University of London Press v University Tutorial Press* [1916] 2 Ch. 601. Held that copyright subsists in papers set by examiners.

\(^{592}\) Per Viscount Simon LC in: *G.A. Cramp & Sons Ltd v Frank Smythson Ltd*, [1944] AC 329 (HL) at p. 335.
What is the precise amount of the knowledge, labour, judgement or literary skill or taste which the author of any book or other compilation must bestow upon its composition in order to acquire copyright in it … cannot be defined in precise terms. In every case it must depend largely on the special facts of that case, and must in each case be very much a question of degree.

Concerning compilations, it has been observed that this ‘involves the exercise of skill and labour, or possibly maybe only labour’. Accordingly, the ‘sweat of the brow’ theory is probably valid in the United Kingdom. The line of authorities cited above suggests that.

When an author writes a novel, letters and words are the notation system employed to construct an original work. When a musician composes a symphony, he arranges tunes and sounds to form his original work. When an artist makes a painting, she selects and arranges colours and shapes to construct her original work. All of them make selections and arrangements, in this way or another. However, these selections and arrangements refer to the basic elements of representation. The compiler, on the other hand, starts a compilation with existing elements, either data items or works. The acts of selection or arrangement in this case are the acts of any

593 Per Lord Atkinson in Macmillan v Cooper, supra note 585 at p. 121.


595 See: § 4.4.1. This theory was rejected in the United States in: Feist Publications Inc v Rural Telephone Service Company Inc, 499 U.S. 340; 111 S Ct. 1282; 113 L Ed 2d 358; 20 IPR 129 (US Supreme Court, 1991). The Court stated that “without a doubt, the ‘sweat of the brow’ doctrine flouted basic copyright principles”. Ibid., at p. 354.

596 See on representation systems supra § 2.1.2.
authorship that may be claimed. Hence, ‘originality’ in relation to databases is defined as

A database is original if, and only if, by reason of the selection or arrangement of the contents of the database the database constitutes the author’s own intellectual creation.

The criterion of ‘selection and arrangement’ is broadly matched in other measures concerning database copyright. In the United States, this criterion is constructed in a somehow different way. Despite any variance, it seems that what counts is the level of the requisite originality. Any statutory formulation of this requisite may be interpreted so to confirm the level of originality dictated by the legal policy held in a particular jurisdiction. In this respect, it is routinely observed that this level substantially varies among jurisdictions. Different traditions of copyright law bring about different levels of originality. Thus, the Civil Law jurisdictions generally demand a high level of originality, where Common Law jurisdictions demand a

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597 CDPA, s. 3A as amended by the Database Regulations. The phrase ‘author’s own intellectual creation’ is that provided in the Berne Convention in this matter (Article 2.5). It is also employed in the Software Directive, Article 1.3.

598 See: Database Directive, Article 3.1; TRIPS Agreement, Article 10.2; Berne Convention, Article 2.5.

599 17 USC § 101, the definition of a ‘compilation’ states “...selected, coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship”.

600 See generally: Stewart supra note 545 at p. 6 onwards. Stewart concludes his observation by saying that “Philosophically the difference between the personal, individualistic and idealistic ‘droit d'auteur’ system and the more commercially orientated copyright systems may be fundamental, but in practice the differences should not be overestimated”. Ibid. at p. 9.

lower level. Consequently, it is anticipated that different views will be taken among the European Union members as regards to the meaning of this criterion.

It should be noted that ‘selection and arrangement’ in relation to compilations is not a novel concept in the United Kingdom.\(^{602}\) Hence, the introduction of this criterion in relation to databases by the Database Regulations not necessarily raises the level of required originality. The ‘selection and arrangement’ criterion can be interpreted in a relaxed manner according to the spirit of the required originality under the law of the United Kingdom. For instance, it has been observed that databases that are complete collections of the relevant materials will fall outside of the protection of copyright if this criterion is adopted.\(^{603}\) This argument is based on the assumption that these databases are comprehensive rather than selective therefore, the ‘selection and arrangement’ criterion cannot be satisfied. A relaxed approach will view any selection of a particular domain as sufficient. Consider a law report, it arguably contains all cases in a specified domain. However, it is selective in that way that it includes only cases of a particular jurisdiction or a particular topic. The interpretation of ‘selection’ is relative. If the legal policy is to grant protection with a minimal threshold, as is the case in the United Kingdom, then the stated collections will be protected.

The ‘arrangement’ criterion is probably perplexing concerning digital databases. When printed databases are concerned, the arrangement of the materials is clearly seen and understood. The classification headings, the sort order and the like are apparent and can be examined as to their sufficiency of the originality requisite. With digital databases, the arrangement is not so obvious. The sort order, for

\(^{602}\) See: COPINGER ON COPYRIGHT § 3-35 p. 62.

example, is irrelevant and materials can be randomly stored and/or sorted at will. It is submitted, however, that arrangement is demonstrated in the way discrete items are constructed in various segments.\textsuperscript{604} Again, the examination of the stated arrangement is subject to the view held regarding originality. Many of these segments, for instance, are dictated by the functionality sought in the type of database in question. They are substantially similar in a particular database genre. The application of copyright analysis for this 'arrangement' will definitely bring about confusion.\textsuperscript{605}

In contrast to the low threshold demanded under the law of the United Kingdom, the Supreme Court of the United States settled the meaning of originality in relation to database in \textit{Feist v Rural.}\textsuperscript{606} by rejecting the 'sweat of the brow' theory. Stating that originality is the 'sine \textit{qua non} of copyright,'\textsuperscript{607} it sets the requisite of originality as a 'modicum of creativity'. Thus, an alphabetical arrangement and the absence of selection in a telephone directory result in a compilation not worthy of copyright protection. Moreover, it asserts that copyright subsists in those elements that the author contributes to the compilation, and the extraction of unprotected elements does not infringe copyright. Hence, the wholesale taking of all unprotected data items, such as the names and telephone numbers from a directory, is not an infringement of copyright, if any, in that directory.

\textsuperscript{604} That is, the definition of fields within a record. See \textit{supra} § 2.1.3.

\textsuperscript{605} See: \textit{Warren Publishing Inc v Microdos Data Corp and Others}, 115 F. 3d 1509; Copyright L.R. ¶ 27,667 (11th Cir., 1997).

\textsuperscript{606} \textit{Supra} note 595. See also \textit{supra} § 4.4.1.

\textsuperscript{607} \textit{Ibid.} at p. 345.
It seems, however, that defining what is considered ‘original’ in relation to databases is an unsettled issue. The case of *Warren v Microdos* demonstrates this complexity. This case concerned the 1988 edition of a directory named the Factbook, in particular two sections from this directory, which contained approximately 1,340 pages of factual data on 8,413 cable television systems and their owners throughout the United States. Since 1949, Warren, the plaintiff in this case, compiles and publishes annually the Factbook in print. In 1989, Microdos started marketing a software package called “CableAcess”. This software contained databases with factual data on cable television systems in the United States. Warren maintained that Microdos infringed on its compilation copyright in the Factbook in three areas: the communities covered and the principal community system, the data fields, and the data field entries. Concerning the data fields issue, the District Court found that Microdos had not infringed Warren’s data field format. With respect to the data field entries issue, the District Court found that these entries were unprotected facts, and therefore Warren’s “sweat of the brow” argument on this issue could not prevail in light of the Supreme Court’s *Feist* decision. Hence, the classification system issue remained the sole issue to be resolved.

In the District Court, a conclusion regarding the classification system employed by Warren on its directory was found “sufficiently creative and original to be copyrightable”. On appeal, the decision of the District Court was affirmed.

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609 See *supra* note 595.

610 *Warren Publishing Inc v Microdos Data Corp and others*, 52 F. 3d 950 (11th Cir., 1995).
Subsequently, a rehearing of the appeal was granted.\textsuperscript{611} In this rehearing, the Court analysed the classification system at issue and rejected the findings that it was original on several grounds.\textsuperscript{612} It is interesting to watch the dissenting opinion in this case, which was supported by three judges,\textsuperscript{613} concluding that Warren’s selection of data was original, creative and useful. The dissenting opinion also observed that\textsuperscript{614}

The district court correctly decided this case, and we should affirm its decision. Our statutes provide rational and economically useful copyright protection for compilations. If that protection is to be narrowed and cabined the choice is for Congress, not the courts.

Time will tell whether this judgement signals a turn in the United States approach towards originality concerning databases. The application of the originality concept in relation to databases, however, does not seem to fit neatly for the specific purposes of works of information. The diversity of opinions and the frequent changes, at least in the United States, of the precise meaning of the originality notion probably indicates the inadequacy of copyright law to provide a clear and workable resolution for database protection. It should be noted that other courts have tried to overcome the deficiency of copyright law analysis in providing adequate database protection by turning to other applicable legal protection.\textsuperscript{615}

\textsuperscript{611} Warren Publishing Inc v Microdos Data Corp and others, 67 F. 3d 276 (11th Cir., 1995).

\textsuperscript{612} Warren Publishing Inc v Microdos Data Corp and others, 115 F. 3d 1509; Copyright L.R. ¶ 27,667 (11th Cir., 1997). The petition for a writ of certiorari was denied by the Supreme Court, see: 118 S. Ct. 397 (1997).

\textsuperscript{613} The rehearing was \textit{en banc}, in which 12 judges participated.

\textsuperscript{614} Ibid., at p. 1531.

\textsuperscript{615} See: ProCD, Inc. v Matthew Zeidenberg and Silken Mountain Web Services, 908 F. Supp. 640, Copy. L. Rep. ¶ 27,489 (Dist., Western District of Wisconsin, 1996). Held that the wholesale extraction of data items from CD-ROMs is allowable taking of
5.2.2 The Allowable Taking from a Database

Lists, directories and reference books, all of them works protected by copyright, are excellent candidates for compiling a new database. For instance, an index to articles in a journal or a newspaper is far more conveniently used in a database form. It is evident that if the database creator is browsing through all the issues of a given journal and indexes each of the articles in it, no copyright infringement has occurred. Titles are not protected by copyright, and the taking of titles and their reference to a particular journal issue and page, is a de-minimis taking which cannot be considered to be a substantial part of the work. Alternatively, the location of a particular article is a fact, which is not a copyright subject matter.

More complicated issues are involved when the database creator makes a short cut and relies on a pre-existing index. Most journals publish an annual index to the articles published in a given year. This annual index is arguably a compilation protected by copyright. The conversion of the annual index into a database is probably an infringement in the compilation. Is it an infringement to take multiple annual indexes in order to create a cumulative index? Is it an infringement to take multiple annual indexes from many journals in order to compile a database in a certain domain?

The doctrine of fair dealing is not applicable were the presumption that an annual index constitutes a database exists. The Database Regulations make it clear that unprotected elements. Reversed on appeal: 86 F.3d 1447; Copy. L. Rep. ¶ 27,529 (7th Cir., 1996) on the grounds of the enforceability of contracts terms. See supra § 3.3.3.

616 See infra § 5.3.2.

617 The same is true if it is a 'compilation other than a database' within the meaning of the CDPA s. 3(1)(a) as amended by reg. 5 of the Database Regulations. Fair dealing is permitted for research and private study and for criticism, review and news reporting, non of them can permit commercial use. See: CDPA s. 29 and s. 30.
The doing of anything in relation to a database for the purposes of research for a commercial purpose is not fair dealing with the database.

The primary question that has to be decided, therefore, is what are the protected elements of the database. According to the United Kingdom jurisprudence in this matter, once a compilation is protected by copyright, the alleged infringing work has to be compared as a whole to the initial work.\textsuperscript{619} Breaking down the initial work into its component parts is not permitted.\textsuperscript{620} Therefore, when the initial work contained data items, the extraction of a substantial part of these items from the database in order to compile a new database will infringe copyright. Furthermore, the utilisation of the data items contained in the initial database for verification purposes while compiling a new database would also amount to an infringing act.\textsuperscript{621}

The approach adopted by the United Kingdom courts is very clear.\textsuperscript{622} They do not allow for short cuts. The subsequent compiler has to go ‘to the whole of the publicly

\textsuperscript{618} CDPA s. 29(5) as amended by reg. 8 of the Database Regulations.

\textsuperscript{619} See: See Ladbroke v William Hill supra note 568 at p. 469.

\textsuperscript{620} See supra note 572 and accompanied text.

\textsuperscript{621} See: Waterlow Directories Ltd v Reed Information Services Ltd, [1992] FSR 409 (Chancery Division, 1990). The case concerns competing directories, which list lawyers in the United Kingdom. In order to update its directory, the defendant copied lawyers’ addresses contained in the plaintiff’s directory and sent them forms requesting them to appear in the new addition of its directory. These activities came to the plaintiff’s attention after such a form was received by a ‘seed’ address, i.e. an address that is been put in intentionally in order to detecting such uses. The defendant was restrained by injunction from adding to its directory material compiled from sending such forms to law firms listed only in the plaintiff’s directory.

\textsuperscript{622} This assertion is definitely valid under the old law concerning the period before the enactment of the Database Regulations. The new database regime in the United Kingdom has not yet been tested. Arguably, as discussed supra § 4.3.5, the old law regarding compilation copyright has been preserved by the Database Regulations. It should be noted, however, that the CDPA as amended by the Database Regulations
available information and start from scratch'. Subsequent compilers are not entitled to save themselves 'the trouble, and very possibly the cost, of assembling their own information, either from their own researches or from sources available in documents in the public domain.'

The situation in the United States is substantially different following the landmark decision of *Feist v Rural*. The Court asserted that compilation copyright is 'thin'. Thus, a subsequent compiler is free to extract the unprotected elements from an initial work in order to compile a new database. Indeed, it was held so, when the compilation as a whole is protected by copyright and certainly, when the

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Per Lord Justice Buckley, *ibid.*, at p. 57.

See: *BellSouth Advertising & Publishing Corp v Donnelly Information Publishing Inc and Others*, 999 F. 2d 1436 (11th Cir., 1993). Despite the protection provided for a 'yellow pages' telephone directory, the extraction of all names and addresses from it by the defendants was not an infringement of that copyright. Note that in prior proceedings of this case (933 F. 2d 952; 3 CCH Computer Cases ¶ 46,490) it was held that it is an infringement to copy the classification format even if this format was re-arranged. However, on 4 November 1992, the 11th Circuit issued an order announcing its decision to rehear this case and the initial decision to be vacated. See also: *Key Publications Inc v Chinatown Today Publishing Enterprises Inc and Others*, 945 F2d 509; Copyright Law Decisions ¶ 26,804 (2nd Cir., 1991) (stating that compilation copyright is 'thin' but not 'anorexic').
compilation is not protected as such.\footnote{As it was the case in Feist v Rural, supra note 595.} The protection covers only "those aspects of the compilation that embody the original creation by the compiler".\footnote{CCC Information Services Inc v Maclean Hunter Market Reports Inc and Others, 44 F. 3d 61 (2nd Cir., 1994) at p. 66.}

The allowable taking from a protected compilation is demonstrated by the Hyperlaw case.\footnote{Matthew Bender & Company, Inc. v West Publishing Company; Hyperlaw, Inc. v West Publishing Company, 1997 U.S. Dist. Lexis 6915; 42 U.S.P.Q.2D 1930; 25 Media L. Rep. 1856 (Dist., Southern District of New York, 1997).} This case concerns the American law reports published by West, which are undoubtedly protected compilations.\footnote{See: West Publishing Co. v Mead Data Central Inc., 799 F.2d 1219; Copyright L.R. ¶25,998 (8th Cir., 1986).} Hyperlaw is the publisher of CD-ROM products of legal information. Although Hyperlaw obtains the text of most of the current cases from sources other than West, in certain circumstances it scans the title, texts and certain other information directly from the West reports. This action raises the question of the extent of the copyright protection available to West. The Court held that\footnote{Matthew Bender v West Publishing, supra note 629, at Lexis *4.}

West’s compilation copyright protects its arrangement of cases, its indices, its head-notes and its selection of cases for publication, but these are not what Hyperlaw is copying. What Hyperlaw is copying is the individual reported decision and the fact that it copies one, two or a thousand decisions does not change the fact that it is the decisions and not West's compilation of those decisions that Hyperlaw is copying.
Moreover, the Court discussed each of the elements that West claimed was protected by copyright,\(^{632}\) and concluded that “each of the changes that West makes to the cases it reports are trivial and, taken separately or collectively, they do not result in ‘a distinguishable variation’ of the opinion written by the court”.\(^{633}\) Hyperlaw is permitted, therefore, to use these elements in its CD-ROMs. It should be noted that in a prior proceeding,\(^{634}\) the Court held that Hyperlaw’s use of references to a particular page in the West reports did not violate West’s copyright in the compilation, thus reversing a controversial judgement in this matter.\(^{635}\)

\(^{632}\) Such as: parallel citations to the cases cited in an opinion; changes in the title of the case (capitalisation and abbreviated terms); subsequent history of the case and subsequent opinions issued by the court in the same case.

\(^{633}\) *Matthew Bender v West Publishing, supra* note 629, at Lexis *12.


\(^{635}\) See: *West Publishing v Mead Data Central, supra* note 630. The case concerns the Lexis Star Pagination Feature, that would insert page numbers from West’s National Reporter System publications into the body of Lexis reports, providing pinpoint citations to the location in West’s reporter of the material viewed on Lexis. It was held that West had copyright in the compilation of its law reports. Thus, the use of Lexis of the stated feature violated West copyright. This case has been largely criticised by legal scholars. See, e.g., Patterson, L. Ray and Craig Joyce, *Monopolizing the Law: The Scope of Copyright Protection for Law Reports and Statutory Compilations*, 36 UCLA LAW REVIEW 719 (1989). The authors argue that this decision is not sound in proper copyright analysis and interpretation, and its consequences cause serious damage to the public interest and to the ensurance of access to the law. Moreover, its validity after the ruling in *Feist v Rural* (supra note 595) are debatable. See also: *United States v Thomson Corp.* 949 F. Supp. 907; 1996 U.S. Dist. Lexis 19197 (Dist., District of Columbia, 1996). The United States has consistently maintained that the use by others of star pagination does not constitute copyright infringement (*ibid.*, at p. 925).
The allowable taking from works of information has a long-standing history. Hence, one cannot do better than refer to the fundamental concepts of copyright law. As early as 1870, it was observed that

The rule appears now to be settled, that the compiler of a work in which absolute originality is of necessity excluded, is entitled, without exposing himself to a charge of piracy, to make use of preceding works upon the subject, where he bestows such mental labour upon what he has taken, and subjects it to such revision and correction as to produce an original result, provided that he does not deny the use made of such preceding works, and the alterations are not merely colourable.

Careful examination of this passage may provide a conciliation of the extreme approaches that are taken on the two sides of the Atlantic. Piracy cannot be tolerated thus, database protection should be provided when verbatim copying of databases is involved. Copyright law should be smoothly employed in such circumstances. In other circumstances, it seems that it is a matter of policy consideration.

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636 Copinger, Walter Arthur, THE LAW OF COPYRIGHT (London: Stevens and Haynes, 1870) at p. 90. The example which is discussed there is that of a dictionary. Copyright cannot be claimed in the information contained in it. The point to be decided was whether there was a legitimate use of one dictionary. They found that there was sufficient exercise of mental operation deserving the character of an original work.

637 Emphases are in the original text.

638 A hint towards this approach may be found in the consideration of Lord Justice Goff (in Elanco Products v Mandops, supra note 623 at p. 56) for a grant of an injunction. The evidence that the defendants started with a blatant copy of the plaintiff's materials was to be weighted against them.
5.2.3 Implications on Database Protection

A required high level of 'originality' results in under-protection of databases. Databases that fail to reach the high standards set by the demands of the 'originality' criterion are not protected. This is probably the situation in the United States. Many databases that do not demonstrate the minimal creativity requisite in the selection and the arrangements of the constituent components are not protected. High level of originality also determines the distinction between protected works and unprotected data. By applying the typology of databases discussed above,\(^\text{639}\) a graphical representation of this situation is given below:

In essence, this is a choice of legal policy. Debatable results are apparent in respect of factual collections. When collections of works are found to be unoriginal compilations, the consequences are not critical. Copyright still subsists in the constituent parts of the collection. A clear benefit, however, results from adopting such a policy, that is the enhancement of the public domain. Thus, possibly

\(^{639}\) See supra § 4.1.3.
stimulating and promoting the creation of new databases based on freely available materials. As one may infer from an observation made in *Feist v Rural*[^640]

As applied to a factual compilation, assuming the absence of original written expression, only the compiler's selection and arrangement may be protected; the raw facts may be copied at will. This result is neither unfair nor unfortunate. It is the means by which copyright advances the progress of science and art.

When the level of 'originality' is low, most databases qualify for copyright protection thus, reducing the available materials that are copyright-free. In addition, the level of originality determines the distinction between works and data, resulting in a shrinking public domain. Thus, the representation of that situation would be:

![Diagram of database copyright protection](image)

This is also a choice of legal policy. The entrepreneurs are the main concern in adopting such a view. Possible results are an over-protective regime that inhibits the creation of new databases. In justifying this approach, it has been said that subsequent compilers will be free to make their research and to go to common sources for compiling their databases. This is not always feasible, especially when

[^640]: *Feist v Rural*, supra note 595 at p. 350.
an exclusive holder of information is involved. Furthermore, the public domain is tight, which means that the possibilities of creating databases from materials contained therein are of a lesser extent.

In this respect, one has to consider that the term 'copyright' has been settled throughout the European Union to expire 70 years after the death of the author. The same is true regarding the United States. Denying public access to useful information and free use of it for such a long period raise questions on the justification of copyright protection to factual databases.

5.3 The Creation of Databases

5.3.1 Balance of Rights

The availability of databases in the marketplace, that is the volume of their production and their dissemination among users, plays a critical role in economic, technological and cultural progress. In today's information overload, database technology provides tools in achieving effective dissemination of information.

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641 The issue of exclusive sources of data and works is dealt with infra § 6.4.


643 17 USC § 308 states the general duration of copyright for works created after 1 January 1978 to 50 years after the author's death. By virtue of the Copyright Term Extension Act (S. 505, H.R. 1621, passed both Senate and the House of Representatives on 7 October 1998) the new duration of copyright is 70 years after the death of the author.

644 The recognition of the importance of databases is echoed in the background materials in favour of database regulation and in many scholarly writings. See, for example, Database Directive, Recital, ¶ (9).

645 See supra § 2.2; Directive, Recital, ¶ (10).
Hence, the public interest demands a stable regime of database protection, which encourages database production and dissemination. Databases are viable tools for the activities of modern society. The support of database development and the guaranty of their public availability are clear policy goals of many governments worldwide. In this respect, the European Union authorities have adopted several measures and allocated funds to support the establishment of an internal information market. Notably, various programmes have been launched with the view of stimulating the development of the information society and markets. Included among these programmes are the following: the Information Market Policy Actions (IMPACT) programme; the Info2000 programme and the recently introduced Information Society programme.

The legal protection of databases in the European Union should be viewed in that perspective. That is, the removal of legal barriers to establishing a Community information market with the broadest availability, and at the same time providing harmonised and adequate legal protection to database makers and providers.

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The achievement of the stated goal requires a delicate balance between rights of producers and users. Database users within this context are also potential producers that wish to enter the database market and wish to do so by building upon existing databases.

The assumption that the higher the protection the greater the database availability is, is misleading. The objective of any database regime is not to provide the strongest database protection, but the formulation of the optimal level of protection to the benefits of producers and users alike, and the achievement of the broader extent of database availability.

In this sense, there is a positive correlation between the breadth of the public domain and database availability. This assumption is derived from the nature of databases as a creation based on pre-existing materials. Because it is a derivative creation, the allowable taking from existing materials is significant. Indeed, database producers who wish to build upon existing works may acquire licenses from the stated material owners. However, it is evident that if they can re-use and re-utilise public domain materials, the investment in the production of a particular database will be lower, thus resulting in setting lower prices for using it. This leads to the conclusion that if many databases can be produced that way, the availability of databases in the marketplace is enhanced. As a result, securing and enlarging the public domain is directly linked to the amount of database production and consumption.

Building upon the public domain is true to any composition of work. As it has been lucidly stated

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650 See supra § 3.4.2.

To say that every new work is in some sense based on the works that preceded it is such a truism that it has long been a cliché, invoked but not examined. But the very act of authorship in any medium is more akin to translation and recombination than it is to creating Aphrodite from the foam of the sea.

Hence, 'in the absence of a vigorous public domain, much of it would be illegal'.652 This observation is even more significant where the making of databases is concerned. In creating databases, the notion of pre-existing material is explicitly present and not only implied, as in the act of authorship of works. Hence, the precise scope of the public domain that can be employed in creating new databases is essential. Accordingly, the legal status concerning such materials is followed.

5.3.2 Incorporation of Public Domain Materials

Old Works

Old works for which the term of copyright had expired are free to be incorporated in databases. Having stated this apparently obvious rule, one should consider the diversity in copyright terms among countries. If a work is still within the copyright term in one country and out of it in another country, then incorporation of such a work in a database product may result in different legal treatment towards this database. When physical objects in which the work is embodied, are at issue, this situation is understandable. The owner of copyright in the country in which the work is still copyrighted can exercise his rights by preventing copies of such a work from entering the market.653 This situation dramatically changes when on-line distribution is concerned.

652 Ibid.

653 See supra note 546 and accompanied text.
The case of Peter Pan demonstrates that point. Sir James Matthew Barrie, the author of Peter Pan died in 1937. Hence, the copyright in Peter Pan expired in 1987 in the United States but not in the United Kingdom, where this work has been granted a perpetual copyright. Consequently, one can find many publications of Peter Pan over the Internet done in the United States, which are effectively accessible within the United Kingdom. While sympathy could be afforded to the special status of Peter Pan, it should be noted that it has been discussed as an illustration of the results regarding different copyright terms in the digital environment.

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654 In both the United States and the United Kingdom, the duration of copyright has in the material time been 50 years after the death of the author. This rule has been changed in both the United Kingdom and the United States, thus the new duration is set to 70 years after the author’s death.

655 CDPA, s. 301 and Schedule 6. The trustees of The Hospital for Sick Children, Great Ormond Street, London, were given the rights to collect royalties for certain forms of exploitation including public performance, commercial publication or inclusion in a cable programme service. The right to collect royalties does not revive the copyright in the work, hence the right-owners have no right to prevent future exploitation of the work, just a right to remuneration for already performed exploitation. See: Dworkin and Taylor supra note 563 at p. 43. The authors criticise the grant of this *de-facto* perpetual copyright and conclude (following Lord Beaverbrook in the House of Lords that “Peter Pan’s copyright never grows up...” *(Ibid* at p. 44).

656 See, for example, Project Gutenberg at <http://www.promo.net/pg/index.html>. The project, directed by Michael Hart, aims to provide public domain texts in digital forms – termed as ‘etexts’ – a short time after they enter the public domain. One may claim that this service does not provide a restricted ‘commercial publication’, however, it arguably provides a ‘cable programme’. See: *supra* § 4.3.3. Other editions of Peter Pan are available, e.g., at: <http://www.teachersoft.com/Library_lit/barrie_contents.htm>. Note the copyright statement, which indicates awareness to the complex status of the work, and therefore, restricting its use within the United States.
Finally, it should be noted that when dealing with old works one must take into account the rights concerning the 'typographical arrangement of published edition'\(^{657}\) and a possible copyright in digital forms of such works.\(^{658}\)

**Ideas and Facts**

The concept that ideas are not protected by copyright is one of the fundamental principles of copyright law.\(^{659}\) Consequently, no copyright infringement occurs when what is taken from the work is its essential idea for composing an independent work in a different form of expression. A further development of this principle is the so called the 'merger doctrine' which implies that if there was only one way of expressing an idea, the idea and expression merged. Thus, such an expression is not the subject of copyright.\(^{660}\)

Facts are clearly out of copyright scope in the United States. It has been observed that facts are not 'created' but 'discovered' and all types of facts, scientific, historical, biographical and news of the day are in the public domain.\(^{661}\) It cannot be

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\(^{657}\) CDPA, s. 1(1)(c) and s. 8. The rights last for 25 years (s. 15). See *infra* § 5.3.3. regarding digitisation of materials.

\(^{658}\) See *infra* § 5.3.3. regarding digitisation of materials.

\(^{659}\) See: *COPINGER ON COPYRIGHT*, § 1-1 at p. 1 and § 8-8 at p. 165. In the United States, this principle is prescribed by a statutory clause. See: 17 USC 102(b) which clearly states that "In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery..." The roots of this concept can be traced back to *Baker v Selden* 101 US 99 (US Supreme Court, 1879) which has also laid the foundation for the idea/expression dichotomy.

\(^{660}\) The doctrine has been developed in the United States. See: *NIMMER ON COPYRIGHT* § 13.03[B][3]; *Lotus v Borland* supra note 557. The merger principle has been applied in the United Kingdom in: *Total Information Processing Systems Ltd v Daman Ltd*, 22 IPR 71; [1992] FSR 171 (Chancery Division, 1992).

\(^{661}\) See: *Feist v Rural*, *supra* note 595 at 348.
concluded that a similar rule exists in the United Kingdom. As however noted above, the recognition that copyright cannot be claimed in ideas is a well established concept, so does 'information or an opinion per se'. Hence, a possible conclusion could be inferred when employing the stated merger doctrine that expressed facts in a dry and straightforward fashion are out of the scope of copyright.

< Titles and Names

The titles of books, journal articles and generally, the titles of any work are not protected as such by copyright. This rule is valid in both the United Kingdom and the United States. The same applies to a single word and names. As a matter of law, however, the Court in Ladbroke v William Hill did not accept the proposition

662 See: Football League LTD v Littlewoods, [1959] Ch 637; [1959] 2 All ER 546; [1959] 3 WLR 42 (Chancery Division, 1959) at p. 651. See also per Lord Justice Goff in: Elanco Products v Mandops, supra note 623 at p. 50 stating that: "There is no copyright in information or ideas."

663 Such as in telephone directories regarding names and telephone numbers, or as in lists of shares quotes and currency rates and so on.

664 See: Copinger on Copyright, § 21-39 at p. 747. Note that in Rose v Information Services Ltd. [1987] FSR 254 (Chancery Division, 1986) it was held that the title “The Lawyer’s Diary 1986” was not entitled to copyright and, therefore, a competing book entitled “Law Diary 1986” did not infringe on any copyright. See also: Francis, Day and Hunter Ltd. v Twentieth Century Fox Corporation Ltd. [1940] A.C. 112 (Privy Council, 1940) (held that the copyright in a song was not infringed by using its title as a film title).

665 See: Nimmer on Copyright § 2.16.

666 Exxon Corp. v Exxon Insurance Consultants International Ltd., [1982] Ch 119; [1981] 3 All ER 241; [1981] 3 WLR 241 (Court of Appeal, 1981). Although a great deal of skill and resources have been put in inventing the word ‘Exxon’, it was not found capable of copyright protection as a literary work.

667 See Ladbroke v William Hill supra note 568.
that copyright cannot subsist in titles. Accordingly, COPINGER ON COPYRIGHT concludes that

It is submitted, therefore, that a title, unless it is sufficiently lengthy and original to have had labour in construction as well in choice expended upon it, will not be protected by as an original literary work, and that the copyright in the work will not be infringed in cases where only the title has been reproduced. The position might be different if the title is prominently repeated in the work itself (e.g. in a poem or song) or if the title takes the form of or incorporates an artistic work.

Titles are the raw material for many databases such as bibliographical and reference databases. Being in the public domain is significant for such database creators. Dworkin and Taylor submitted that 'it is difficult to resist the conclusion that titles are generally denied protection for policy reasons’. They counted two possible reasons. First, titles tend to be single words or phrases and if copyright subsist in them, then it would be a monopoly of the basic building blocks of language and second, that adequate protection is available independently of copyright. To this

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668 Per Lord Hodson, *ibid.*, at p. 476. He observed that ‘No doubt they will not as a rule be protected, since alone they would not be regarded as a sufficiently substantial part of the book or other copyright document to justify the preventing of copying by others.” In this case, the appellants submitted that the headings in football betting coupon are equivalent to titles. This submission was dismissed.

669 § 21-31 at p. 748.

670 See: *News Group Newspapers Ltd. v Mirror Group Newspapers (1986) Ltd.* [1989] 1 FSR 126 (Chancery Division, 1988). An injunction was granted against the use of *The Sun* logo on by the defendants. The parties agreed on the issue of copyright subsistence in that logo on the apparently accepted reason that it qualifies as an artistic work. See: Dworkin and Taylor, supra note 563 at p. 22.

671 Dworkin and Taylor, *supra* note 563 at p. 22.

672 Alternative methods of protection are, as appropriate, the law of trademarks and the tort of passing off (as it has been applied in *Exxon v Exxon*, *supra* note 666).
rationale, one can add the reason noted above on the importance of freely available titles for database construction including Web pages authoring, where names of sites and pages are employed for the purposes of hypertext linking.

\< Commonplace Tables \>

In *Cramp v Smythson*\(^{673}\), the plaintiff complained that the defendant had infringed copyright in his diary by copying certain materials from it such as tables of weights and measures, postal information and other tables. The Court dismissed the claim on its merits. This diary was not considered 'original' because the commonplace matter of the tables left no room for taste or judgement and their selection did not constitute an original literary work.

This is one of the a few cases where copyright protection had been refused for a written publication. The Court reasoned this refusal by stating that

> There would... be considerable difficulty in successfully contending that ordinary tables which can be got from, or checked by, the postal guide or the Nautical Almanac are a subject of copyright as being original literary work. One of the essential qualities of such tables is that they should be accurate, so that there is no question of variation in what is stated. The sun does in fact rise and the moon set at times which have been calculated and the utmost that a table can do on such a surety is to state the result accurately. There is so far no room for judgement.\(^{674}\)

It should be noted that in other cases it has been held that if the selection of the commonplace materials requires 'knowledge, skill and judgement' copyright

\(^{673}\) *G.A. Cramp & Sons Ltd v Frank Smythson Ltd*, [1944] AC 329 (HL).

\(^{674}\) Per Viscount Simon LC, *ibid.*, at p. 335
protection would be granted. 675 This case should be considered as refusing copyright when two conditions are met. First, the constituent materials of the compilation are commonplace and not 'original'. 676 Secondly, there is no 'skill, choice or judgement' in the selection of the materials.

<$\text{Official Materials}$

The comparison between the United States and the United Kingdom issue of the copyright in official materials such as the texts of legislation and judgements is ultimately concluded with profound disagreements. The Berne Convention allows national legislation to determine the protection to be granted to such texts. 677 The United States preferred leaving these materials out of the scope of copyright, 678 whereas in the United Kingdom they apparently enjoy copyright protection as 'Crown Copyright'. 679 There are arguably good reasons for placing such materials in the public domain thus securing an effective access by the public. 680 Indeed, special

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675 *Macmillan v Cooper*, *supra* note 585.

676 Copyright is also granted when new original works are added to the pre-existing materials that form the compilation. See: *Lewis v Fullarton*, 2 Beav 6 (1839).

677 Berne Convention, Article 2(4). See also Article 2bis concerning political speeches and speeches delivered in the course of legal proceedings; these are also left for determination by national legislation.

678 17 USC § 105 excludes 'United States Government works' from copyright protection. On the scope of this provision see: *Nimmer on Copyright* § 5.06. Concerning judicial opinions and statutes, it has long been held that no copyright may be claimed in them and therefore, they are regarded as being in the public domain. See *ibid.* § 5.06[C].

679 Texts of Acts and Laws are defined as 'Crown Copyright'. See: CDPA, s. 164 and *Copinger on Copyright*, Chapter 13, p. 381 onwards. Less clear is the status of judgements. See discussion below.

680 The European Union has recently launched an examination of access to public sector information and the effects of copyright in such information. See: § III.6 of the *Public Sector Information: A Key Resource For Europe: Green Paper on Public Sector Information in the Information Society*, COM(1998) 585. Available over the Internet at: Continue
rules governing the uses of Crown Copyright by the public and a review of the status of such materials in the United Kingdom is currently being considered. Furthermore, this issue is being currently considered within the legislative process of the Freedom of Information Bill.

The copyright status of texts of judgements in the United Kingdom is unclear whereas it has long been established that copyright subsists in transcripts of such

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681 The HMSO is in charge of administrating Crown Copyright. The conditions in which reproduction of Crown Copyright material is permitted are set out in the so-called "Dear Publisher" letters and other notices issued by the HMSO. The latest "Dear Publisher" letter (dated 21 February 1997) permits, in certain terms, the reproduction of Acts and other statutory publications in any media in a value added context. See: HMSO, Dear Publisher: Reproduction of Crown Copyright Material (21 February 1997), available at: <http://www.hmso.gov.uk/publet.htm>.


683 This Bill is currently before Parliament (Session 1998-99, introduced in the House of Lords on 10 December 1998) and aims to ‘extend the right of access to information held by public authorities’ (Bill Preamble). S 5 of the Bill limits the charges for the provision of Information. However, in respect of information sought by a person for commercial purposes, the Secretary of State may impose additional charges by prescribed regulations under s. 9 of the Bill. The provisions of this Bill are in line with the recommendations of the Third Report on Public Administration (House of Commons, Session 1997-98, May 1998) which concluded that ‘We believe in general that Crown Copyright should be used selectively, to ensure that material that is primarily of use to commercial organisations can still contribute to departments’ income, while publications that are of use to the general public (and particularly publications that assist in the Government’s duty to be open and accountable to the public and to Parliament) are widely and very cheaply available.” (Ibid., § 25 of the Summary of Conclusions and Recommendations).

judgements that belong to the reporter. In the United States, it has been clearly held that no copyright exists in judgements or in their transcripts. Copyright, however, subsists in any editorial enhancement to the plain text of judgements. Thus, case summary, head-notes and the like are literary works that originated with the case report editor. Other added features to the source opinions should be examined particularly for their copyrightability.

Dedication to the Public Domain

Libraries that offer public domain materials are flourishing over the Internet. Such libraries may perform a substantial contribution to the creation of new databases. Therefore, it is interesting to explore the status of the dedication of works to the public domain in the United Kingdom and the United States.

Dedication to the public domain occurs when a clear intent concerning abandonment of copyright has been expressed by an author with respect to his work. Normally, the claim on Crown copyright in judgements cannot be sustained); Tapper, Colin, Copyright in Judgements, [1985] CL&P 76 (copyright arguably subsists in the judge); Monotti, Ann, Nature and Basis of Crown Copyright in Official Publications, [1992] 9 EIPR 305.

See infra § 5.3.3 regarding digitisation of materials.

See: NIMMER ON COPYRIGHT § 5.06[C].

See supra § 5.2.1 regarding the Hyperlaw case.

See: Index of Public Domain Resources at: <http://www.banis-associates.com/pdlist/> which provides links to many sites specialising in distribution of public domain materials, including software and other works.

See: COPINGER ON COPYRIGHT § 6-28 at p. 149; NIMMER ON COPYRIGHT § 13.06. It should be noted that before the accession of the United States to the Berne Convention (see: Berne Convention Implementation Act 1988, Pub. L. 100-568, 102 Stat. 2853) there were requirement of formalities, including a copyright notice, that must accompany any work. Thus, the defence of abandonment of copyright was largely employed regarding the absence of the requisite notice. See: 17 USC 401 as amended by
the argument of abandonment of copyright constitutes an effective defence, although 'it is difficult to say what amount of evidence the courts would require as to the fact of a dedication of a copyright to the public'. Having viewed this issue from the perspective of the act of dedication of a work to the public domain, as in the above-mentioned libraries, it may be performed by an explicit license that extends to the world at large.

There are indeed, such general public licenses over the Internet in relation to public domain software.

It is submitted that the development of clear legal procedures regarding the dedication of works to the public is needed thus enhancing the availability of public domain materials, which can be freely used without the threat of copyright infringement. The existence of such repository of public domain materials is essential for the creation of new databases, especially such databases as multimedia projects and Website development. The objective of preserving the public domain is significant for cultural and technological progress.

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COPINGER ON COPYRIGHT, ibid., stating that there is no direct authority on this issue.

COPINGER ON COPYRIGHT § 8-148 at p. 225.

See, for example, Free Software Foundation, GNU General Public License at: <http://www.gnu.org> in relation to the GNU software (Unix operating system compatible software). Note that a distinction should be made between this type of 'public license' and the so-called 'shareware' licensing scheme. Shareware software producers retain their copyright in the software that they distribute through the shareware method and specify the terms and conditions for reproduction and use by users. Normally, Shareware producers grant a limited licence, generally for a specified time, on the basis of 'try before you buy'. On shareware see: Trumpet Software Pty Ltd and Another v Ozemail Pty Ltd and Others, 34 IPR 481 (Federal Court of Australia, 1996).
One cannot do other than conclude, as remarkably done by Phillips

The public domain is a special and valuable domain which should be cultivated for the good of both present and future generations, not parcelled up among those most able to assert their territoriality over it. Let us call for a special commission to watch over that inarticulately expressed interest which we all share in the public domain, to warn us when it is under threat and to help up keep it alive.

5.3.3 Database Creation Practices

< Scanning and OCR

An optical scanner is a device to input data into a computer. In the process of creating databases, a scanner may be used to convert sources of data in a paper form into a digital form. This technology is implemented by reflecting light on the source form and converting the pattern created by the reflection into a digital format capable for computer usage. Normally, the initial step in the conversion is to create a graphic image of the source. This means that the actual content of the source is, at this stage, unrecognisable by the computer. However, with the use of specialised software the content of the source, either text or graphics, can be mapped and recorded.

For instance, suppose one is planning to create a database containing a bibliography of information technology law. One possible source to start with is the annual index

695 Such as Optical Character Recognition (OCR) or Vector Graphics.
published in journals specialised in this area.\footnote{E.g., the Computer Law & Practice journal publishes an annual index in the last issue of the year. From time to time, an accumulative index is published.} By using scanning and OCR technology, the time and cost for converting this data into a digital form could be dramatically reduced. Making this data available in digital form is the initial step towards structuring the data and putting it in a database format. The following is a brief consideration of the legal aspects of the above-mentioned acts.

The above-mentioned annual index is arguably a compilation, which is protected by copyright. We presume, for the following discussion, that there is an author and an owner of the copyright in this compilation other than the journal publisher. This assumption helps to distinguish the different copyrights in this compilation. Firstly, the index is considered a compilation and therefore, a literary work for the purpose of the Act.\footnote{CDPA, s. 3(1)(a).} Secondly, copyright exists in ‘the typographical arrangement’ of the published compilation.\footnote{CDPA, s. 1(1)(c).} These are distinct rights, which differ in their nature, terms of copyright subsistence,\footnote{The ‘typographical arrangement of published edition’ is not defined in the Act. The Act, however, defines (CDPA, s. 8), a ‘published edition’ in this context as ‘a published edition of the whole or any part of one or more literary, dramatic or musical works.’ Furthermore, this right does not subsist ‘if, or to the extent that, it reproduces the typographical arrangement of a previous edition’.

\footnote{A compilation must be ‘original’ [CDPA, s. 1(1)(a)] and must be ‘recorded, in writing or otherwise’ [CDPA, s. 3 (2)]. These requirements are not applicable to the ‘typographical arrangement’, although other conditions should be met (see note above).} authorship\footnote{The author of the compilation is ‘the person who create it’ [CDPA, s. 9 (1)]; the ‘author’ of the ‘typographical arrangement’ is the publisher [CDPA, s. 9 (2) (d)]} and other aspects.

It is evident that a licence to scan the index is required from the author of the compilation. The act of scanning is an act of ‘copying’ the work in question, which
is an act restricted by copyright. The 'Copying' in relation to the above-mentioned compilation for the purposes of the Act means 'reproducing the work in any material form'. The Act makes it clear that 'reproduction' includes 'storing the work in any medium by electronic means'. Therefore, the act of scanning is, arguably, an act of reproducing the work by electronic means, which is an act restricted by copyright.

Does the act of scanning infringe the publisher's copyright in the 'typographical arrangement'? The Act defines 'copying' in relation to the 'typographical arrangement' as 'making a facsimile copy of the arrangement'. Therefore, one can re-define this question by asking whether the scanning is 'making a facsimile copy of the arrangement'. It seems that a clarification of the term 'facsimile' is required in order to answer the above-mentioned question. The Act relates to this term in its definition Section. Firstly, it states that a 'facsimile copy' includes a copy, which is reduced or enlarged in scale'. Secondly, this term is mentioned in relation to 'reprographic process'. The latter is defined in the Act, inter alia, as a process 'for making facsimile copies'. It should be noted that a possible distinction should be made between 'reprographic' copying and 'facsimile' copying. It seems hard to extract a straightforward answer to the question at issue by looking at the Act only. It may be useful to look at a dictionary definition of 'facsimile'. One definition is that a 'facsimile' is concerned with a reproduction of an exact copy. Therefore, it

702 CDPA, s. 16(1)(a).
703 CDPA, s. 17(2).
704 CDPA, s. 17(2); 'electronic' is defined in s. 178 in a broad sense, though 'electro-optical' is not mentioned explicitly.
705 CDPA, s. 178.
706 THE NEW SHORTER OXFORD ENGLISH DICTIONARY (Oxford: Clarendon Press, 1993) defines 'facsimile' as 'the making of an exact copy'. Note, however, that this word is used also for 'a system for reproducing a copy by radio etc. transmission of signals from scanning an original'. The fax system, which is based on scanning, is also a 'facsimile'.
is submitted that the copyright in the ‘typographical arrangement’ is confined to 
*exact* copying. It is unclear whether one should look at the final output of the 
reprographic process, or whether an infringement occurs even if a transient *exact* 
copy is reproduced. If the final output were at issue, then a ‘facsimile’ copy would 
be a photocopy of the printed form, whether reduced or enlarged. However, the act 
of scanning is not, in this sense, a ‘facsimile’ copy because the presentation medium 
is different. This is not an identical and exact copy, for the simple reason that it is 
held in a different form, namely an electronic or machine-readable form.

**Digitisation of Materials**

The Act provides that copyright in a literary work will not subsist ‘unless and until it is 
recorded, in writing or otherwise.’\(^{707}\) This means that databases should be ‘recorded in 
writing’ in order to qualify for copyright protection. In this respect, the Act makes it 
clear that ‘writing’ includes computer storage. The Act defines the term ‘writing’\(^{708}\) as 
follows:

> “writing” includes any form of notation or code, whether by hand or 
otherwise, regardless of the method by which, or medium in or on which, it is recorded, and “written” shall be construed accordingly.

This definition is broad enough to include any type of computer storage. Therefore, 
at first sight, it seems that there shall not be any disputes over the fulfilment of this 
requirement for databases in the ordinary course of events. A closer investigation of 
this issue will clarify that this requirement is ultimately a request that a physical 
object that the copyright work is attached to, whether it is a printed paper, or a fixed

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\(^{707}\) CDPA, s. 3(2).

\(^{708}\) CDPA, s. 178.
computer media. Apparently, the law of copyright is concerned with physical material, as is clearly stated in the standard textbook\(^{709}\) of copyright law:

Copyright law is concerned, in essence, with the negative right of preventing the copying of physical material.

Therefore, regarding the prerequisite of 'fixation', it seems that as long as a database is recorded and fixed in a physical material,\(^{710}\) there will not be any controversy in applying copyright to it. However, when it comes to databases that are continuously changing within a computer memory, some difficulties may arise. Given that a database in that manner has no physical and fixed boundaries, it is difficult for traditional copyright law to deal with it.\(^{711}\)

The act of fixation may attract copyright protection in its own right. The recording of materials into a tangible form can amount to the creation of a copyright work by virtue of such recording. For instance, a speech that is reduced to writing by shorthand, or recorded by an audio recorder, creates a copyright work in the recording.\(^{712}\) This rule has a significant ramification to databases. It seems that the recording of materials in a computerised form can probably attract a distinct copyright. This issue is of importance where old works, out of copyright, or materials in the public domain, are recorded in a database. Copyright arguably

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\(^{709}\) COPINGER ON COPYRIGHT, § 1-1 at p. 1.

\(^{710}\) Naturally, this will include the traditional form of physical material in copyright, i.e. printed materials. Nevertheless, it also concerns databases that are fixed in computer media, e.g. CD-ROM, disks, tapes etc.

\(^{711}\) In essence, this is the 'dematerialisation' of copyright law. See supra § 3.1.2.

\(^{712}\) COPINGER ON COPYRIGHT § 3-34 at p. 62.
subsists in the recording itself subject to the fulfilment of other requisites for copyright subsistence.\textsuperscript{713}

Furthermore, the change of medium is arguably involved with enough "skill and labour". Therefore, the act of recording into a computerised database can be regarded as change of medium, and hence is considered to fulfil the prerequisite of "originality". Consequently, the change of medium from printed compilations to electronic databases, creates distinct works in the computerised materials within the databases, and in addition, the requirement of "originality" has been fulfilled.

### 5.4 Database Copyright as a Transitional Regime

Ginsburg\textsuperscript{714} has proposed the distinction between 'low authorship' and 'high authorship' works. High authorship works are the traditional works such as novels, symphonies and paintings. These works are personality based and feature a great deal of creativity. Low authorship works are works of information that are not necessarily creative, and certainly they do not demonstrate any feature of the author's personality. Accordingly, the application of copyright notions that were developed for high authorship works to low authorship works evidently results in anomalies and inconsistencies. Database copyright should be regarded, then, as a transitional regime, in which international protection is available. Placing database protection within this setting derives from the necessity to create international regime with minimal difficulties. In this sense, copyright is a perfect vehicle. It

\textsuperscript{713} \textit{Ibid.} The change of medium is one of the kinds of "skill and labour", which are commonly employed to claim "originality" concerning pre-existing materials.

requires no formalities, it is acceptable among most countries in the world and it is flexible enough to accommodate databases within its scope. During the debate concerning software copyright, one of the commentators observed that software and copyright are a 'marriage of inconvenience'.

The same is true for database and copyright. Indeed, copyright is employed for providing software protection. However, valuable aspects of software remain unprotected. The next phase, then, is to propose a tailor-made regime specifically designed for software protection and, indeed, to databases as well.

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Following the 'thin' protection provided to databases by the existing copyright system, a *sui-generis* regime, which is tailor-made for databases, is emerging. For the purpose of this discussion, the term used for this regime is 'dataright'.

This chapter discusses the need for dataright, showing that due to gaps in database protection, certain databases go unprotected while other databases are over-protected. Then, it critically reviews the measures introduced in this matter. In particular, the Draft Treaty on Databases,\(^\text{717}\) the Database Directive\(^\text{718}\) and the US Database Bill\(^\text{719}\) are introduced and compared.

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\(\text{717}\) Basic Proposal for the Substantive Provisions of the Treaty on Intellectual Property in Respect of Databases to be considered by the Diplomatic Conference, prepared by the Chairman of the Committees of Experts on a Possible Protocol to the Berne Convention and on a Possible Instrument for the Protection of the Rights of Performers and Producers of Phonograms, WIPO document ref. CRNR/DC/6 (30 August 1996). References below to the 'Draft Treaty on Databases' are to the draft Treaty contained in this document including its accompanied notes.


\(\text{719}\) Collections of Information Antipiracy Act, H.R. 2652, 105th Congress, 2nd Session. Passed by the House of Representatives on 19 May 1998 (C.R. H3404). The Bill was received in the Senate on 20 May 1998 for further legislative actions.
6.1 The Need for Dataright

6.1.1 The Gaps in Database Protection

Copyright law provides protection to original works. Where collections of works are concerned, copyright law provides protection to original collections, and in the absence of originality in the collection itself, the protection of the constituent works that form the collection is assured. Hence, databases that consist of works do not pose a serious concern regarding their protection.

The primary question that remains unresolved is the issue of a data collection. In this respect, 'data'\textsuperscript{720} means unprotected materials that are potential database components. This has been always been a complex issue and has been termed as a 'paradox'.\textsuperscript{721} That is, how to formulate adequate legal protection for collections of materials, when all of the constituent components of such collections are not protected. Moreover, how such protection could be provided without affecting the status of the parts that form the objects of protection.

Legislators, courts and commentators have come up with a variety of resolutions to the stated issue. The recently introduced database copyright within the TRIPS Agreement, the Database Directive and the Copyright Treaty have adopted a substantially similar resolution.\textsuperscript{722} Accordingly, original data collections are protected by copyright where 'originality' is examined regarding the selection or the arrangement of the data items that form the collection.

\textsuperscript{720} See supra § 2.2.4 on the distinction between 'data' and 'work'. Works or other materials in the public domain are also considered 'data' for the purposes of this discussion. See supra § 5.3.2 on public domain materials.


\textsuperscript{722} See supra § 5.1.1.
The analysis of this regime leads to the conclusion that anomalies and inconsistencies are evident when applying copyright rules to databases. Copyright law is perhaps an inadequate regime for providing the optimal resolution of database protection. Some databases will not be protected by copyright, thus resulting in an under-protective regime.\textsuperscript{723} In particular, databases that do not cross the originality barrier as defined above will not be protected. Furthermore, the protection is 'thin' in a way that only the 'selection or arrangement' of the databases are protected thus leaving the database components without any protection. Consequently, copying the entire content of a database without copying its structure would not infringe database copyright. The exclusive rights within the copyright framework are attached to the structure of the database only, and are not intended to protect the content of the database. Therefore, the copyright regime of database protection is not sufficient for providing the necessary incentives for the creation of databases. In the absence of legal protection for the content of databases, the incentives to invest in such databases are seriously damaged. Ginsburg\textsuperscript{724} expressed that perplexing conclusion as

\textsuperscript{723} See supra § 5.2.3.

Copyright would fare better, and would prove less "troublesome," if its surface coherence were relinquished. We have now, as we have long had, two kinds of copyright: in high authorship works, such as novels and narrative histories, copyright protects the authorial presence within the work; in low authorship works, such as telephone directories and compilations of stock quotations, copyright protects the labor and resources invested in the work's creation. Copyright thus concerns both creation and commercial value. The error of our modern doctrine lies in its implicit, but unexamined, claim that a personality-based approach to copyright law has completely displaced the sweat/investment model. Recognition of our dual bases for copyright not only would be more faithful to our copyright history, but also would squarely confront the interests at issue in a rapidly growing sector of publishing activity.

The above conclusion is most apparent in the United States where the so-called 'sweat of the brow' theory has been rejected. The Supreme Court has asserted that "without a doubt, the 'sweat of the brow' doctrine flouted basic copyright principles". Hence, no reconciliation between this theory and the law of copyright is conceivable.

The same approach could be ascertained considering that Civil Law jurisdictions view the copyright principle of 'originality' as being based on personality and creativity notions.

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725 Following the decision in: Feist Publications Inc v Rural Telephone Service Company Inc, 499 U.S. 340; 111 S Ct. 1282; 113 L Ed 2d 358; 20 IPR 129 (US Supreme Court, 1991) at p. 354. See also: supra § 4.4.1 and § 5.2.1.

726 See supra § 5.2.1. See also: Dommering, Egbert J. and P. Brent Hugenholtz, PROTECTING WORKS OF FACTS: COPYRIGHT, FREEDOM OF EXPRESSION AND INFORMATION LAW (Deventer: Kluwer Law and Taxation Publishers, 1991) regarding Germany and the Netherlands (Protection of Compilations of Facts in Germany and the
Database copyright, however, may lead to an over-protective regime.\textsuperscript{727} This is arguably the result of applying copyright rules to data collections in the United Kingdom.\textsuperscript{728} The justified impetus of providing protection to data collections has brought about uneasy consequences when the data items themselves are protected by copyright.\textsuperscript{729} Thus, the scope of elements that can be freely used to create new databases shrinks, which arguably affects the availability of databases in the market.\textsuperscript{730} Such a result is contradictory to public interest; hence, there is a drive to modify the stated protection regime in order to moderate this consequence.

The diversity in the modes of database copyright puts at risk the accomplishment of an international protection regime. In today’s global market, the goal of international protection is evident and leaving that diversity unresolved leads to an under-protection of databases. Consequently, alternate models of database protection have been suggested. Some of these proposals are examined below\textsuperscript{731} by providing an analysis of the underlined theories that stimulate such suggestions.

\textsuperscript{727} See \textit{supra} § 5.2.3.

\textsuperscript{728} This result was clear regarding compilation law prior to the enactment of the Database Regulations. As it is discussed above, \textit{supra} § 4.3.5, the new database regime in the United Kingdom introduces the criterion of ‘selection and arrangement’ in respect to database protection. However, the new regime preserves compilation copyright under the old law. Furthermore, that criterion may be interpreted as a requisite for protection, thus databases that cross this barrier will be treated according to the old compilation rules. In particular, the law in the United Kingdom does not accept the breaking down of the compilation into its components, and it is treated ‘as a whole’ (see discussion \textit{supra} § 5.2). Therefore, it is unclear whether the new database copyright regime indicates a move of the law of the United Kingdom towards that of the United States, or whether the old rules regarding compilation copyright will be saved without any significant changes in database copyright law of the United Kingdom.

\textsuperscript{729} See \textit{supra} § 5.2.2.

\textsuperscript{730} See \textit{supra} § 5.3.1.

\textsuperscript{731} \textit{Infra} § 6.6.
6.1.2 Dataright as Emerging Database Regime

The theoretical foundations that are considered in the formulation of a particular database regime are critical in striking an adequate balance of rights concerning databases. However, the detailed provisions of any database regime in force practically affect the database market and other involved interests. The main concern of this study is, therefore, the detailed database rules rather than the abstract conceptual regime.

In this respect, the Database Directive provides a detailed regime that when looked at together with its implementation in the United Kingdom by the Database Regulations, can provide a broad account of dataright. The Draft Treaty on Databases follows the Database Directive by adopting the same detailed regime. The US Database Bill is another measure currently being considered by the United States Congress. Accordingly, an account of these initiatives is given below.

6.2 The European Union Database Directive

The European Union Directive on the Legal Protection of Databases is the most comprehensive attempt, so far, by a legislative body to propose a legal solution for the protection of databases. This Directive will dramatically change the laws of European Union members concerning the protection of databases. Undoubtedly, it will have a significant impact on other jurisdictions and merits more detailed consideration.

6.2.1 The Legislative Process

The topic of legal protection of databases is quite new on the European Community Commission's agenda. When the Commission published a White Paper in 1985
concerning the completion of the internal market, databases were not listed among the subject matters, although their legal protection should be urgently dealt with in the area of new technologies. In fact, the White Paper sought only to highlight the urgency of the issue of the protection of semi-conductor chips. However, the Commission observed in the White Paper that

Differences in intellectual property laws have a direct and negative impact on intra-Community trade and on the ability of enterprises to treat the common market as a single environment for their economic activities.

Accordingly, problems in the field of intellectual property were considered as barriers to the completion of the internal market. In the field of copyright and related rights, the White Paper concluded that a consultative document was to be published to establish priorities. The Commission indicated that particular attention would be given to the legal protection of computer programs. In fact, three years later the Commission issued its intended consultative document entitled the *Green Paper on Copyright and the Challenge to Technology*. This paper listed issues requiring

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733 *Ibid.*, ¶ 149. The White Paper also indicated that the Commission intended to propose measures concerning patent protection of bio-technological inventions. Other concerns in the field of intellectual and industrial property had to do with trademarks and patents.


736 Commission of the European Communities, *Green Paper on Copyright and the Challenge of Technology: Copyright Issues Requiring Immediate Action*, COM (88) 172 final. The issues discussed in this paper include audio-visual home copying; distribution rights; rental right; computer programs; databases and external relations.
immediate action owing to new technological development. This time, databases appeared clearly and forcefully in the Commission's activity agenda.\textsuperscript{737}

Databases were probably not considered explicitly until their principal appearance in the Green Paper. Information services, however, are a popular topic on the European Union action programmes. Indeed, in the White Paper the Commission observed\textsuperscript{738} that

\begin{quote}
Information itself and information services are becoming more and more widely traded and valuable commodities, and in many respects primary resources for industry and commerce. The opening of the market for it is therefore of increasing importance. Moreover, the functioning of markets for other commodities depends upon the transmission and availability of information. As a commodity, however, it has unique and difficult properties.
\end{quote}

This paragraph restates the basic policy conflict concerning databases. The legal protection of databases should be viewed in a policy that will ensure their availability in the market.

\section*{The Green Paper}

The main concern of the Commission in the Green Paper was the legal regime of protection that databases should enjoy. It was evident that works, which fell within the scope of Article 2.5 of the Berne Convention, would enjoy copyright protection. However, it seems that the change in the medium of storage caused some difficulties\textsuperscript{739} when applying the Berne rule. Moreover, this rule applies to

\begin{footnotes}
\item[737] \textit{Ibid.}, Chapter 6: Data Bases at pp. 205-217.
\item[738] White Paper, \textit{ibid.}, ¶ 119 at p. 31.
\item[739] Green Paper, § 6.4.1 at p. 211.
\end{footnotes}
collections of works only. Unquestionably, databases of costly commercial value are often collections of data rather than collections of works. Consequently, the problems posed by databases with regard to their protection, in the Commission’s view, were the following:

a) whether the mode of compilation within a database of works should be protected by copyright and,

b) whether that right to protect the mode of compilation, in addition to possible contractual arrangements to that effect, should be extended to databases containing material not protected by copyright and whether this protection should be copyright or a right sui generis.\(^{740}\)

\(<\) The First Proposal

After the Green Paper, extensive preparatory work was done on the database issue. Studies on the status of databases in various member states were authorised by the Commission. The Commission held public hearings\(^{741}\) and interested parties lobbied the Commission to present their own views.\(^{742}\) In January 1992, the Commission announced its proposal for the legal protection of databases. An unofficial text of this proposal was circulated by the Commission, and it raised some interest among scholars and practitioners alike. Interestingly, the Commission anticipated the implementation of its Directive by 1 January 1993.\(^{743}\) However, only in April 1992

\(^{740}\) Green Paper, § 6.7 at p. 216.

\(^{741}\) The hearing was held on 26 and 27 April 1990. Conclusions of this hearing are detailed in: Commission of the European Communities, Follow Up to the Green Paper on Copyright and the Challenge of Technology, COM (90) 584 final (17 January 1991).

\(^{742}\) For an account of this lobbying see: Metaxas, George, Protection of Databases: Quietly Steering in the Wrong Direction? [1990] 7 EIPR 227.

The initial proposal was confined to electronic databases only. The regime for the protection of databases is a two-tier protection; first, copyright protection for the structure of the database and second, a _sui-generis_ right for the content of the database. In other words, copyright protection is applicable to the mode of the compilation of databases and not to their contents. It is the _sui-generis_ right, namely the right to prevent unfair extraction, which deals with the contents of databases. Normal copyright rules apply to the copyright in the structure of a database. The database content – as protected by a _sui-generis_ right – is protected by specific rules concerning the term of protection (ten years), eligibility and exceptions.

The proposal also laid down specific rules concerning compulsory licences that are to be granted whenever the content of a database is available from an exclusive source. Measures to resolve terms and fees concerning these licences are provided for within the terms of the proposal. Finally, the means of protection provided by

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this proposal are without prejudice to any other means of protection, for example contractual.

The Economic and Social Committee Opinion

The Economic and Social Committee delivered its opinion in November 1992. Although the opinions of this Committee are non-binding and as a consultative body it has no right to review previously released recommendations, its opinions are influential as the Committee members represent those likely to be affected by the draft legislation.

The Committee welcomed the initiative of the Commission in proposing the Directive at issue, but it urged certain changes to the draft. Notably, the Committee adopted views regarding the requirement of originality, the sui-generis right and the confinement of the Directive to electronic databases.

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746 OJ C 19/3 (25 January 1993).

747 The Committee incorporates representatives of employers’, workers’ and consumers’ organisations.

748 Ibid. s. 2.1. The Committee advised the Council that it “...should resist being side-tracked into a debate on legal philosophies which underlie the Directive, particularly on the subject of ‘originality’...” See also: § 1.5 and § 2.3 b. Generally, the Committee preferred the so-called ‘sweat of the brow’ theory.

749 The Committee’s proposal was that the ‘unfair extraction right’ would be a restricted act under copyright protection to databases (§ 2.6). It also commented on the length of a term (being too short, § 2.3) and on expanding this right to cover unauthorised access as well (§ 3.6).

750 Ibid. at § 3.2. The Committee noted that “...this would not only complicate the law but could lead to undesirable practical consequences”.

Generally, the Committee leaned towards the adoption of the English model of protection.\footnote{Namely, low threshold of originality which ensures that even those databases which demonstrate 'the sweat of the brow' would be protected under copyright. In addition, the Committee asked not to restrict copyright protection to electronic databases only. The echoes of English law could be identified in the reference to 'computer generated databases' (§ 3.6).} It also believed that a strong database industry correlated with a high level of protection.\footnote{\textit{Ibid.} at § 2.2. The United Kingdom, according to the Committee, attracted a substantial database industry because of the high level of protection English law provides to databases.}

\begin{itemize}
\item \textbf{The European Parliament Debate and Resolution}
\end{itemize}

The European Parliament expressed considerable concern over the Proposed Database Directive. Initially, the proposal was extensively discussed by the Committee on Legal Affairs and Citizens' Rights and to a lesser extent in other committees of the European Parliament.\footnote{The Committee on Economic and Monetary Affairs and Industrial Policy and the Committee on Energy, Research and Technology. The opinions of these committees were taken into account in the final report of the Committee on Legal Affairs and Citizens' Rights.}

The Committee on Legal Affairs delivered a report, which formed the basis for the debates and a vote in the Parliament.\footnote{Doc A3-0183/93. A report submitted by Mr Garcia Amigo on behalf of the Committee on Legal Affairs and Citizens’ Rights. See: Debates of the European Parliament, OJ Annex 3-432 17 (21 June 1993). The above-mentioned report took also into account the opinions of the other committees, which discussed this matter.} In this report, no less than 32 amendments were proposed to the Commission's proposal. Most of these proposals were accepted in the vote taken on 23 June 1993.\footnote{Explanation of vote and vote to adopt a legislative resolution in: OJ Annex 3-432/154, Debates of the European Parliament (23 June 1993).} Accordingly, the Parliament adopted...
a legislative resolution, which accepted the Commission’s proposal subject to amendments.\textsuperscript{756}

\section*{The Amended Proposal}

Following the European Parliament resolution, the Commission presented an amended proposal\textsuperscript{757} for a Directive on database protection.

According to the Commission’s explanatory memorandum attached to the amended proposal, it contained amendments which were intended mainly “to give greater precision and clarity to the text”\textsuperscript{758} of the initial proposal. In the Commission’s view, there was only one modification of substance, namely the extension of the term of the \textit{sui-generis} right to fifteen years instead of ten years as in the initial proposal.

However, a careful examination of the amendments revealed other important modifications to the initial proposal. These modifications include amendments to the definition of database and the beneficiaries of rights. In addition, the phrasing of the \textit{sui-generis} right replaced the term ‘unfair’ by ‘unauthorised’. Although one could regard these amendments as modifications providing more clarity, it seems that these changes are a quite significant departure from the concepts underlying the Commission’s proposals.


\textsuperscript{758}  \textit{Ibid.} at p. 2 of the COM document.
The adoption of the Directive

It took more than two years until the adoption of the Database Directive. First, the Council adopted a Common Position, which formed the wording of the final version of the Directive. Secondly, the European Parliament held a debate on the Common Position, and introduced some amendments to it. Such amendments were incorporated into the final version, thus accomplishing the adoption of the Database Directive.

6.2.2 The Impact of the Directive

The Database Directive addresses the European Union members, and as such harmonises the dataright rules within the European Union. As with database copyright, the impact of the Database Directive goes beyond the European Union. By virtue of the European Economic Area Agreement, members of this agreement

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761 The European Parliament introduced ten amendments. Most of these amendments were concerned with minor changes in the wordings, probably in order to clarify possible confusion. Nevertheless, the amendments to Article 6 have some significance. This provision, concerning the exceptions to the restricted acts of database copyright, and the obligation of indication of source [Article 6(b)], was amended by the Parliament.


763 Database Directive, Article 17.

764 The Final Act of the Agreement on the European Economic Area (EEA) creates a free trade area among the European Union countries and other European countries, notably Norway and Switzerland. The Act requires the adoption of the EC measures in the field
are required to adopt in their national laws the provisions of the Database Directive, including the dataright provisions. The database regime set out in the Database Directive covers, therefore, a substantive part of Europe.

6.3 International Dataright Initiatives

6.3.1 The Draft WIPO Treaty on Databases

Databases have been on the agenda of the WIPO for over a decade. In 1987, the Committee of Governmental Experts considered the issue within the context of incorporating works in databases.\(^\text{765}\) In this regard, no actual steps have been taken.

Then, discussions on the Possible Protocol to the Berne Convention were launched. This Protocol was intended to provide an internationally agreed clarification to the Berne Convention. This time, databases were presented regarding an extension of Article 2.5 to cover data collection together with the already existing collections of works.\(^\text{766}\)

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The discussions of the Committee of Experts were concluded with the preparatory documents of the Diplomatic Conference\textsuperscript{767} held in Geneva in December 1996. The preparatory documents included a proposal for a Treaty concerning databases.\textsuperscript{768}

Eventually, the Diplomatic Conference adopted the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty were opened for signature on 20 December 1996.\textsuperscript{769} In addition, the Diplomatic Conference adopted several statements.

The Copyright Treaty, as it has been discussed above,\textsuperscript{770} adopted the TRIPS formulation of database copyright.\textsuperscript{771} The adopted statement regarding the Copyright Treaty clarifies that\textsuperscript{772}

\begin{quote}
The scope of protection for compilations of data (databases) under Article 5 of this Treaty, read with Article 2, is consistent with Article 2 of the Berne Convention and on a par with the relevant provisions of the TRIPS Agreement.
\end{quote}

\textsuperscript{767} The Diplomatic Conference on Certain Copyright and Neighboring Rights Questions was held in Geneva from 2 to 20 December 1996. About 850 participants from 120 States and 78 interested inter-governmental and non-governmental organisations participated in this Conference. Its objective was to negotiate and adopt a treaty on certain copyright and neighboring rights questions. Documentation of this Conference is available at: <http://www.wipo.int/eng/diplconf/index.htm>. Subsequent references in this section to WIPO documents are to materials that can be retrieved from that WIPO Website at the above address.

\textsuperscript{768} Supra note 717.

\textsuperscript{769} See: Final Act of the Diplomatic Conference, WIPO document ref. CRNR/DC/98 (23 December 1986).

\textsuperscript{770} See supra 4.2.3.

\textsuperscript{771} Copyright Treaty, Article 5.

\textsuperscript{772} Agreed Statements Concerning the WIPO Copyright Treaty, Concerning Article 5, WIPO document ref. CRNR/DC 96 (23 December 1986).
The Diplomatic Conference adopted a recommendation\textsuperscript{773} regarding databases, which stated that a meeting of the WIPO should decide on a schedule of further preparatory work for a Treaty on databases. Such a meeting was held in March 1997, in which an Information Meeting on intellectual property in databases was arranged.\textsuperscript{774} The Information Meeting on databases took place in Geneva in September 1997.\textsuperscript{775} In this Meeting, issues concerning databases were discussed with the view of adopting a Treaty that would propose a \textit{sui generis} protection of databases. Measures concerning future work on this subject were recommended, including the dissemination of the information collected in this matter among member states of the WIPO, and a call for submission of opinions by interested parties until a set deadline.\textsuperscript{776}

A new governance structure of the WIPO was adopted in March 1998, in which the activity regarding protection of databases was placed within the competence of the Standing Committee on Copyright and Related Rights of the WIPO. The Committee considered the issue of database protection on its meeting held in November 1998.\textsuperscript{777} Stressed by the delegations in this meeting, was the need for further discussions and

\textsuperscript{773} Recommendation Concerning Databases, WIPO document ref. CRNR/DC/100 (23 December 1986).

\textsuperscript{774} See: Article 1 to the Report adopted by the Information Meeting, WIPO document ref. DB/IM/6 (19 September 1997).

\textsuperscript{775} Experts from 93 countries together with the Commission of the European Communities attended the Information Meeting. See ¶ 2 of the above Report.

\textsuperscript{776} See \textit{ibid.}, ¶ 12 at the Report.

\textsuperscript{777} WIPO Standing Committee On Copyright And Related Rights, First Session, Geneva, November 2 to 10, 1998, Draft Agenda, WIPO document ref. SCCR/1/1(30 June 1998). The discussions were conducted by 86 Member States of WIPO and 47 intergovernmental and non-governmental organisations. The results of this meeting are reported on WIPO Press Update 98 38 (Geneva, 10 November 1998) available over the Internet at: <http:/www.wipo.int/eng/pressupd/1998 upd98_38.htm>.
for further studies to be conducted on the economic impact of database protection on developing countries. In order to enable discussions and exchanges of views by the participants, seminars and roundtables will be set up on a regional level beginning in April 1999. The Standing Committee will meet again in May 1999 to consider the harmonisation of database protection.778

6.3.2 The US Database Bill

The current US Database Bill is a second attempt to propose a dataright regime. The first attempt was the Database Investment and Intellectual Property Antipiracy Act of 1996.779 This Bill, which was roughly drafted on the provisions of the Database Directive, went beyond the Directive’s measures regarding its scope of protection. For instance, the proposed term of protection was 25 years780 as compared to 15 years in the Database Directive. The Bill was forcefully criticised in that it ‘would grant database owners a more absolute monopoly than that emanating from the EC Directive’.781 No corresponding bill was introduced in the Senate, no actions were taken in relation of this Bill, and eventually, this Bill failed.

The current Bill, which is being considered by the United States Congress, is the Collections of Information Antipiracy Act.782 It should be noted that in the drafts


780 Ibid., § 6(a).


782 H.R. 2652, 105th Congress, 2nd Session, introduced on 9 October 1997. The Bill was passed by the House of Representatives on 19 May 1998 (C.R. H3404), and was received in the Senate on 20 May 1998 for further legislative actions.
towards the enactment of the Digital Millennium Copyright Act, the text of the US Database Bill was incorporated. However, this text concerning database protection was dropped as the final draft of the Act was passed.

6.4 Dataright Features

Dataright features in the Draft Treaty on Databases are analysed here and compared to their counterpart in the Database Directive and the US Database Bill. The objective of this analysis is to evaluate whether possible changes should be considered in the proposed international regime.

The analysis is focused on the major features that have to be resolved in any dataright regime. At the outset, the object of protection must be clarified. Then, the dataright beneficiaries have to be defined; in particular, the protection of foreign databases within any national law should be dealt clearly in any proposed international regime. Consequently, the legal nature of dataright should be clarified, thus settling the scope and extent of rights. In particular, the scope of rights are regarded as references to producer’s rights, user’s rights and exceptions and safeguards concerning the application of rights. Finally, the term of protection and the duration of rights have to be fixed.

783 H.R. 2281, 105th Congress, 2nd Session.
784 Ibid., Title V.
785 The Digital Millennium Copyright Act 1998, Public Law 105-304. The Act was signed by the President on 28 October 1998.
6.4.1 Object of Protection

The Draft Treaty on Databases\textsuperscript{786} concludes the desired international norm of dataright protection as follows:

Contracting Parties shall protect any database that represents a substantial investment in the collection, assembly, verification, organization or presentation of the contents of the database.

This objective generally corresponds to the objectives set out in the Database Directive\textsuperscript{787} and the US Database Bill.\textsuperscript{788} The object of protection is the investment in the creation of databases. Such investment is clarified as ‘any qualitatively or quantitatively significant investment of human, financial, technical or other resources’.\textsuperscript{789}

The legal protection set forth in the Treaty covers databases in any form.\textsuperscript{790} Furthermore, it is immaterial whether or not the database is made available to the public.\textsuperscript{791} Both public and private\textsuperscript{792} databases are protected. Protection under the Treaty\textsuperscript{793} is granted irrespective of any protection provided for a database or its

\textsuperscript{786} Draft Treaty on Databases, Article 1(1).
\textsuperscript{787} Database Directive, Article 7.1.
\textsuperscript{788} US Database Bill, § 1202.
\textsuperscript{789} Draft Treaty on Databases, Article 2(iv). The wording follows that of the Database Directive, Article 7.1. The US Database Bill, § 1202, concisely defines such investment as ‘substantial monetary or other resources’.
\textsuperscript{790} Draft Treaty on Databases, Article 1(2).
\textsuperscript{791} Draft Treaty on Databases, Article 1(3).
\textsuperscript{792} On this distinction, see supra § 2.2.1.
\textsuperscript{793} Draft Treaty on Databases, Article 1(3).
contents by copyright or by other rights. Finally, computer programs are excluded from the scope of protection.\footnote{Draft Treaty on Databases, Article 1(4).}

As discussed above,\footnote{Supra § 2.4.5.} certain modifications in the definition of a ‘database’ have to be considered. In particular, the qualifying conditions of a collection, which are considered a ‘database’, need certain clarification. Suggestions have been made to follow the US Database Bill in this matter, by asserting the purpose of the collection of materials regarded as a ‘database’ as the major qualifying attribute. Hence, defining a ‘database’ by its intended purpose, that is, ‘bringing discrete items of information together in one place or through one source so that users may access them’\footnote{US Database Bill, § 1201(1).} is recommended.

### 6.4.2 Dataright Beneficiaries

The ‘maker’ of a database is the dataright beneficiary. The choice of the term ‘maker’ is intended to distinguish it from the beneficiary of database copyright which is coined in the traditional copyright manner as the ‘author’ of the database.\footnote{See: Article 4.1 of the Database Directive.} Hence, the right-holder of dataright is the ‘maker’ of a database’. This term is defined in the Draft Treaty on Databases as \footnote{Draft Treaty on Database, Article 2(iii).}

> “maker of the database” means the natural or legal person or persons with control and responsibility for the undertaking of a substantial investment in making a database.
It is clear that the proposed Treaty seeks to safeguard persons against misappropriation of the fruits of their financial and professional investment in collecting, verifying and presenting the contents of databases.\textsuperscript{799}

There is no definition for the ‘maker of a database’ in the Database Directive. However, it is clear from the Database Directive’s provisions that the maker of a database is the person who is responsible and controls the investment in the database.\textsuperscript{800} In this respect, both the Database Directive and the Draft Treaty on Databases are in line.

It should be noted that the Database Regulations make detailed provisions concerning the identification of the dataright beneficiary. Firstly, the ‘maker of a database’ is clearly defined\textsuperscript{801} as

\begin{quote}
... the person who takes the initiative in obtaining, verifying or presenting the contents of a database and assumes the risk of investing in that obtaining, verification or presentation shall be regarded as the maker of, and as having made, the database.
\end{quote}

This definition generally corresponds to the definition set forth in the Draft Treaty on Databases, and is in line with the implied notions concerning the ‘maker of a database’ in the Database Directive.

It should be noted that the Database Regulations resolve other issues concerning the identification of the ‘maker of a database’\textsuperscript{802} In essence, the rules laid down in the

\begin{footnotes}
\item[799] See: ¶ 1.06, Notes on Article 1 of the Draft Treaty on Databases.
\item[800] See: Article 7.1 of the Database Directive.
\item[801] Database Regulations, reg. 14(1).
\item[802] These rules refer to databases made in the course of employment (Database Regulations, reg. 14(2)); databases which are made jointly by two or more persons (Database Regulations, reg. 14(5)) and databases which are made by the Crown officers
\end{footnotes}
Database Regulations correspond, *mutatis mutandis*, to the normal rules regarding copyright beneficiaries.\(^{803}\) For instance, a database made by an employee in the course of his employment, shall consider the employer as the maker of that database.\(^{804}\)

The US Database Bill, however, does not allocate rights to any identified right-holder. This Bill, as it is discussed below,\(^{805}\) is termed not on notions of property rights but on notions of unfair competition law. The Bill does not explicitly allocate rights in respect to the database creation. Instead, the Bill grant remedies in actions that can be brought by ‘any person who is injured by a violation of section 1202’.\(^{806}\) That person, is undoubtedly the maker of the database or its successor in interest.\(^{807}\) Furthermore, the reading of the above-mentioned section 1202 reveals, that the persons who can claim the stated violations are the persons who are responsible and control the investment in the database in question. It seems, therefore, that despite the variations in terms, the US Database Bill follows the same principles regarding

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or by the House of Commons or the House of Lords (Database Regulations, reg. 14(3) and 14(4)).

\(^{803}\) See: CDPA, s. 11(2) (works made in the course of employment); CDPA, s. 10 (works of join authorship); CDPA s. 163-167 (Crown Copyright and Parliamentary Copyright).

\(^{804}\) Database Regulations, reg. 14(2) which corresponds to CDPA, s. 11(2). Note that the issue of databases made in the course of employment, in the Database Directive, has been left to the discretion of the Member States. See: Database Directive, Recital ¶(29). In the Draft Treaty on Databases, it is commented that “The expression ‘control and responsibility for the undertaking of a substantial investment’ is intended to exclude the possibility that the protection of the proposed Treaty might flow to the employees who execute the tasks required to produce a database; it is clear that the rights and protection flow to their employer.” See: Draft Treaty on Databases, Notes on Article 2, ¶ 2.06.

\(^{805}\) On the nature of dataright, see *infra* § 6.4.3.

\(^{806}\) US Database Bill, § 1206(a).

\(^{807}\) US Database Bill, § 1202.

The Database Directive specifies detailed points of attachment for the eligibility of a database’s maker to benefit from the rights provided under the Directive. Accordingly, the rights are provided to makers who are nationals or have their habitual residence in the territory of the Community.808 On the same rationale, rights are also granted to companies and firms.809 Therefore, firms formed in the Community, and have their registered office, central administration or principal place of business within the Community are eligible for dataright protection. However, where such a company or firm only has its registered office in the territory of the Community, ‘its operations must be genuinely linked on an ongoing basis with the economy of a Member State’.810

The eligibility rules in the Database Directive for dataright protection has been adopted, mutatis mutandis, in the Draft Treaty on Databases.811 Hence, dataright protection is territorial and is provided to nationals – either persons or firms – of the Treaty members. Less clear is the status of foreign databases’ makers. The Database Directive states that812

809 Database Directive, Article 11.2.
810 Ibid.
811 Draft Treaty on Databases, Article 6(1) and 6(2).
812 Database Directive, Article 11.3.
Agreements extending the right provided for in Article 7 to databases made in third countries and falling outside the provisions of paragraphs 1 and 2 shall be concluded by the Council acting on a proposal from the Commission. The term of any protection extended to databases by virtue of that procedure shall not exceed that available pursuant to Article 10.

Foreign databases, that is makers who are not qualified by their points of attachment to the European Union, are eligible to benefit from dataright protection if and only if the Council concludes an agreement extending dataright protection for specified countries outside the European Union. In other words, the basis for the protection of foreign databases is reciprocity rather than the normal rule governing copyright of 'national treatment'.

This is a significant issue which should be resolved in any Treaty regarding dataright. Consequently, the issue of reciprocity versus national treatment is discussed below.

\section*{Reciprocity}

The principle of reciprocity, as introduced in the Database Directive, follows that of the Council Directive on the legal protection of topographies of semiconductor products. In fact, the European Council adopted the model of the United States in its legislation concerning the protection of semiconductor chip designs. In this Act, the United States introduced an international protection model which “might be

\footnote{813}{On the principle of ‘national treatment’ see \textit{supra} § 4.1.2.}


\footnote{815}{Semiconductor Chip Protection Act of 1984 (Pub. L. 98-620, 98 Stat. 3347, 3356), as incorporated in 17 USC Chapter 9.}
seen as a form of ‘gunboat diplomacy’’. The United States Act stated that foreign chip designers would benefit from the protection provided in that Act if the laws of any foreign country, in which those designers are nationals, provide the same level of protection to United States citizens. Hence, states worldwide, including the United Kingdom, rushed to introduce legislation for the protection for semiconductors chips, in order not to be deprived of protection in the United States. Accordingly, the European Council adopted its Directive in this matter. In its Directive, the European Council followed the model set forth by the United States by requiring reciprocity in order to be qualified for chip-protection within the European Union.

Indeed, in the case of chip-protection the Council has extended the protection to certain countries, in particular to the United States. With the implementation of the TRIPS Agreement within the European Union, this issue has been resolved with respect to the World Trade Organisation members, including the United States.

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816 Lloyd, Ian, INFORMATION TECHNOLOGY LAW (2nd Edition, London: Butterworths, 1997) at p. 390. Lloyd comments that the use of this tactic backed by the threat of force has been proved effective (ibid at p. 391).

817 The Semiconductor Products (Protection of Topography) Regulations 1987, SI 1987/1497. In a later stage, following the adoption of the Directive in this matter (supra note 814) these Regulations were substituted by the Design Rights (Semiconductor Topographies) Regulations 1989, SI 1989/1100.

818 Supra note 814.


820 Council Decision 94 824/EC of 22 December 1994 on the extension of the legal protection of topographies of semiconductor products to persons from a Member of the World Trade Organisation, OJ L 349, 31 December 1994, p. 201. United States, as most
In the Database Directive, the reciprocity model is the choice for the protection of foreigners concerning dataright.\textsuperscript{821} It should be noted that the applicability of dataright has been extended by virtue of the European Economic Area Agreement\textsuperscript{822} to a substantive part of Europe.\textsuperscript{823} Indeed, the Database Regulations in the United Kingdom limits the qualification for protection to the European Economic Area nationals and firms.\textsuperscript{824}

\textbf{National Treatment}

The Draft Treaty on Databases re-introduce the principle of national treatment concerning dataright.\textsuperscript{825} Accordingly, foreign makers of databases are provided with the rights that apply to nationals of the Treaty members.\textsuperscript{826} The Draft Treaty on Databases states that\textsuperscript{827}

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\textsuperscript{821} Database Directive, Article 11.3, as discussed above, in the accompanied text to \textit{supra} note 812 onwards.

\textsuperscript{822} See \textit{supra} note 764 and accompanied text.

\textsuperscript{823} At the time of writing (October 1998), no further Council decisions exist that extend the dataright regime beyond the EEA, as noted above.

\textsuperscript{824} Database Regulation, reg. 18.

\textsuperscript{825} Draft Treaty on Databases, Article 7.

\textsuperscript{826} \textit{Ibid.}, Article 7(1).

\textsuperscript{827} \textit{Ibid.} Article 7(3).
The enjoyment and the exercise of rights under this Treaty shall be independent of the existence of protection in the Contracting Party of which the maker of a database is a national. Apart from the provisions of this Treaty, the extent of protection, as well as the means and extent of redress, shall be governed exclusively by the laws of the Contracting Party where protection is claimed.

Hence, the Treaty prefers the national treatment principle, and the above clarifications aims to override the reciprocity principle provided in the Database Directive in this matter.

It should be noted that the current dataright regime within Europe does not provide dataright protection for foreign databases, including those of the United States, if they do not satisfy the national points of attachment as discussed above. This situation can be resolved by the adoption of a Treaty, or by the enactment of an appropriate laws in the United States.828

Regarding the qualification for protection in the United States, the US Database Bill does not introduce any specific measures. This Bill is constructed on the basis of unfair competition law, rather than a property right, as it is discussed below.829 Therefore, the normal rules regarding conflicts of laws will govern the qualification for rights under the US Database Bill. It seems that this result is one of the major weaknesses of the unfair competition approach. It is unclear whether and to what extent foreign makers of databases will benefit from the rights under the US Database Bill. On one hand, the provisions of this Bill do not require any specific qualification for protection. The rights are provided against misappropriation of unfair extraction of the content of a database done by any person in respect to

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828 Arguably, the US Database Bill, if enacted in its present form, will satisfy the extension of dataright by a Council Decision pursuant to Article 11.3 of the Database Directive.

829 Infra § 6.4.3.
databases made by any other person.\textsuperscript{830} On the other hand, it is unclear whether databases made outside the United States are covered by the Bill. The provision regarding the object of protection in the Bill\textsuperscript{831} places liability when the misappropriated materials from a database are used in \textit{commerce} so as to cause harm to the actual or \textit{potential market} of the database maker. Both terms, ‘commerce’ and ‘potential market’ are defined in the Bill. The term ‘commerce’ is defined as “all commerce which may be lawfully regulated by the Congress”.\textsuperscript{832} The term ‘potential market’ is defined as

The term ‘potential market’ means any market that a person claiming protection under section 1202 has current and demonstrable plans to exploit or that is commonly exploited by persons offering similar products or services incorporating collections of information.

Both terms indicate points of attachment to the United States. It is clear that Congress has power over the United States and the markets referred to in the Bill are within the United States. Hence, a foreign maker of a database has to prove points of attachment to the United States in order to claim rights under the Bill.

\section*{6.4.3 Dataright Nature}

The approach taken by the Database Directive and the Draft Treaty on Databases is that of granting exclusive rights to the makers of databases. The nature of rights is similar to that of copyright and to other copyright-like rights, sometimes coined as

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{830} US Database Bill, § 1202.
\item \textsuperscript{831} Ibid.
\item \textsuperscript{832} US Database Bill, § 1201(4).
\end{enumerate}
\end{footnotesize}
‘neighbouring rights’. In essence, the rights are property rights as so clearly stated in the Database Regulations.833

The nature of rights under the US Database Bill is linked to the law of Torts within the realm of unfair competition law. This separation is anticipated to lead to different rules showing a clear distinction between the regime laid down in the Database Directive and the US Database Bill. However, detailed analysis of the rules reveal that all measures are in accordance with the stated measures, and the variants are of a minor importance. Accordingly, the rights under the US Database Bill are in essence property rights in the guise of misappropriation rules.

Firstly, the rights in all measures can be transferred, assigned or granted under contractual license, which is a typical feature of intellectual property rights. The Database Directive834 and the Draft Treaty on Databases835 explicitly express this feature. In the Bill, the transferable rights are implied by the references made throughout the Bill to the ‘successor in interest’836 of the maker of a database, and the allowable licensing of rights regarding collections of information.837

Secondly, the Bill makes it clear that traditional remedies in intellectual property actions are also available with regard to the violations of rights under the Bill, such

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833 Database Regulations, reg. 13(1).
834 Database Directive, Article 7.3.
835 Draft Treaty on Databases, Article 4(2).
836 US Database Bill, § 1202.
837 US Database Bill, § 1205(e).
as temporary and permanent injunctions\textsuperscript{838} as well as seizure of any infringing copies.\textsuperscript{839}

Thirdly, the rights under the Bill are limited in their duration. This is also the case, as terms of protection are commonly attached to any intellectual property right, in the Database Directive and the Draft Treaty of Databases.\textsuperscript{840} The Bill hides the term of rights under a clause regarding limitations on actions. The Bill states that\textsuperscript{841}

\begin{quote}
No criminal or civil action shall be maintained under this chapter for the extraction or use of all or a substantial part of a collection of information that occurs more than 15 years after the investment of resources that qualified the portion of the collection of information for protection under this chapter that is extracted or used.
\end{quote}

Within the term of 15 years, legal actions are maintained, starting from the date of investment in a database. In other words, the rights provided under the Bill to protect the investment in a database last for 15 years.

In conclusion, the Database Directive and the Draft Treaty on Databases are modelled on the intellectual property approach. As is the US Database Bill, although the legal terms it uses stem from the law of unfair competition.\textsuperscript{842}

\textbf{6.4.4 Producer's Rights}

The scope of dataright under the Draft Treaty on Databases\textsuperscript{843} is defined as

\textsuperscript{838} US Database Bill, § 1206(b).
\textsuperscript{839} US Database Bill, § 1206(c).
\textsuperscript{840} On the term of dataright see infra § 6.4.7.
\textsuperscript{841} US Database Bill, § 1208(c).
\textsuperscript{842} See also infra § 6.6.2 on the distinction between property rules and liability rules.
The maker of a database eligible for protection under this Treaty shall have the right to authorise or prohibit the extraction or utilisation of the content of its content.

The stated rights are attached to the database content. Hence, the shortage of protection within the database copyright regime is resolved. That formulation closely follows the rights granted in the Database Directive and the Database Regulations. Hence, a person who extracts or utilises the entire content of the database or a substantial part of it infringes upon the exclusive rights of the database maker.

Utilisation Right

The exclusive rights granted by this dataright regime include the extraction right and the utilisation right. In fact, these rights are not distinct, and they are like two sides of a coin. The first right — the utilisation right — is termed in a positive manner. The second right — the extraction right — is termed in a negative fashion. The utilisation right provides the maker of a database with an exclusive right to utilise the content of a database by incorporating it in database products and services, and by exploiting the economic value of the content of a database. The extraction right means the exclusive right of a database maker to prohibit unlawful extraction of content from the database in which dataright subsists.

The term ‘utilisation’ is defined in the Draft Treaty on Databases in a very broad sense. The definition reads

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843 Draft Treaty on Databases, Article 3(1).
845 Reg. 16 of the Database Regulations.
846 Draft Treaty on Databases, Article 2(iv).
“utilisation” means the making available to the public of all or a substantial part of the contents of a database by any means, including by the distribution of copies, by renting, or by on-line or other forms of transmission, including making the same available to the public at a place and at a time individually chosen by each member of the public.

This is a broad concept that covers all forms of making a database or its contents that are available to the public. Accordingly, it covers all means of dissemination, including the distribution of physical copies and all forms of transmission. Note the reference made regarding ‘access to the database at a place and at a time individually chosen’. By this, coverage of Internet technologies are definitely covered.

The Database Directive and the Database Regulations are in line with that concept, although the term employed is ‘re-utilisation’ rather than ‘utilisation’.

**Extraction Right**

The Draft Treaty on Database defines ‘extraction’ as

> “extraction” means the permanent or temporary transfer of all or a substantial part of the contents of a database to another medium by any means or in any form.

Extraction of the content of a database is prohibited where a ‘substantial part’ of a database is concerned. Therefore, the term ‘substantial part’ is a key-term in defining the scope of the extraction right. This term is defined as

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847 See: Ibid., Notes on Article 2, ¶2.11.
848 Database Regulations, reg. 12(1).
849 Database Directive, Article 7.2(b).
850 Draft Treaty on Databases, Article 2(ii).
“substantial part”, in reference to the contents of a database, means any portion of the database, including an accumulation of small portions, that is of qualitative or quantitative significance to the value of the database.

The substantiality of any portion of the database is evaluated in terms of quantity or quality. The qualitative and quantitative tests may be employed as alternative tests or as accumulative tests.852

The value of the database refers to its commercial value. Extraction of the content of a database is prohibited if it harms that commercial value. In practice, repeated or systematic extraction of in-substantial parts of a database may have the same effect as extraction of a substantial part of the contents of the database. Therefore, in order to ensure the effective functioning of the extraction right, the above-mentioned definition clarifies that ‘accumulation of small portions’ is regarded as a substantial part of a database.

6.4.5 User’s Rights

The Draft Treaty on Databases does not explicitly specify any right relating to users of databases. The Database Directive, however, clearly and definitely states that853

851 Draft Treaty on Databases, Article 2(v).

852 Ibid. Notes on Article 2, ¶ 2.09. Note that the Database Regulations (reg. 12(1)) clarifies that ‘substantial in terms of quantity or quality or a combination of both’.

The maker of a database which is made available to the public in whatever manner may not prevent a lawful user of the database from extracting and/or re-utilising insubstantial parts of its contents, evaluated qualitatively and/or quantitatively, for any purposes whatsoever. Where the lawful user is authorised to extract and/or re-utilise only part of the database, this paragraph shall apply only to that part.

In essence, this right can be implied from the scope of rights provided to the producers of databases. Dataright relates to 'substantial' parts of a database. Therefore, 'insubstantial' parts of a database are not protected. The significance of the assertion made in the Database Directive rests in the following considerations.

Firstly, the rights of extraction and utilisation of a database is only vested in a 'lawful user'. Secondly, the data so obtained by users from a database may be utilised for 'any purposes whatsoever.' This means, either private or commercial purposes. Last, but definitely not least, any contractual provision which attempts to limit this user's right 'shall be null and void'.

Indeed, contracts are pre-empted by dataright. They may serve as a supplementary protection as well as a substitute for dataright. However, where a dataright regime is applied, contract can also be employed to limit user's rights. A safeguard against such consequence is assured by avoiding any contractual term that may limit that user's rights.

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854 Database Directive, article 15.
855 Database Directive, Article 13. Dataright protection is without prejudice to any other rights in the database or its content provided by any law, including the law of contracts. See also: Draft Treaty on Databases, Article 12 and the US Database Bill § 1205(a).
856 See supra § 3.3.3.
The US Database Bill\(^{857}\) asserts the rights of users concerning the extraction or use of an individual item of information, or other insubstantial part of a database. The Bill clarifies that an individual item of information, including a work of authorship, shall not itself be considered a substantial part of a collection of information within the meaning of this Bill. The Bill, however, does not make any provision regarding the ability of producers to limit that user's right by contractual terms. Moreover, the Bill clearly preserves rights obtained by contracts.\(^{858}\) Therefore, the rights provided in the Bill do not 'restrict the rights of parties freely to enter into licenses or any other contracts with respect to the use of collections of information'.\(^{859}\) Hence, contracts may provide additional protection to database producers, and rights obtained this way are valid. It is unclear whether rights obtained by contracts can attempt to prohibit extraction of individual items or insubstantial parts of a database. On one hand, the Bill expresses that\(^{860}\)

> *Nothing in this chapter shall prevent the extraction or use of an individual item of information, or other insubstantial part of a collection of information ...*

Therefore, one can infer that contracts done with respect to databases are also within the scope of the Bill, and rights provided in it cannot be limited by contracts. On the other hand, the Bill as commented above, validates contractual terms regarding the use of information contained in a database. Whether this validation covers limitation on user's rights provided in the Bill, remains unclear. If producers are entitled,

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857 US Database Bill, § 1203(a).

858 US Database Bill, § 1205(e). See also § 1205(b) which asserts regarding the pre-emption of State laws that 'State laws with respect to ... the law of contract shall not be deemed to provide equivalent rights for purposes of this subsection.' Therefore, rights obtained by contracts are not pre-empted.

859 *Ibid.*, § 1205(e).

860 US Database Bill, § 1203(b), emphasis added.
indeed, to limit user’s rights, then this is an uneasy consequence regarding user’s rights. Producers may limit users even in cases of legitimate and normal uses of a database. This fear is empowered by the holding of the ProCD case regarding the validity of contracts of adhesion in certain circumstances, as discussed earlier in this study. By extensive use of contracts, including ‘shrink-wrap’ licences and ‘point-and-click’ licences, producers can guarantee the rights provided in the Bill and even beyond it, thus resulting in serious consequences for database use by legitimate users and for legitimate purposes. Therefore, contracts and licences that attempt to limit the user’s rights provided in the Bill must be objectionable on grounds of violating the rule of positive law prescribed in the Bill that provide user’s rights.

6.4.6 Exceptions and Safeguards

Any dataright regime must provide for exceptions to the exclusive rights. Furthermore, safeguards against the risks of excessive power of database producers should be prescribed. This is a matter of public interest to guarantee the free flow of information and access to information. Hence, exceptions and safeguards to dataright define the appropriate balance of rights and interests concerning databases.

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861 ProCD, Inc. v Matthew Zeidenberg and Silken Mountain Web Services, 86 F.3d 1447; Copy. L. Rep. 27,529 (7th Cir., 1996).

862 Supra § 3.3.3.

863 See Ibid.

864 In ProCd, supra note 861, the Court offers the following examples of objectionable terms: if they violate a rule of positive law, or if they are unconscionable. Ibid. at p. 1449.

865 See supra § 3.4.2 and § 3.5.
The Draft Treaty on Databases allows national legislation to provide exceptions to or limitations of the rights provided in the Treaty in certain special cases. There is no list or examples of such exceptions. Nevertheless, a guideline for drafting such exceptions is prescribed. Namely, any exception or limitation of dataright is allowed to the extent that it does not ‘conflict with the normal exploitation of the database’ and does not ‘unreasonably prejudice the legitimate interests of the right-holder’.

Furthermore, the Draft Treaty leaves the determination of the rights in databases made by governmental entities or their agents or employees to the discretion of national laws.

The Database Directive includes several exceptions and safeguards. At the outset, it clarifies that the exclusive rights do not control resale of a copy of a database nor public lending of databases. Furthermore, the Directive leaves the inapplicability of dataright in the certain cases to the discretion of Member States. First, private extraction and utilisation of the contents of a database may be allowed, if it is a non-electronic database. Second, extraction and utilisation of the content of a database for the purposes of illustration for teaching or scientific research can be

866 Draft Treaty on Databases, Article 5(1).
867 Ibid.
868 Ibid.
869 Draft Treaty on Databases, Article 5(2).
870 The first sale of a copy of a database within the Community by the right-holder or with his consent shall exhaust the right to control resale of that copy of a database. See: Database Directive, Article 7.2(b).
871 Ibid.
872 Database Directive, Article 9(a).
permitted subject to certain conditions. Finally, extraction and utilisation for the purposes of public security or an administrative or judicial procedure may be regulated in national legislation.

Accordingly, the United Kingdom made such exceptions, but only with respect to the purposes of illustration for teaching and research and concerning public administration. Private extraction and utilisation is not permitted.

The Database Directive and the Database Regulations are holding a restrictive approach concerning exceptions and limitations on the scope of the exclusive rights. The US Database Bill is far more permissive. Of particular significance are the safeguards prescribed by the US Database Bill regarding the permitted acts of verification, news reporting, and those concerning routing information of digital networks. Accordingly, a brief account of these exceptions is given below.

Routing Information

By the term ‘routing information’, the reference is made to

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873 Database Directive, Article 9(b). The conditions for such uses are: indication of source and ‘to the extent justified by the non-commercial purpose to be achieved’.

874 Database Directive, Article 9(c).

875 Database Regulations, reg. 20(1).

876 Database Regulations, reg. 20(2) and Schedule 1.

877 US Database Bill, § 1203(c).

878 US Database Bill, §1203(e).

879 US Database Bill, § 1201(5).

880 US Database Bill, § 1201(5).
a collection of information gathered, organized, or maintained to address, route, forward, transmit, or store digital online communications or provide or receive access to connections for digital online communications.

This exception has been added following the report of the Committee of the Judiciary, which considered an initial draft of the Bill. A dissenting view in this report expressed concerns about databases that are crucial elements for the functioning of the Internet. Accordingly, the wording of the Bill has been changed to include the stated exception.

News Reporting

The US Database Bill allows the extraction and use of information from databases for 'for the sole purpose of news reporting, including news gathering, dissemination, and comment'. The news-reporting rule does not apply where

the information so extracted or used is time-sensitive, has been gathered by a news reporting entity for distribution to a particular market and has not yet been distributed to that market, and the extraction or use is part of a consistent pattern engaged in for the purpose of direct competition in that market.

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882 By Mr Zoe Lofgren. Ibid. at p. 31.

883 The same concerns are also expressed by Lloyd, supra note 816, at p. 374. For instance, organisations which maintain databases of Internet domain names and addresses might seek proprietary rights in what is an essential tool for the operation of the Internet. Lloyd comment that 'this fear, although perhaps exaggerated cannot be discounted totally'.

884 US Database Bill, § 1203(e).

885 US Database Bill, § 1203(e).
In essence, this rule is a restatement of the well-known INS case, which established the doctrine “hot-news” prohibiting the misappropriation of time-sensitive news as an exclusion of the permitted acts of news reporting. Arguably, the Bill reduces the extent of which the news reporting is permitted. Current law in the United States requires that the “hot-news” doctrine is applicable when the ability of other parties to free-ride on the efforts of the plaintiff would so reduce the incentive to produce the product or service that its existence or quality would be substantially threatened.

Under the Bill, however, the test is the harm to the plaintiff’s actual or potential market. Not necessarily a substantial harm, but any harm would be sufficient to make the permitted act prescribed in the Bill inapplicable.

Verification

The US Database Bill permits the extraction and use of information ‘for the sole purpose of verifying the accuracy of information independently gathered, organised, or maintained’ by any person. This rule has significant consequences on the

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886 International News Service v Associated Press, 248 US 215 (Supreme Court, 1918). The case is discussed supra § 3.3.3 together with the concepts of unfair competition and misappropriation.

887 The National Basketball Association and Others v Motorola, Inc., 105 F.3d 841; Copy. L. Rep. ¶27,591 (2nd Cir., 1997) at p. 852. In this case, Motorola appealed against a permanent injunction barring the sale of a hand-held pager that displays updated scores of NBA games as they are played. The Court held that Motorola had not misappropriated NBA’s rights by transmitting real-time NBA game scores taken from television and radio broadcasts of games in progress. Therefore, the Court reversed the District Court decision on the misappropriation claim and vacated the injunction. The Court held that ‘only a narrow “hot-news” misappropriation claim survives pre-emption for actions concerning material within the realm of copyright’. Ibid. at p. 852.

888 US Database Bill, § 1203(c).
creation of databases.\textsuperscript{889} New databases are created, \textit{inter alia}, by consulting and verifying information in already-existed databases. It should be noted, however, that this rule asserts that\textsuperscript{890}

Under no circumstances shall the information so extracted or used be made available to others in a manner that harms the actual or potential market for the collection of information from which it is extracted or used.

In other words, it is an attempt to balance the interests of database producers’ start-ups and proprietors of already-existed databases. The Database Regulations arguably holds a different view in this matter. Regarding databases that are the subject of copyright protection, research for commercial purposes is not permitted.\textsuperscript{891} Presumably, the term ‘research’ covers acts of verification as perceived in the US Database Bill. The extent of the allowed verification acts where a database is subject to dataright – but not to copyright – is unclear. When the verification acts relate to an insubstantial part of a database, the acts are permitted by virtue of the general rule, which allows extraction and re-utilisation of insubstantial part of a database ‘for any purpose’.\textsuperscript{892} Whether it is allowed to a substantial part of a database and in what conditions remains unresolved.

\begin{itemize}
\item \textbf{Comparative Table of Exceptions and Safeguards}
\end{itemize}

In conclusion, the following table summarises and compares the exceptions and safeguards laid down in the relevant measures.

\begin{table}
\centering
\begin{tabular}{|l|l|}
\hline
\textbf{Comparative Table of Exceptions and Safeguards} & \\
\hline
\textbf{On the creation of databases, see \textit{supra} 5.3.} & \\
\hline
\textbf{US Database Bill, § 1203(c).} & \\
\hline
\textbf{Database Regulation, reg. 8(3) adding subsection (5) to the CDPA, s. 29.} & \\
\hline
\textbf{Database Regulations, reg. 19(1).} & \\
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\end{tabular}
\end{table}
### 6.4.7 Term of Protection

The Draft Treaty on Databases follows the term set out in the Directive, as one alternative only. The second alternative is to fix the term to 25 years.\(^{893}\) The term of protection under the Database Directive is 15 years,\(^ {894}\) as the first alternative set forth in the Treaty. It seems that the choice of 25 years was in line with the Bill that

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\(^{893}\) Draft Treaty on Databases, Article 8.

\(^{894}\) Database Directive, Article 10.1.
was before the United States Congress\(^{895}\) at the time the Treaty\(^{896}\) was drafted. As it is discussed above, the implied term of protection under the US Database Bill is also 15 years.\(^{897}\) Therefore, it is anticipated that the term of protection in any international measure will be 15 years as well.

Note that in the initial proposal for the Directive\(^{898}\) the term of protection was ten years only. There are good reasons to prefer the shorter term of protection. Dataright, arguably, has direct implications on the free flow of information, which should be secured as a matter of public interest. Therefore, the term of protection should be minimal to the extent that it provides database producers a recoup of their investment. In an era when changes in society are accelerated,\(^{899}\) ten years seems to be sufficient for accomplishing that objective.

\section*{Continuously-Updated Databases}

The Draft Treaty on Databases\(^{900}\) adopted the wording of the Database Directive\(^{901}\) regarding a fresh term of protection that starts whenever a new substantial investment has been made in an already protected database. This provision reads

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\(^{895}\) See: Database Investment and Intellectual Property Antipiracy Act of 1996 \textit{supra} note 779 and accompanied text.

\(^{896}\) I.e., August 1996. See \textit{supra} § 6.3.1.

\(^{897}\) See \textit{supra} note 841 and accompanied text.

\(^{898}\) \textit{Supra} note 744.


\(^{900}\) Draft Treaty on Databases, Article 8(3).

\(^{901}\) Database Directive, Article 10.3.
Any substantial change to the database, evaluated qualitatively or quantitatively, including any substantial change resulting from the accumulation of successive additions, deletions, verifications, modifications in organization or presentation, or other alterations, which constitute a new substantial investment, shall qualify the database resulting from such investment for its own term of protection.

This rule has been fiercely criticised\(^{902}\) as providing a perpetual intellectual property right to a continuously-updated database. Indeed, the US Database Bill limits the consequence of a perpetual protection. In fact, the Committee reported to Congress on this Bill clarifies that\(^{903}\)

> At the same time, however, protection will not be perpetual; the substantial investment that is protected under the Act cannot be protected for more than fifteen years. By focusing on that investment that made the particular portion of the collection that has been extracted or used eligible for protection, the provision avoids providing ongoing protection to the entire collection every time there is an additional substantial investment made in its scope or maintenance.

Accordingly, the US Database Bill renews the term of protection when a new investment is done with respect to a protected database, not to the entire database as a whole, but to that portion of the database that added value to it thanks to the new investment. As discussed above,\(^{904}\) the term of protection is implied from the limitation on actions, and the period within it in which legal actions are maintained. This period is attached to 'the investment of resources that qualified the portion of

\(^{902}\) Reichman and Samuelson, *supra* note 781, at p. 86.

\(^{903}\) See the Report, *supra* note 881, at p. 21.

\(^{904}\) *Supra* note 841 and accompanied text.
the collection of information for protection. The period referred to any portion of a collection of information, and not to the collection as a whole. Therefore, when a new investment is done in respect to a protected database, only that portion that has been added by the new investment will qualify for additional protection.

< Limitation of Actions

Normally, actions may be brought to court within a specified term. For instance, actions regarding infringement of copyright in the United Kingdom shall not be brought after the expiration of six years from the date on which the cause of action occurred. The Database Regulations assert the application of certain copyright provisions to dataright that implies that the same limitation rule applies to the bringing of actions based on dataright.

The US Database Bill, however, limits bringing actions before the expiration of three years from the date when the cause of action occurred. As it stated clearly in the Bill:

No civil action shall be maintained under this chapter unless it is commenced within three years after the cause of action arises or claim accrues.

By this limitation, the US Bill probably attempts to safeguard the stability of the information market. If no action is brought within three years than database's

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905 US Database Bill, § 1208(c) (emphasis added).
906 Limitation Act 1939 (c. 21), s. 2(1). The infringement of copyright is regarded as an action founded on tort. See: Copinger on Copyright, § 11-83 at p. 358.
907 Database Regulations, reg. 23. Including the application of provisions concerning rights and remedies (CDPA, s. 96 to 98).
908 US Database Bill, § 1208(b).
producers may assume that their acts regarding the creation of a database are lawful. The risk of being sued by any holder of information is minimised.

6.5 Exclusive Source of Database Materials

Dataright does not restrict any person from independently gathering data and other unprotected materials for compiling a database. In the construction of a database, the creators may use any unprotected information obtained by means other than extracting it from a protected database. As discussed above, extraction is limited to insubstantial parts only, and to the extent provided by the rule of law.

Provisions concerning independent gathering of information are explicitly expressed in the US Database Bill. The Database Directive and the Draft Treaty on Databases do not express this rule in explicit terms, although it can be implied from the nature of rights conferred. Furthermore, the Draft Treaty clarifies that

The protection provided does not preclude any person from independently collecting, assembling or compiling works, data or materials from any source other than a protected database.

This statement deserves to be included in the final draft of any dataright treaty. The creation of a database is launched by collecting items of information to be included in the intended database. There are some possible sources for such information, including material that is created for the purposes of the intended database; public domain information; and licensed materials from third parties. When right-holders

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909 See supra § 6.4.5.
90 US Database Bill, § 1203(b).
91 Draft Treaty on Databases, Notes to Article 3, ¶ 3.02.
92 See supra § 5.3.2.
of materials refuse to grant a licence regarding the necessary components for the intended database, or imposing unreasonable terms for such a licence, the database creator may independently create compatible materials. However, there are circumstances that such an independent creation is not possible. When items of data are created by an entity in the course of its activities, and these items are included in a database compiled by that entity, the exclusive source for such data is that database. The same is true regarding exclusive source of works.

### 6.5.1 Exclusive Source of Data

In the *Time Out* case, the Court was challenged by the question of copyright protection for published television and radio programme listings. The listings in question were prepared by the plaintiff broadcasters and published in the form of weekly magazines. The defendants themselves published a weekly magazine, which included, *inter alia*, television and radio programme listings retrieved from the plaintiffs' publications. The Court found that a great deal of time, energy and skill had been put into compiling these listings and therefore, these listings were entitled to copyright protection. Consequently, the extraction of facts concerning the scheduled television and radio programmes by Time Out infringed on the copyright owned by the broadcasters.

This case illustrates the problematic issue of exclusive source of information. The information concerning the television and radio programmes is determined by the broadcasters. The only way to collect this information is by receiving it from the broadcasters or by extracting it from the broadcasters’ publications.

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The resolution of this issue was accomplished by imposing on persons providing programme services a statutory duty to provide advance information about programmes.914 With respect to refusal to grant licences and the term of payments of such licences, the provision of such information is controlled by the Copyright Tribunal.915 In essence, persons that provide programme services are required to give advance information on their programmes to any persons on fair and reasonable terms. In other words, this is a form of compulsory licensing of such information.

The topic of television programme listings has been also discussed in the well-known Magill case.916 Magill, an Irish publisher, attempted in 1986 to publish a weekly television guide containing information on forthcoming programmes for three television broadcasters, whose programmes could be received in Ireland and Northern Ireland. It was prevented from doing so by injunctions obtained in the Irish courts and approved by the High Court of Ireland.917 The Court found that these listings were entitled to copyright protection, by the same reasoning as that of the aforementioned Time Out case. Nevertheless, Magill did not abandon his plans to publish the television programmes guide. Magill filed a complaint with the European Commission claiming that the broadcasters’ refusal to licence the publication of their respective listings was in breach European competition law.918

914 Broadcasting Act 1990 (c. 42), s. 176.
915 Ibid. Schedule 17.
918 Article 86 of the Treaty of Rome states that: “Any abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be
The analysis of this case lies in the boundaries of Competition Law, and in the possible clash between the exercise of intellectual property rights and competition policy.\textsuperscript{919} The European Court of Justice approved the European Commission decision\textsuperscript{920} to impose compulsory licensing. The Court observed that ownership of intellectual property could not of itself result in holding it as being a 'dominant position' for the purposes of European competition law. However, in exceptional circumstances the exercise of an intellectual property right by the proprietor could constitute abuse of a dominant position. The Court held that the broadcasters' refusal — relying on national copyright provisions — to provide basic information necessary to produce a television guide constituted an abuse of a dominant position. The reasoning of this holding was, \textit{inter alia}, the assertion that the broadcasters' licensing practice prevents the appearance of a new product for which there was a potential consumer demand. In order to remedy such abuse of dominant position, the Commission had the power to require a holder of intellectual property to grant reproduction licences in order to bring the breach of law to its end.\textsuperscript{921}


\textsuperscript{921} As prescribed by Council Regulation No 17, First Regulation implementing Articles 85 and 86 of the Treaty, OJ 13, p. 204 (21 February 1962). Article 3 of this Regulation states that "Where the Commission, upon application or upon its own initiative, finds that there is infringement of Article 85 or Article 86 of the Treaty, it may by decision require the undertakings or associations of undertakings concerned to bring such infringement to an end."
In _Time Out_ and _Magill_, the broadcasters determined the information on television programmes. Any person who wishes to publish such information has to receive it from the broadcasters. There is no alternative way to gathering such information. At the time the cases were decided, that information was found to be protected compilation by copyright law. Possibly, copyright in such compilations is about to change, by virtue of the implementation of the Database Directive in the United Kingdom and Ireland.\(^\text{922}\) However, even if those compilations of data will be found to lack the necessary originality to be protected by copyright, they will be protected by dataright. Hence, the extraction of data is not permitted. Consequently, the originators of such information have an absolute monopoly over such information. This intolerable consequence is cured by compulsory licensing, either by specific statutory provision\(^\text{923}\) or by applying competition law rules.

### 6.5.2 Exclusive Source of Works

The United Kingdom Office of Fair Trading made a monopoly reference in April 1993 to the Monopolies and Mergers Commission (MMC) on the issue of the supply of historical on-line databases for archival business and financial information.\(^\text{924}\) It relates to a market, which consists of providers of on-line text retrieval services on business and financial subjects. A particular reference was made to FT Profile (FTP).

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\(^\text{922}\) See _supra_ § 5.2. Copyright is provided to databases if the requisite of originality is satisfied. Note, however, that if the description of such work will be classified as a 'compilation' rather than a 'database', then, possibly the old compilation law will still be valid. See discussion _supra_ § 4.3.4.

\(^\text{923}\) As done in the United Kingdom in relation to broadcasting advance information. See _supra_ note 914 and accompanied text.

FTP is a subsidiary company of the Financial Times Group. FTP was held to be a major participant in the UK market and with a market share sufficient enough to be considered monopolist under the law.\textsuperscript{925} The Financial Times Group, operating in the 'downstream market' was able to limit the licensing of the Financial Times materials to FTP. This means that FTP was the exclusive source of the above-mentioned materials via on-line services. Other database providers had to compete without the important Financial Times materials.

At first sight, this case seems to be similar to the \textit{Time Out} and the \textit{Magill} discussed above. There are indeed many similar features. However, this case also exhibits some new features. Firstly, this is the first case concerning public online databases. Secondly, and more importantly, the subject matter of this case is not items of pure information, i.e. facts and raw data, but copyrighted materials. The Office of Fair Trading referred to this topic by commenting that although copyright ownership provides an inherent monopoly advantage, the exercise of these rights should be examined by looking at any adverse effects on competition. He concluded that\textsuperscript{926}

\begin{quote}
The restrictions on copyright material may be inhibiting effective competition in the market for historical on-line databases and it may be disadvantaging new market entrants.
\end{quote}

However, the results of the MMC investigation into this case concluded that the licensing practice of The Financial Times did not operate against the public interest.\textsuperscript{927} These findings were supported by the facts that there was no evidence

\textsuperscript{925} Fair Trading Act 1973 (c. 41). According to s. 6 and s. 7, a 'monopoly situation' exists if one business entity supplies at least one quarter of the goods or services in a particular market description.

\textsuperscript{926} \textit{Supra} note 924.

that FTP was charging higher prices or making excessive profits. In addition, most of the factual data in the FT newspapers can be retrieved from other sources. Furthermore, in a highly competitive market of the supply of financial information, the MMC concluded, that FT was acting legitimately in gaining a competitive advantage. Nevertheless, the fact that this case was referred to an investigation by the MMC is significant. This means that the competition rules are applicable whether the materials in question are raw data or copyrighted works.

6.5.3 Resolving the Exclusive Source Issue

Competition law rules are applicable in relation to dataright. Provisions in this respect are made explicitly in all measures concerning dataright. The Database Directive comments that

In the interests of competition between suppliers of information products and services, protection by the *sui generis* right must not be afforded in such a way as to facilitate abuses of a dominant position, in particular as regards the creation and distribution of new products and services which have an intellectual, documentary, technical, economic or commercial added value.

Moreover, the Database Directive provides that an examination of the affects of dataright will be made periodically. In particular, making an assessment whether

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929 Database Directive, Recital ¶ (47).

930 Database Directive, Article 16.3. Such an examination is scheduled no later than the end of the third year after the entry into force of the implementation measures (1 January 1998) and every three years thereafter.
the application of this right has led to abuse of a dominant position or other interference with free competition. Future consideration includes appropriate measures, including the establishment of non-voluntary licensing arrangements, in order to cure such interference with free competition.

In the earlier drafts\(^{931}\) of the Database Directive such compulsory licensing was clearly expressed. The proposal prescribed a compulsory licensing scheme on fair and non-discriminatory terms, ‘if the works or materials contained in which is made publicly available cannot be independently created, collected or obtained from any other source’.\(^{932}\) The compulsory licensing scheme had also been proposed in relation to public sector information.\(^{933}\) Hence, public bodies, which are authorised to assemble or disclose information by virtue of legislation, or are under a general duty to do so, are subject to a compulsory licensing scheme.

It is clear that this provision aims to resolve the issue of exclusive sources. However, this provision had been dropped by the time the final text of the Directive was adopted. Therefore, the resolution of the issue of exclusive source was left for future considerations. Nevertheless, the application of competition law rules may serve well to deal with that issue, as has been demonstrated by the *Magill* case.

It should be noted that detailed provisions regarding licensing schemes are laid down in the Database Regulations.\(^{934}\) Accordingly, the Copyright Tribunal is authorised to settle licences and their terms, where a reference concerning restrictive licensing practice of dataright is made in a report by the Monopolies and Mergers

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\(^{931}\) Amended proposal, *supra* note 757.


\(^{934}\) Database Regulations, Schedule 2.
Commission. Undoubtedly, exclusive sources of database materials are potential candidates for such a reference, if the proprietor of the stated materials refuse to licence their materials or impose unreasonable licensing terms.

6.6 Alternative Models of Database Protection

The dataright regime, as formulated in the Database Directive and consequently in the Draft Treaty on Database, is based on a model of exclusive intellectual property rights. Alternative models of database protection were proposed that may be placed into three categories: on the extreme sides, theories advocating information as property, and — on the opposite side — that information is free; in between, theories supporting models based on liability rules. A brief account of these theories is discussed below.

6.6.1 Information as Property

Claiming property rights in information justifies the strengthening of the database protection regime. Thus, the consequences of under-protection are relieved. Theories along this line emphasise the need for strong protection, so incentives to invest in the creation of databases are provided, thus resolving the problem of the ‘public goods’ nature of information. This school of thought is analysed below by presenting the view of one of its prominent followers.

935 Ibid., paragraph 15.
936 See supra § 6.4.3 on the nature of dataright.
937 See supra § 3.4.1.
Nimmer defines ‘property’ as a ‘bundle of privileges, powers and rights’\textsuperscript{938} following Gordon, who holds that ‘property’ refers to ‘a bundle of rights recognised in law in reference to a particular subject matter’.\textsuperscript{939} Accordingly, Nimmer concludes that there are property rights in information. He also asserts that\textsuperscript{940}

The question pertaining to information assets involves not whether property rights are possible, but what preconditions determine rights and to what uses of information do the rights relate.

Furthermore, property rights subsist in information assets, which are analogous to the rights that subsist in physical objects, which include the following rights:\textsuperscript{941}

- "Integrity" right: right to require consent before information can be altered or destroyed.
- "Use" right: right to use the information for internal purposes.
- "Disclosure" right: right to disclose the information or not to do so.
- "Copy" right: right to reproduce the information in copies.
- "Access" right: right to control access to information known to the owner.
- "Transmission" right: right to regulate electronic distribution of the information.
- "Transfer" right: right to enter into contract relationships in reference to information.

This theory proceeds with certain assumptions. First, ‘an owner of information could hold all of these rights and the ability to enforce them against the entire

\textsuperscript{938} Nimmer, Raymond T., INFORMATION LAW (Updated through 1998 Supplement No. 1, Boston: Warren, Gorham & Lamont, 1996) ¶ 2.01 at p. 2-2.


\textsuperscript{940} Nimmer supra note 938, ¶ 2.03 at p. 2-5. Emphases are at the source text.

\textsuperscript{941} Ibid., Emphases are at the source text.
world'. Nevertheless, Nimmer admits that current law seldom creates such rights, and normally deals with these rights in a relative and relational sense, and it allows overlapping and concurrent rights. Second, information assets are not dealt with as a unitary asset, but as a property, which is the ‘combination of data, the person and the rights granted’. Hence, different persons can hold a similar information asset and each of these persons own a separate property.

This is a compelling theory, yet controversial. Consider, for instance, the premise of the non-unitary aspect of information. For many scholars, this is exactly the feature that distinguishes between ‘property’ and other legal rights. Gray, for instance, explores the ‘propertiness’ of property and concludes that

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\text{A resource cannot be propertised if, on the ground of physical, legal or moral, it lacks the quality of excludability. Non-excludable resources thus lie outside the field of private property; they remain in the commons.}
\]

Gray explores the boundaries of the notion of ‘property’ by discussing ownership in airspace and visual trespass. The latter is illustrated by the Australian case of *Victoria Park Racing v Taylor*. In this case, the Court held that a platform built by Taylor to watch horses races conducted in the plaintiff’s racecourse, is of no wrong known to the law. The airspace cannot be controlled on the grounds of property claims. No ‘property’ exists wherever it is not possible or reasonably practicable to exclude strangers from access to the benefits of a particular resource in its existing

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942 *Ibid.*, Emphases are at the source text.

943 *Ibid.* ¶ 2.05 at p. 2-8. Emphases are at the source text.


945 *Victoria Park Racing and Recreation Grounds Co Ltd v Taylor* [1937] 58 CLR 479 (High Court of Australia, 1937).
form, such as a spectacle provided from one’s land or a lighthouse. The same is true in relation to raw data and facts. As it has been observed by Litman\textsuperscript{946}

We often learn the facts we encounter and incorporate them into our views of the world in which we live. Once they have taken residence, they will color the things we believe that we see, and we are helpless to pry them out again in order to sit down and create works of authorship. A rule requiring authors effectively to forget the facts learned from other authors would be destructive and impossible to enforce.

Hence, individual items of information lack the quality of excludability (on the above Gray’s terms) and therefore, cannot be propertised. This is not the case, however, in relation to \textit{collections} of data items. The law of intellectual property may provide \textit{legal} excludability concerning the collections when they are considered as a whole. Database copyright is a manifestation of this view. Individual items of information are left in the public domain, and any allocation of property rights reside in the \textit{collections} as such.

Nimmer’s non-unitary aspect of information is elegantly clarified by asserting that ‘viewing information as a unitary asset is analogous to describing all Mercedes as literally \textit{the same asset}, simultaneously owned by many different “owners”’.\textsuperscript{947} It seems that Nimmer confuses the notions of ‘similarity’ and ‘identity’. All Mercedes are probably \textit{similar} but certainly, are not \textit{identical}. Each Mercedes differs in its location in space and it is likely that each Mercedes has particular characteristics. All Mercedes share a common pattern, much like all horses share common features


\textsuperscript{947} Nimmer \textit{supra} note 938, ¶ 2.05 at p. 2-8. Emphases are at the source text.
that make them belong to the genre called ‘horse’. Nevertheless, not all horses are the same.

Defining ‘property’ the way Nimmer suggests, leads to a tautology where all legal rights became ‘property’. A distinction must be made between legal rights and property rights. Otherwise, the usefulness of this theory is doubtful. When, as a matter of law, a ‘thing’ is regarded as ‘property’, certain legal rules are anticipated concerning the scope of rights in relation to that ‘thing’. If this ‘property’ is within the realm of intellectual property, then it is accompanied by detailed provisions concerning the scope of rights and their limitations, exceptions and safeguards. In this respect, defining ‘information as property’, without the detailed safeguards and limitations, can lead to over-protection of information, which will inhibit the free flow of information and free competition.

6.6.2 Liability Rules Models

The influential writing of Calabresi and Melamed draws a distinction between ‘property rules’ and ‘liability rules’. A property right prevents third parties from appropriating the object of protection. Hence, an advance authorisation by the proprietor is needed for legitimate appropriation by others. A liability rule regulates the means by which parties are engaged when appropriation of an asset occurred. Then, an assessment is made to determine the cost of the stated appropriation.

948 This logical problem has a long-standing history. Plato, for instance, devised the so-called ‘Theory of Forms’ (sometimes termed as the ‘Theory of Ideas’), which is inferred from many of his writings (e.g., THE REPUBLIC). The central notion of this theory is that over and above the particular objects exist Forms, which are eternal and unchanging. Accordingly, the ‘Form’ of the ‘horse’ is actualised in all horses.

Intellectual property law includes both property rules and liability rules. In particular, systems of exclusive rights are regarded as ‘property rules’, whereas models of protection based on notions of unfair competition may be classified as ‘liability rules’.

As discussed earlier, the concept of ‘unfair competition’ refers to diverse protected interests that do not normally include the exploitation of other’s works. The latter is confined to the specific subject matters that are protected by intellectual property law. The protected interests under the heading of unfair competition vary significantly in different jurisdictions and they are comprised of different approaches and views.

Nevertheless, the foundations of unfair competition affect the formulation of models towards an adequate protection of databases. For instance, Reichman and Samuelson propose two such models, which are based on the notion of unfair competition. Modified liability rules models are conceived as the preferred models for striking the adequate balance for database protection, and for securing public interest in access to information and free competition. The exclusive rights approach, as prescribed in the Database Directive and its followers such as the Draft Treaty on Databases, is criticised as being ‘a monstrous caricature of true intellectual

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950 See: Kamperman Sanders, supra note 919, at p. 105.

951 See supra 3.3.3.

952 See: Kamperman Sanders, supra note 919 at p. 52.

953 I.e. ‘misappropriation’ (United States); ‘unjust enrichment’ (Civil Law jurisdictions) and ‘restitution’ (Common Law jurisdiction). See: Kamperman Sanders, ibid., at p. 22 onwards.

954 Reichman and Samuelson, supra note 781.
property laws.955 This criticism is unjustified. The *sui generis* right within the Database Directive is, indeed, based on notions of unfair competition,956 as is the US Database Bill.957 Moreover, the boundaries between liability rules and property rules are blurred in the sphere of intellectual property. For instance, copyright consists of a mixture of property rules and liability rules.958

Furthermore, the detailed provisions of any model are the relevant matters to be assessed concerning the accomplishment of the adequate balance of protection. Consider, for instance, the US Database Bill. This Bill has taken the model of a liability rule for formulating the provisions of database protection. However, in achieving the goals of protection, it performs legal manoeuvres, which ends up being very similar to the property rule model of the Database Directive.959

Samuelson and Reichman provide an outline only of their suggestions for modified liability rules models. These models are not without deficiencies as discussed below.

The first model proposed by Samuelson and Reichman is to employ the doctrine of misappropriation960 as a possible resolution for database protection. However, as discussed above, misappropriation may provide supplementary protection, but standing alone it lacks the detailed application to deal with the complex and


956 See: Kamperman Sanders *supra* note 952, at p. 97.

957 The Bill was introduced in the House of Representatives as it ‘responds to a need to complement copyright law with a federal misappropriation law’, see: Report, *supra* note 881 at p. 5.


959 See *supra* § 6.4.3.

960 As developed following the INS case, *supra* note 886.
particular issues of database protection. Furthermore, the Second Circuit Court of Appeals in the United States has narrowed the protection provided by the misappropriation doctrine concerning databases, thus leaving databases in a possible state of under-protection. Consequently, producers of databases would seek protection by other means, such as the law of contract and technical protection, which could result in unprecedented over-protection of databases. Finally, as noted above, unfair competition as a general concept cannot provide for an international regime.

The second model proposed by Samuelson and Reichman is a modified liability approach. This model is based on the principles of providing two levels of protection during two subsequent periods. Initially, a short ‘blocking period’ would grant a higher level of protection, preventing unauthorised extraction from the protected databases. In essence, the protection provided during this blocking period would be similar to the dataright regimes proposed so far. In the second period, a mechanism of an automatic licensing is suggested. This licensing scheme has yet to be determined. One possible alternative is to expand the non-voluntary licensing scheme provided in the initial draft of the Database Directive to cover all databases, and not only exclusive source databases. Another alternative is the establishment a wide-ranging automatic licensing scheme. It should be noted that these proposals do not provide resolutions for other issues concerning databases, as discussed in this study. Furthermore, these suggestions, with some modifications, may well survive in an exclusive-rights environment regime. For instance, the

961 See the NBA case, supra note 887.
962 See supra § 3.3.2 and § 3.3.3.
963 Samuelson and Reichman, supra note 781, at p. 145 onwards.
964 This scheme is discussed supra note 931 and accompanied text.
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Database Regulations\textsuperscript{965} provides for a detailed licensing scheme, which include the establishment of licensing bodies and a review of licensing schemes by the Copyright Tribunal.

6.6.3 Information is Free

A radical approach that has been put forward by some writers is that in the Age of Information, the entire concept of intellectual property rights in information should be revised.\textsuperscript{966} New ways of exploiting intellectual creations have been suggested in order to recoup the investment in the creation of informational materials.\textsuperscript{967} Others advocate the dedication of intellectual creations to the public domain, instead of persisting on what were considered as unworkable intellectual property rules.\textsuperscript{968} This approach, however, should be considered as a borderline view that cannot replace mainstream concerns in this matter.

6.7 Towards the Adoption of a Dataright Treaty

An international database protection is a necessity. Currently, international database copyright provides for a limited protection. Hence, the European Union set up a dataright regime, which is in force within a large part of Europe. In the United States, however, the Supreme Court narrowed down the protection of data compilation as a matter of a Constitutional demand in the \textit{Feist} decision. Thus,

\begin{itemize}
\item \textsuperscript{965} Database Regulations, Schedule 2.
\item \textsuperscript{966} See, for example: Barlow, John Perry, \textit{The Economy of Ideas: A Framework for Rethinking Patents and Copyright in the Digital Age}, \textit{WIRED}, March 1994, p. 84.
\item \textsuperscript{967} See, for example: Dyson, Esther, \textit{RELEASE} 2.0 (London: Viking, 1997). See also \textit{supra} § 3.3.1 regarding 'natural' protection of databases.
\item \textsuperscript{968} See \textit{supra} 5.3.2.
\end{itemize}
massive extraction of data is permitted, to the extent that the 'thin copyright' in the 'selection and arrangement' of a database is not infringed. This diversity of modes of protection between the two sides of the Atlantic cannot survive in today's global market for information. Therefore, an international standard concerning database protection must be adopted.

Such an international regime may be achieved by adopting several approaches. Firstly, by the fine-tuning of the Draft Treaty on Databases. Secondly, by adopting a Treaty based on unfair competition that addresses databases and their particular features. Thirdly, by providing a choice of modes of protection, namely dataright and unfair competition rule, which can be alternatively adopted by members of a Treaty. Finally, dataright provisions may supplement the TRIPS Agreement. Regarding to the last proposal, it is a choice of international forum for formulating the database protection regime. It should be noted that international database copyright was first introduced by the TRIPS Agreement, then adopted by the WIPO Copyright Treaty. A similar process can be followed concerning dataright. In essence, international database protection is a trade-related issue, and the TRIPS Council under the World Trade Organisation could be the proper forum for accomplishing the international database regime.

Regardless of the preferred international forum, the main debate regarding database protection rests in the choice between the exclusive rights approach and the unfair competition approach.

969 A suggestion has been made to introduce a two-layered model in a Treaty making it optional either to choose for an exclusive rights approach or for an unfair competition approach. See: Grosheide, Willen F., DATABASE PROTECTION ON THE BORDERLINE OF COPYRIGHT LAW AND INDUSTRIAL PROPERTY LAW (Status Report. Tokyo: Institute of Intellectual Property, 1998) at p. 52.
Many commentators prefer the unfair competition approach. This does not mean relying on a general unfair competition rule as an adequate resolution of database protection. Indeed, the protection under unfair competition rules may be useful in a number of cases relating to unauthorised use of databases, including those databases that are not protected by copyright. These rules, however, as a WIPO report expresses ‘are very complex and they extend to a large body of law (in many countries, mainly case law) which goes much beyond the field where databases may be concerned’. Hence, a detailed regime based on notions of unfair competition is necessary for adequately addressing database protection.

As noted above, such an attempt has been made by the United States Congress in the Database Bill. Nevertheless, the detailed examination of this regime concludes a substantial similarity to the dataright regime of the Database Directive. The Bill, however, makes useful safeguards and exceptions for striking the right balance between user’s rights and securing the public interest of the free competition. Therefore, the provisions laid down in the Bill can be employed in performing the task of fine tuning the dataright regime introduced in the Database Directive. Furthermore, fine-tuning the model set up by the Database Directive is necessary to overcome anticipated distortions in the implementation of the Directive among the European Union members. It has been observed from the initial review of the implementing legislation of the Database Directive that ‘it becomes clear that harmonisation of the law with regard to databases as aimed by Directive 96/6 is far

970 See: Ibid. and Reichman and Samuelson, supra note 781.

This issue will need further consideration when the implementation measures of the Database Directive are completed and tested. Currently, it is pre-mature to jump to any conclusions on this issue.

This fine tuning must take into account the observations made above concerning dataright features. At the outset, a proper definition of the object of protection is required. In this respect, there is an advantage for the proposals made in the US Database Bill. Then, the database beneficiaries have to be defined so an international protection can be achieved through the national treatment rule.

The rights of database producers have to be balanced against the users' rights, in such a way that normal use of databases cannot be restricted. In this respect, the avoidance of certain contract terms that attempt to limit those rights, as introduced in the Database Directive, is desirable.

The most significant topic that should be re-considered is the proper exceptions and safeguards for the exclusive rights. Again, the US Database Bill has some important suggestions in this matter. Within this framework, an adequate resolution of the exclusive source issue should be adopted along the lines of the proposed provisions in the earlier draft of the Database Directive.

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972 This observation has been made by Grosheide, supra note 969, at p. 33.

973 As the time of writing, there is no case law concerning the implementation of the Database Directive in the United Kingdom by the Database Regulations. In the Netherlands, the Court holds that putting texts of legislation extracted from a CD-ROM on the Internet for free consultation (at the Legislatio Website at: <http://wetten.nu>) is permitted according to the 'official documents' exemption of the Dutch Copyright Act. However, that extraction may become a violation of the Database Directive sui generis right as implemented in Dutch law. See: Koninklijke Vermande B.V. v Pavle Bojkovski (District Court of 'S-Gravenhage, 20 March 1998). This case is reported in the above-mentioned Website and in the European Commission Legal Advisory Board Website at: <http://www.echo.lu/legal/en/news/8606/chapter1.html>.
Finally, the term of protection of dataright should be minimal, up to ten years, and a perpetual protection for continuously-updated databases should not be permitted. In this respect, the suggestion made for dividing the term of protection into two periods bearing different levels of protection may be considered as a viable option.

Making the stated suggestions in the current text of the Treaty on Databases, will result in extinguishing the distinction between the exclusive rights and the unfair competition approach. The result will be a hybrid form of protection, carefully tailor-made for the optimal protection of databases.
7 CONCLUSIONS

Certain conclusions can be expressed in light of the analysis done in this study. There are divided here into three categories. First, general conclusions concerning database protection; second, conclusions regarding database copyright; and third, conclusions with respect to a tailor-made regime of database protection.

Accordingly, the following sections summarise the main conclusions reached out in this study.

7.1 Database Protection — General

The issue of intellectual property rights in databases is evolving rapidly and can be observed in three evolutionary phases, namely the adoption phase, whereby database protection is provided by adopting known legal models; the transition phase, when specific database rules emerge in the legal system; and the maturity phase, when a tailor-made database regime is defined.

The issue of databases is a part of the 'digital agenda' concerning initiatives for reforms in intellectual property law. Indeed, this agenda places databases within the broader issue of works in digital form. In fact, the nature of digital media is a major cause for disruptions in the copyright system that initiates such reforms. It has been
argued that the characteristics of digital media distinguish it significantly from traditional media with respect to its treatment under the norms of intellectual property law. Hence, law reforms are inevitable.

Database protection is also discussed in the context of Information Technology Law, an emerging branch of law that aims to address the impact of information technologies. Three trends can be discerned when considering the various issues and problems that arise in using innovative technologies. First, *globalisation*, since there is a need to solve the legal complexity through substantive provisions of positive law that are substantially similar on fundamental points and will become binding on all states participating in the global network. Second, *dematerialisation*, whereby legal systems must adapt to the transition which is taking place from the material and tangible to the abstract and intangible due to the information revolution. Finally, *proliferation*, whereby legal systems should consider the disintegration of institutions, or the transition from conditions of established institutions to conditions of absent institutions. The Internet is an obvious example of this process. This global system operates without any central administration. Hence, much of the matters that the law purports to regulate will fall outside of the scope of the law’s ability to enforce its own regulations or provide the necessary remedies to resolve disputes. This shows that any legal regime created to address the impact of information technology must be reasonably workable and enforceable for both industries, users and the public at large, providing a balanced level of protection for all.

The definition of the term ‘database’ is discussed mainly within the context of introducing a *sui generis* right for database protection. International measures addressing database copyright refer to ‘compilations’ although it is understood that the objects of protection are databases. However, the introduction of a new intellectual property right demands a precise definition regarding its object of protection. It seems that the accepted legal definition of a ‘database’, for the purpose
of intellectual property law, is modelled on the definition given in the Database Directive. This definition reads as follows:

'database' shall mean a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means.

The definition implies that a database is based upon pre-existing materials and will not necessarily be produced by the originator or right-holder of the materials on which the database is based. Furthermore, incorporation of materials in a database is subject to any right in those materials. Finally, the rights in a database are distinct from the rights in the underlying materials that form the database and do not extend to such materials.

Although it is attempted to clearly distinguish between 'databases' and 'computer programs' it is still hard to draw the exact line between them. The test for distinguishing between data and computer programs is the examination of the purpose, the content and the context of the information at issue. If this information were intended to control the flow, the processing, the manipulation and the presentation of objects held in the computer storage, this would be a 'computer program'. However, when the information is the object to be processed, manipulated or presented, it is 'data' and not a 'computer program'. Otherwise, any data held in the computer memory could be defined as a 'computer program' by virtue of being able to be presented by an output device. If this were the case, there would be no need for a specific legislation dealing with databases, since databases when stored in computer storage, constitute 'computer programs', which are well regulated by legislation and case law.

The legal protection of databases is not confined to intellectual property law. Both criminal law and the law of confidentiality provide indirect protection for the
commercial value of databases. This legal protection is however, only given to specific features of the databases or to their content. The protection for the commercial value of databases is classified as one of three types. First, *natural protection*, whereby inherent features of database services and products support their protection. Second, *technical protection*, whereby technical means and sophisticated data security systems provide additional protection to databases. The last type of protection is *legal protection*, whereby legal provisions protect the commercial value of databases. Such legal protection may be achieved by applying the laws of contracts, unfair competition and intellectual property. Therefore, it is unnecessary to place the burden of database protection solely on the law of intellectual property. In fact, what matters to database providers is the aggregate protection to their assets.

7.2 Database Copyright

Legal protection is provided for *works* by the law of copyright. This protection is achieved through various exclusive rights, granted to the copyright owner of the work at issue. These rights are limited in their duration and are subject to exceptions set forth by the applicable law.

The components of a database may be made up of works or data, the significant distinction regarding copyright law being those components that are protected by copyright and those which are not. In addition, copyright law requires that a creation be 'original' in order to become an eligible creation. Hence, the fundamental classification of databases requires the constituent parts of any given database to be examined and a decision to be made as to whether the assemblage of its elements is original within the meaning of copyright law. Thus, a database for the purpose of this study was examined in two dimensions: content and structure.
The terms used in this study are ‘set’ and ‘stack’. A ‘set’, meaning that the collection of elements constitutes a distinct unit and therefore is ‘original’ and a ‘stack’ meaning that the elements put in the database are not assembled on an ‘original’ fashion. Accordingly, four categories of databases are therefore available regarding the two-dimensional classification relating to the elements of the content and to the structure of the collection.

✓ **Work-Set**

Original collection of works, where copyright subsists in the components and another distinct copyright subsists in the collection as a whole. Databases of this type are protected by Article 2.5 of the Berne Convention. The TRIPS Agreement, the Copyright Treaty and the Database Directive re-instate their copyright status.

✓ **Data-Set**

Original collection of data, where the components are not subject to copyright protection. The database, however, as an original work, is copyright protected. The TRIPS Agreement, the Copyright Treaty and the Database Directive clarify that such databases are protected by copyright, thus settling any potential dispute that might be occurred in this matter.

✓ **Data-Stack**

Non-original collection of data, where the database cannot be protected by copyright since the element of ‘originality’ is missing. Databases of this type are the main impetus for providing specific legislation for database protection.

✓ **Work-Stack**

Non-original collection of works, which is also not protected by copyright but copyright is attached to the database components. Although databases that are of this type are not protected by database copyright, the lack of protection does not pose
any serious concern, because the constituent elements of such databases are protected by copyright.

The applicable right for a particular work is determined within the sphere of a particular national law. In this respect, the database copyright law of the United Kingdom and the United States are examined and compared.

Currently, the *Copyright, Designs and Patents Act 1988 (CDPA)* is the most recent copyright statute in the United Kingdom. The existence of databases was taken into consideration in the enactment of the Act, although they are hardly referred to in an explicit manner. The commonly held opinion is that a database, for the purpose of protection under the CDPA, is a ‘compilation’, a sub-set of a literary work. Since the implementation of the Database Directive through the Database Regulations, a definition of the term ‘database’ has been inserted into the CDPA. Consequently, the meaning of a literary work within the CDPA now includes a ‘database’, which has been distinguished from a compilation. Furthermore, the new database regime in the United Kingdom introduces the criterion of ‘selection and arrangement’ in respect to database protection. However, the new regime preserves compilation copyright under the old law, requiring the lower threshold of ‘skill and labour’ only.

Copyright law of the United States distinguishes between three categories of copyright works: creative works, derivative works and compiled works or compilations. In the United States, databases are also considered to be compilations or collective works. Facts and mere data are explicitly excluded from the scope of copyright, leaving data items in an unprotected collection free for extraction and re-utilisation. A competing theory termed as ‘sweat of the brow’ or ‘industrious collection’ has brought much controversy to case law. The Supreme Court’s *Feist* decision resolved the issue by asserting that the prerequisite of 'originality' is the *sine qua non* for copyright protection. compilation copyright is attached to the
contributions originally made by the author by way of 'selection and arrangement', and it cannot be extended to provide protection for the underlying materials.

The prerequisite of 'originality', as perceived in copyright law, limits the protection of databases to the 'selection and arrangement' of the content, so that extraction of items of information from data compilations is not regarded as unlawful acts by the current copyright system. This conclusion is most apparent in the United States. The same approach could be ascertained considering Civil Law jurisdictions where the copyright principle of 'originality' is based on personality and creativity notions. It might be also the case in the United Kingdom by virtue of the new database regime set out by the Database Regulations. It should be noted, however, that the old compilation copyright law does not accept the breaking down of the compilation into its components, and it is treated 'as a whole'. Therefore, since compilation copyright has been preserved under the new law, it is unclear whether the new database copyright regime indicates a move of the law of the United Kingdom towards that of the United States.

The objective of any database regime is not to provide the strongest database protection, but the formulation of the optimal level of protection to the benefits of producers and users alike, and to the achievement of the broader extent of database availability. The availability of databases in the marketplace, that is the volume of their production and their dissemination among users, plays a critical role in economic, technological and cultural progress. In today's information overload, database technology provides tools for achieving effective dissemination of information. Hence, the public interest demands a stable regime of database protection, which encourages database production and dissemination.

The assumption that the higher the protection the greater the database availability is misleading. On the contrary, there is, arguably, a positive correlation between the
breadth of the public domain and database availability. This argument is derived from the nature of databases as a creation based on pre-existing materials. Because it is a derivative creation, the scope of allowable taking from existing materials is significant. Admittedly, database producers who wish to build upon existing works may acquire licenses from the owners of these works. However, it is evident that if they can re-use and re-utilise public domain materials, the investment in the production of a particular database will be lower, thus resulting in setting lower prices for using it. This leads to the conclusion that if many databases can be produced that way, the availability of databases in the marketplace is enhanced. As the result, securing and enlarging the public domain is directly linked to the amount of database production and consumption.

Database copyright has a limited application towards a proper and well-balanced protection of databases. Firstly, this regime is set within the traditional copyright system. Databases, however, are so different from the standard objects protected by copyright that, arguably, the copyright system is incapable of providing them with appropriate legal protection. Secondly, detailed analysis of the copyright rules as applied to databases reveals many unresolved issues. Finally, the copyright regime as applied to databases can lead to under-protection of certain databases and over-protection of others.

Hence, a *sui-generis* regime, which is tailor-made for databases, is emerging. This regime is termed in this study as ‘dataright’.

### 7.3 Dataright

The diversity in the modes of database copyright puts at risk the accomplishment of an international protection regime. In today’s global market, the need for international protection is evident, and leaving that diversity unresolved leads to an under-protection of databases. Consequently, alternate models of database protection
have been suggested. Some of these proposals are examined by providing an analysis of the underlined theories that stimulate such suggestions.

The dataright regime, as formulated in the Database Directive and consequently in the Draft Treaty on Database, is based on a model of exclusive intellectual property rights. Alternative models of database protection were proposed which may be classified into three categories: on the extreme sides, theories advocating information as property, and — on the opposite side — that information is free; in between, theories supporting models based on liability rules.

The theoretical foundations that are considered in the formulation of a particular database regime are critical in striking an adequate balance of rights concerning databases. However, the detailed provisions of any database regime in force practically affect the database market and other involved interests. The main concern of this study is, therefore, the detailed database rules rather than the abstract conceptual regime.

The main debate regarding database protection rests in the choice between the exclusive-right approach and the unfair competition approach. Many commentators prefer the unfair competition approach. Indeed, the protection under unfair competition rules may be useful in a number of cases relating to unauthorised use of databases, including those databases that are not protected by copyright. These rules, however, are very complex and they extend to a large body of law, which goes much beyond the field where databases may be concerned. Hence, a codified regime based on notions of unfair competition is necessary for adequately addressing database protection. Such an attempt has been made by the United States Congress in the Database Bill. Nevertheless, the detailed examination of this regime concludes that it is substantially similar to the dataright regime of the Database Directive. The Bill, however, makes useful safeguards in securing the public interest of free competition.
Therefore, the provisions laid down in the Bill can be employed in performing the task of fine tuning the dataright regime introduced in the Database Directive.

Indeed, the Database Directive provides a detailed regime that, when looked at together with its implementation in the United Kingdom by the Database Regulations, can provide a broad account of dataright. Then, a fine-tuning of this regime borrowing from proposals made by the US Database Bill and other models based on unfair competition can provide an optimal dataright regime.

When drafting an international proposal for a Dataright Treaty, the following issues have to be determined.

✓ Object of Protection

It is commonly agreed that the object of protection is the investment in the creation of databases. A proper definition of the term ‘database’ is required. Databases are qualified collections of materials. The main point to be determined is the qualifying attribute of such collections. The Database Directive suggests, \textit{inter alia}, the qualifying attribute of ‘systematic or methodical’ arrangement. This attribute can lead to confusion with the prerequisite of ‘arrangement’ in relation to database copyright. In this respect, there is an advantage for the proposal made in the US Database Bill by defining databases by their intended purposes of bringing together discrete items of information.

✓ Dataright Beneficiaries

Dataright beneficiaries are agreed to be the persons taking the risks of the investment in databases. Clarifications should be made concerning databases made in the course of employment. An international protection must be achieved through the national treatment rule, thus dropping any reciprocity model. Whereas the ultimate objective of a Dataright Treaty is global harmonisation of database
protection law, this goal can be achieved only by the adoption of the national treatment principle.

✓ **Balancing Producer's Rights and User's Rights**

The rights of database producers consist of the utilisation right and the extraction right, which are essentially two sides of the same coin. The rights of database producers have to be balanced against the rights of database users in such a way that the normal use of databases cannot be restricted. The avoidance of certain contract terms that attempt to limit those users' rights, as introduced in the Database Directive, is desirable. Moreover, introducing a detailed licensing scheme as provided in the Database Regulations can minimise the risks of excessive exercise of powers by database producers.

✓ **Safeguards**

The most significant topic that should be re-considered in the drafting of a Dataright Treaty is the scope of exemptions and safeguards for the exclusive rights. Leaving this determination to the discretion of national legislation could result in serious distortions in achieving a harmonised international regime. Again, the US Database Bill has some important suggestions in this matter, such as clarifications with respect of permitted acts concerning use of protected databases for verification purposes. Within this framework, an adequate resolution of the exclusive source issue should be adopted along the lines of the proposed provisions in the earlier draft of the Database Directive. That is, compulsory licensing schemes in certain conditions have to be considered.

✓ **Term of Protection**

The term of protection of dataright should be minimal, as another safeguard against the risks of restraining the free flow of information, and allowing the building upon
existing databases for the creation of new ones. The suggestion made for dividing the term of protection into two periods bearing different levels of protection may be considered as a viable option. Furthermore, a perpetual protection for continuously-updated databases should not be permitted.

Making the stated suggestions in the current text of the Treaty on Databases will result in extinguishing the distinction between the exclusive rights and the unfair competition approach. The result will be a hybrid form of protection, carefully tailor-made for the optimal protection of databases.

Dataright indicates a possible turn in intellectual property law. Protection of databases is shifted from the traditional reproduction right, on which the copyright system is based, to the newly-introduced utilisation right.

Whereas composite works lean to become a form of a compilation, as this is arguably the case in relation to software and multimedia applications, and whereas the control of the reproduction right in the digital environment gets unworkable, shifting the rights of authors, composers and producers to control extraction and re-utilisation of their works, may be considered an option. Certainly, the introduction of such new regime – based on dataright – for the protection of works in general, must be accompanied by appropriate users' rights and safeguards, thus preserving the delicate balance of rights in intellectual property law.

Time will tell whether the old-time copyright system will be replaced by a regime crafted for the Information Age.
THE LEGAL PROTECTION OF DATABASES

FROM COPYRIGHT TO DATARIGHT
**APPENDIX I**

**Comparative Table: Database Directive – WIPO Draft Treaty on Databases**

<table>
<thead>
<tr>
<th>Draft Treaty on Databases</th>
<th>EC Directive on Databases</th>
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<tr>
<td><strong>Article 1 – Scope</strong></td>
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<tr>
<td>(1) Contracting Parties shall protect any database that represents a substantial investment in the collection, assembly, verification, organization or presentation of the contents of the database.</td>
<td>7.1 Member States shall provide for a right for the maker of a database which shows that there has been qualitatively and/or quantitatively a substantial investment in either the obtaining, verification or presentation of the contents to prevent extraction and/or re-utilization of the whole or of a substantial part, evaluated qualitatively and/or quantitatively, of the contents of that database.</td>
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<tr>
<td>(2) The legal protection set forth in this Treaty extends to a database regardless of the form or medium in which the database is embodied, and regardless of whether or not the database is made available to the public.</td>
<td>1.1 This Directive concerns the legal protection of databases in any form.</td>
</tr>
<tr>
<td>(3) The protection granted under this Treaty shall be provided irrespective of any protection provided for a database or its contents by copyright or by other rights granted by Contracting Parties in their national legislation.</td>
<td>7.4 The right provided for in paragraph 1 shall apply irrespective of the eligibility of that database for protection by copyright or by other rights. Moreover, it shall apply irrespective of eligibility of the contents of that database for protection by copyright or by other rights. Protection of databases under the right provided for in paragraph 1 shall be without prejudice to rights existing in respect of their contents.</td>
</tr>
<tr>
<td>(4) The protection under this Treaty shall not extend to any computer program as such, including without limitation any computer program used in the manufacture, operation or maintenance of a database.</td>
<td>1.3 Protection under this Directive shall not apply to computer programs used in the making or operation of databases accessible by electronic means.</td>
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<tr>
<td><strong>Article 2 – Definitions</strong></td>
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<tr>
<td>For the purposes of this Treaty:</td>
<td>1.2 For the purposes of this Directive, ‘database’ shall mean a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means.</td>
</tr>
<tr>
<td>(i) “database” means a collection of independent works, data or other materials arranged in a systematic or methodical way and capable of being individually accessed by electronic or other means;</td>
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<tr>
<td>Draft Treaty on Databases</td>
<td>Database Directive</td>
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<tr>
<td>(ii) “extraction” means the permanent or temporary transfer of all or a substantial part of the contents of a database to another medium by any means or in any form;</td>
<td>7.2(a) ‘extraction shall mean the permanent or temporary transfer of all or a substantial part of the contents of a database to another medium by any means or in any form;</td>
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<td>(iii) “maker of the database” means the natural or legal person or persons with control and responsibility for the undertaking of a substantial investment in making a database;</td>
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<tr>
<td>(iv) “substantial investment” means any qualitatively or quantitatively significant investment of human, financial, technical or other resources in the collection, assembly, verification, organization or presentation of the contents of the database;</td>
<td>7.4 The repeated and systematic extraction and/or re-utilization of insubstantial parts of the contents of the database implying acts which conflict with a normal exploitation of that database or which unreasonably prejudice the legitimate interests of the maker of the database shall not be permitted.</td>
</tr>
<tr>
<td>(v) “substantial part”, in reference to the contents of a database, means any portion of the database, including an accumulation of small portions, that is of qualitative or quantitative significance to the value of the database;</td>
<td>7.2(b) ‘re-utilization shall mean any form of making available to the public all or a substantial part of the contents of a database by the distribution of copies, by renting, by on-line or other forms of transmission.</td>
</tr>
<tr>
<td>(vi) “utilization” means the making available to the public of all or a substantial part of the contents of a database by any means, including by the distribution of copies, by renting, or by on-line or other forms of transmission, including making the same available to the public at a place and at a time individually chosen by each member of the public.</td>
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**Article 3 — Rights**

(1) The maker of a database eligible for protection under this Treaty shall have the right to authorize or prohibit the extraction or utilization of its contents.

(2) Contracting Parties may, in their national legislation, provide that the right of utilization provided for in paragraph (1) does not apply to distribution of the original or any copy of any database that has been sold or the ownership of which has been otherwise transferred in that Contracting Party’s territory by or pursuant to authorization.

**Article 4 — Rightholders**

(1) The rights provided under this Treaty shall be owned by the maker of the database.

(2) The rights provided under this Treaty shall be freely transferable.
Draft Treaty on Databases

Article 5 — Exceptions
(1) Contracting Parties may, in their national legislation, provide exceptions to or limitations of the rights provided in this Treaty in certain special cases that do not conflict with the normal exploitation of the database and do not unreasonably prejudice the legitimate interests of the rightholder.

(2) It shall be a matter for the national legislation of Contracting Parties to determine the protection that shall be granted to databases made by governmental entities or their agents or employees.

Database Directive
8.1 The maker of a database which is made available to the public in whatever manner may not prevent a lawful user of the database from extracting and/or re-utilizing insubstantial parts of its contents, evaluated qualitatively and/or quantitatively, for any purposes whatsoever. Where the lawful user is authorized to extract and/or re-utilize only part of the database, this paragraph shall apply only to that part.

8.2 A lawful user of a database which is made available to the public in whatever manner may not perform acts which conflict with normal exploitation of the database or unreasonably prejudice the legitimate interests of the maker of the database.

A lawful user of a database which is made available to the public in any manner may not cause prejudice to the holder of a copyright or related right in respect of the works or subject matter contained in the database.

9. Member States may stipulate that lawful users of a database which is made available to the public in whatever manner may, without the authorization of its maker, extract or re-utilize a substantial part of its contents:

(a) in the case of extraction for private purposes of the contents of a non-electronic database;

(b) in the case of extraction for the purposes of illustration for teaching or scientific research, as long as the source is indicated and to the extent justified by the non-commercial purpose to be achieved;

(c) in the case of extraction and/or re-utilization for the purposes of public security or an administrative or judicial procedure.

15. Any contractual provision contrary to Articles 6 (1) and 8 shall be null and void.

Article 6 — Beneficiaries of Protection
(1) Each Contracting Party shall protect according to the terms of this Treaty makers of databases who are nationals of a Contracting Party.

11.1 The right provided for in Article 7 shall apply to database whose makers or rightholders are nationals of a Member State or who have their habitual residence in the territory of the Community.
Draft Treaty on Databases

(2) The provisions of paragraph (1) shall also apply to companies, firms and other legal entities formed in accordance with the laws of a Contracting Party or having their registered office, central administration or principal place of business within a Contracting Party; however, where such a company, firm or other legal entity has only its registered office in the territory of a Contracting Party, its operations must be genuinely linked on an on-going basis with the economy of a Contracting Party.

Article 7 — National Treatment and Independence of Protection

(1) The maker of a database shall enjoy in respect of the protection provided for in this Treaty, in Contracting Parties other than the Contracting Party of which he is a national, the rights which their respective laws do now or may hereafter grant to their nationals as well as the rights specially granted by this Treaty.

(2) Protection of a database in the Contracting Party of which the maker of the database is a national shall be governed by national legislation.

(3) The enjoyment and the exercise of rights under this Treaty shall be independent of the existence of protection in the Contracting Party of which the maker of a database is a national. Apart from the provisions of this Treaty, the extent of protection, as well as the means and extent of redress, shall be governed exclusively by the laws of the Contracting Party where protection is claimed.

(4) Makers of databases who are not nationals of a Contracting Party but who have their habitual residence in a Contracting Party shall, for the purposes of this Treaty, be assimilated to nationals of that Contracting Party.

Article 8 — Term of Protection

(1) The rights provided for in this Treaty shall attach when a database meets the requirements of Article 1(1) and shall endure for at least

   Alternative A: 25
   Alternative B: 15

   Years from the first day of January in the year following the date when the database first met the requirements of Article 1(1).

Database Directive

11.2 Paragraph 1 shall also apply to companies and firms formed in accordance with the law of a Member State and having their registered office, central administration or principal place of business within the Community; however, where such a company or firm has only its registered office in the territory of the Community, its operations must be genuinely linked on an ongoing basis with the economy of a Member State.

11.3 Agreements extending the right provided for in Article 7 to databases made in third countries and falling outside the provisions of paragraphs 1 and 2 shall be concluded by the Council acting on a proposal from the Commission. The term of any protection extended to databases by virtue of that procedure shall not exceed that available pursuant to Article 10.
### Draft Treaty on Databases

(2) In the case of a database that is made available to the public, in whatever manner, before the expiry of the period provided for in paragraph (1), the term of protection shall endure for at least

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<th>Alternative A:</th>
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<td>Alternative B:</td>
<td>15</td>
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</table>

Years from the first day of January in the year following the date when the database was first made available to the public.

(3) Any substantial change to the database, evaluated qualitatively or quantitatively, including any substantial change resulting from the accumulation of successive additions, deletions, verifications, modifications in organization or presentation, or other alterations, which constitute a new substantial investment, shall qualify the database resulting from such investment for its own term of protection.

### Database Directive

10.2 In the case of a database which is made available to the public in whatever manner before expiry of the period provided for in paragraph 1, the term of protection by that right shall expire fifteen years from the first of January of the year following the date when the database was first made available to the public.

10.3 Any substantial change, evaluated qualitatively or quantitatively, to the contents of a database, including any substantial change resulting from the accumulation of successive additions, deletions or alterations, which would result in the database being considered to be a substantial new investment, evaluated qualitatively or quantitatively, shall qualify the database resulting from that investment for its own term of protection.

### Article 9 — Formalities

The enjoyment and exercise of the rights provided for in this Treaty shall not be subject to any formality.

### Article 10 — Obligations concerning Technological Measures

(1) Contracting Parties shall make unlawful the importation, manufacture or distribution of protection-defeating devices, or the offer or performance of any service having the same effect, by any person knowing or having reasonable grounds to know that the device or service will be used for, or in the course of, the exercise of rights provided under this Treaty that is not authorized by the rightholder or the law.

(2) Contracting Parties shall provide for appropriate and effective remedies against the unlawful acts referred to in paragraph (1).

(3) As used in this Article, “protection-defeating device" means any device, product or component incorporated into a device or product, the primary purpose or primary effect of which is to circumvent any process, treatment, mechanism or system that prevents or inhibits any of the acts covered by the rights under this Treaty.
Draft Treaty on Databases

Article 11 — Application in Time

(1) Contracting Parties shall also grant protection pursuant to this Treaty in respect of databases that met the requirements of Article 1(1) at the date of the entry into force of this Treaty for each Contracting Party. The duration of such protection shall be determined by the provisions of Article 8.

(2) The protection provided for in paragraph (1) shall be without prejudice to any acts concluded or rights acquired before the entry into force of this Treaty in each Contracting Party.

(3) A Contracting Party may provide for conditions under which copies of databases which were lawfully made before the date of the entry into force of this Treaty for that Contracting Party may be distributed to the public, provided that such provisions do not allow distribution for a period longer than two years from that date.

Article 12 — Relation to Other Legal Provisions

The protection accorded under this Treaty shall be without prejudice to any other rights in, or obligations with respect to, a database or its contents, including laws in respect of copyright, rights related to copyright, patent, trademark, design rights, antitrust or competition, trade secrets, data protection and privacy, access to public documents and the law of contract.

Database Directive

14.1 Protection pursuant to this Directive as regards copyright shall also be available in respect of databases created prior to the date referred to in Article 16 (1) which on that date fulfil the requirements laid down in this Directive as regards copyright protection of databases.

14.2 Notwithstanding paragraph 1, where a database protected under copyright arrangements in a Member State on the date of publication of this Directive does not fulfil the eligibility criteria for copyright protection laid down in Article 3 (1), this Directive shall not result in any curtailing in that Member State of the remaining term of protection afforded under those arrangements.

14.3 Protection pursuant to the provisions of this Directive as regards the right provided for in Article 7 shall also be available in respect of databases the making of which was completed not more than fifteen years prior to the date referred to in Article 16 (1) and which on that date fulfil the requirements laid down in Article 7.

14.4 The protection provided for in paragraphs 1 and 3 shall be without prejudice to any acts concluded and rights acquired before the date referred to in those paragraphs.

14.5 In the case of a database the making of which was completed not more than fifteen years prior to the date referred to in Article 16 (1), the term of protection by the right provided for in Article 7 shall expire fifteen years from the first of January following that date.

13. This Directive shall be without prejudice to provisions concerning in particular copyright, rights related to copyright or any other rights or obligations subsisting in the data, works or other materials incorporated into a database, patent rights, trade marks, design rights, the protection of national treasures, laws on restrictive practices and unfair competition, trade rights, the protection of national treasures, laws on restrictive practices and unfair competition, trade secrets, security, confidentiality, data protection and privacy, access to public documents, and the law of contract.
Appendix I—Comparative Table

Draft Treaty on Databases

Article 13 — Special Provisions on Enforcement of Rights

Alternative A

(1) Special provisions regarding the enforcement of rights are included in the Annex to the Treaty.

(2) The Annex forms an integral part of this Treaty.

Alternative B

Contracting Parties shall ensure that the enforcement procedures specified in Part III, Articles 41 to 61, of the Agreement on Trade-Related Aspects of Intellectual Property Rights, Including Trade in Counterfeit Goods, Annex 1C, of the Marrakech Agreement Establishing the World Trade Organization, concluded on April 15, 1994 (the “TRIPS Agreement”), are available under their national laws so as to permit effective action against any act of infringement of the rights provided under this Treaty, including expeditious remedies to prevent infringements, and remedies that constitute a deterrent to further infringements. To this end, Contracting Parties shall apply mutatis mutandis the provisions of Articles 41 to 61 of the TRIPS Agreement.

Database Directive

12. Member States shall provide appropriate remedies in respect of infringements of the rights provided for in this Directive.
APPENDIX II

US DATABASE BILL

The Bill (as known as H.R. 2652) entitled "Collections of Information Antipiracy Act" was introduced at the United States Congress, the House of Representatives (105th Congress 2nd Session) on 9 October 1997. After its introduction, the Bill was referred to the House Committee on the Judiciary. The Subcommittee on Courts and Intellectual Property considered the Bill and held hearings on it, which were concluded in some amendments to the wordings of the Bill. On 19 May 1998 the Bill as amended passed the House of Representatives.

The following version of the Bill is the current text as passed by the House, and consequently received in the Senate on 20 May 1998 for further legislative actions.


AN ACT

To amend title 17, United States Code, to prevent the misappropriation of collections of information.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the 'Collections of Information Antipiracy Act'.

SEC. 2. MISAPPROPRIATION OF COLLECTIONS OF INFORMATION.

Title 17, United States Code, is amended by adding at the end the following new chapter:

'CHAPTER 12-MISAPPROPRIATION OF COLLECTIONS OF INFORMATION

'Sec.

'1201. Definitions.

'1202. Prohibition against misappropriation.

'1203. Permitted acts.

'1204. Exclusions.

'1205. Relationship to other laws.

'1206. Civil remedies.

'1207. Criminal offenses and penalties.

'1208. Limitations on actions.

'Sec. 1201. Definitions

'As used in this chapter:

'(1) COLLECTION OF INFORMATION- The term 'collection of information' means information that has been collected and has been organized for the purpose of bringing
discrete items of information together in one place or through one source so that users may access them.

'(2) INFORMATION- The term 'information' means facts, data, works of authorship, or any other intangible material capable of being collected and organized in a systematic way.

'(3) POTENTIAL MARKET- The term 'potential market' means any market that a person claiming protection under section 1202 has current and demonstrable plans to exploit or that is commonly exploited by persons offering similar products or services incorporating collections of information.

'(4) COMMERCE- The term 'commerce' means all commerce which may be lawfully regulated by the Congress.

'(5) PRODUCT OR SERVICE- A product or service incorporating a collection of information does not include a product or service incorporating a collection of information gathered, organized, or maintained to address, route, forward, transmit, or store digital online communications or provide or receive access to connections for digital online communications.

'Sec. 1202. Prohibition against misappropriation

Any person who extracts, or uses in commerce, all or a substantial part, measured either quantitatively or qualitatively, of a collection of information gathered, organized, or maintained by another person through the investment of substantial monetary or other resources, so as to cause harm to the actual or potential market of that other person, or a successor in interest of that other person, for a product or service that incorporates that collection of information and is offered or intended to be offered for sale or otherwise in commerce by that other person, or a successor in interest of that person, shall be liable to that person or successor in interest for the remedies set forth in section 1206.

'Sec. 1203. Permitted acts

'(a) INDIVIDUAL ITEMS OF INFORMATION AND OTHER INSUBSTANTIAL PARTS- Nothing in this chapter shall prevent the extraction or use of an individual item of information, or other insubstantial part of a collection of information, in itself. An individual item of information, including a work of authorship, shall not itself be considered a substantial part of a collection of information under section 1202. Nothing in this subsection shall permit the repeated or systematic extraction or use of individual items or insubstantial parts of a collection of information so as to circumvent the prohibition contained in section 1202.

'(b) GATHERING OR USE OF INFORMATION OBTAINED THROUGH OTHER MEANS- Nothing in this chapter shall restrict any person from independently gathering information or using information obtained by means other than extracting it from a collection of information gathered, organized, or maintained by another person through the investment of substantial monetary or other resources.

'(c) USE OF INFORMATION FOR VERIFICATION- Nothing in this chapter shall restrict any person from extracting information, or from using information within any entity or organization, for the sole purpose of verifying the accuracy of information independently gathered, organized, or maintained by that person. Under no circumstances shall the information so extracted or used be made available to others in a manner that harms the actual or potential market for the collection of information from which it is extracted or used.

'(d) NONPROFIT EDUCATIONAL, SCIENTIFIC, OR RESEARCH USES- Nothing in this chapter shall restrict any person from extracting or using information for nonprofit educational, scientific, or research purposes in a manner that does not harm the actual or potential market for the product or service referred to in section 1202.

'(e) NEWS REPORTING- Nothing in this chapter shall restrict any person from extracting or using information for the sole purpose of news reporting, including news gathering, dissemination, and comment, unless the information so extracted or used is time sensitive, has been gathered by a news reporting entity for distribution to a particular market, and has not yet been distributed to that market,
Appendix II — US Database Bill

and the extraction or use is part of a consistent pattern engaged in for the purpose of direct competition in that market.

'(f) TRANSFER OF COPY - Nothing in this chapter shall restrict the owner of a particular lawfully made copy of all or part of a collection of information from selling or otherwise disposing of the possession of that copy.

'Sec. 1204. Exclusions

'(a) GOVERNMENT COLLECTIONS OF INFORMATION-

(1) EXCLUSION - Protection under this chapter shall not extend to collections of information gathered, organized, or maintained by or for a government entity, whether Federal, State, or local, including any employee or agent of such entity, or any person exclusively licensed by such entity, within the scope of the employment, agency, or license. Nothing in this subsection shall preclude protection under this chapter for information gathered, organized, or maintained by such an agent or licensee that is not within the scope of such agency or license, or by a Federal or State educational institution in the course of engaging in education or scholarship.

(2) EXCEPTION - The exclusion under paragraph (1) does not apply to any information required to be collected and disseminated--

(A) under the Securities Exchange Act of 1934 by a national securities exchange, a registered securities association, or a registered securities information processor, subject to section 1205(g) of this title; or

(B) under the Commodity Exchange Act by a contract market, subject to section 1205(g) of this title.

(b) COMPUTER PROGRAMS-

(1) PROTECTION NOT EXTENDED - Subject to paragraph (2), protection under this chapter shall not extend to computer programs, including, but not limited to, any computer program used in the manufacture, production, operation, or maintenance of a collection of information, or any element of a computer program necessary to its operation.

(2) INCORPORATED COLLECTIONS OF INFORMATION - A collection of information that is otherwise subject to protection under this chapter is not disqualified from such protection solely because it is incorporated into a computer program.

'Sec. 1205. Relationship to other laws

(a) OTHER RIGHTS NOT AFFECTED - Subject to subsection (b), nothing in this chapter shall affect rights, limitations, or remedies concerning copyright, or any other rights or obligations relating to information, including laws with respect to patent, trademark, design rights, antitrust, trade secrets, privacy, access to public documents, and the law of contract.

(b) PREEMPTION OF STATE LAW - On or after the effective date of this chapter, all rights that are equivalent to the rights specified in section 1202 with respect to the subject matter of this chapter shall be governed exclusively by Federal law, and no person is entitled to any equivalent right in such subject matter under the common law or statutes of any State. State laws with respect to trademark, design rights, antitrust, trade secrets, privacy, access to public documents, and the law of contract shall not be deemed to provide equivalent rights for purposes of this subsection.

(c) RELATIONSHIP TO COPYRIGHT - Protection under this chapter is independent of, and does not affect or enlarge the scope, duration, ownership, or subsistence of, any copyright protection or limitation, including, but not limited to, fair use, in any work of authorship that is contained in or consists in whole or part of a collection of information. This chapter does not provide any greater protection to a work of authorship contained in a collection of information, other than a work that is itself a collection of information, than is available to that work under any other chapter of this title.
Appendix H — US Database Bill

'(d) ANTITRUST- Nothing in this chapter shall limit in any way the constraints on the manner in which products and services may be provided to the public that are imposed by Federal and State antitrust laws, including those regarding single suppliers of products and services.

'(e) LICENSING- Nothing in this chapter shall restrict the rights of parties freely to enter into licenses or any other contracts with respect to the use of collections of information.

'(f) COMMUNICATIONS ACT OF 1934- Nothing in this chapter shall affect the operation of the provisions of the Communications Act of 1934 (47 U.S.C. 151 et seq.), or shall restrict any person from extracting or using subscriber list information, as such term is defined in section 222(f)(3) of the Communications Act of 1934 (47 U.S.C. 222(f)(3)), for the purpose of publishing telephone directories in any format.

'(g) SECURITIES EXCHANGE ACT OF 1934 AND COMMODITY EXCHANGE ACT- Nothing in this chapter shall affect—

'(1) the operation of the provisions of the Securities Exchange Act of 1934 (15 U.S.C. 58a et seq.) or the Commodity Exchange Act (7 U.S.C. 1 et seq.);

'(2) the public nature of information with respect to quotations for and transactions in securities that is collected, processed, distributed, or published pursuant to the requirements of the Securities Exchange Act of 1934;

'(3) the obligations of national securities exchanges, registered securities associations, or registered information processors under the Securities Exchange Act of 1934; or

'(4) the jurisdiction or authority of the Securities and Exchange Commission or the Commodity Futures Trading Commission.

'Sec. 1206. Civil remedies

'(a) CIVIL ACTIONS- Any person who is injured by a violation of section 1202 may bring a civil action for such a violation in an appropriate United States district court without regard to the amount in controversy, except that any action against a State governmental entity may be brought in any court that has jurisdiction over claims against such entity.

'(b) TEMPORARY AND PERMANENT INJUNCTIONS- Any court having jurisdiction of a civil action under this section shall have the power to grant temporary and permanent injunctions, according to the principles of equity and upon such terms as the court may deem reasonable, to prevent a violation of section 1202. Any such injunction may be served anywhere in the United States on the person enjoined, and may be enforced by proceedings in contempt or otherwise by any United States district court having jurisdiction over that person.

'(c) IMPOUNDMENT- At any time while an action under this section is pending, the court may order the impounding, on such terms as it deems reasonable, of all copies of contents of a collection of information extracted or used in violation of section 1202, and of all masters, tapes, disks, diskettes, or other articles by means of which such copies may be reproduced. The court may, as part of a final judgment or decree finding a violation of section 1202, order the remedial modification or destruction of all copies of contents of a collection of information extracted or used in violation of section 1202, and of all masters, tapes, disks, diskettes, or other articles by means of which such copies may be reproduced.

'(d) MONETARY RELIEF- When a violation of section 1202 has been established in any civil action arising under this section, the plaintiff shall be entitled to recover any damages sustained by the plaintiff and defendant's profits not taken into account in computing the damages sustained by the plaintiff. The court shall assess such profits or damages or cause the same to be assessed under its direction. In assessing profits the plaintiff shall be required to prove defendant's gross revenue only; defendant must prove all elements of cost or deduction claims. In assessing damages the court may enter judgment, according to the circumstances of the case, for any sum above the amount found as actual damages, not exceeding three times such amount. The court in its discretion may award reasonable costs and attorney's fees to the prevailing party and shall award such costs and fees where it determines that an action was brought under this chapter in bad faith against a nonprofit
educational, scientific, or research institution, library, or archives, or an employee or agent of such an entity, acting within the scope of his or her employment.

'(e) REDUCTION OR REMISSION OF MONETARY RELIEF FOR NONPROFIT EDUCATIONAL, SCIENTIFIC, OR RESEARCH INSTITUTIONS- The court shall reduce or remit entirely monetary relief under subsection (d) in any case in which a defendant believed and had reasonable grounds for believing that his or her conduct was permissible under this chapter, if the defendant was an employee or agent of a nonprofit educational, scientific, or research institution, library, or archives acting within the scope of his or her employment.

'(f) ACTIONS AGAINST UNITED STATES GOVERNMENT- Subsections (b) and (c) shall not apply to any action against the United States Government.

'(g) RELIEF AGAINST STATE ENTITIES- The relief provided under this section shall be available against a State governmental entity to the extent permitted by applicable law.

'Sec. 1207. Criminal offenses and penalties

'(a) VIOLATION-

'(1) IN GENERAL- Any person who violates section 1202 willfully, and--

'(A) does so for direct or indirect commercial advantage or financial gain; or

'(B) causes loss or damage aggregating $10,000 or more in any 1-year period to the person who gathered, organized, or maintained the information concerned,

shall be punished as provided in subsection (b).

'(2) INAPPLICABILITY- This section shall not apply to an employee or agent of a nonprofit educational, scientific, or research institution, library, or archives acting within the scope of his or her employment.

'(b) PENALTIES- An offense under subsection (a) shall be punishable by a fine of not more than $250,000 or imprisonment for not more than 5 years, or both. A second or subsequent offense under subsection (a) shall be punishable by a fine of not more than $500,000 or imprisonment for not more than 10 years, or both.

'Sec. 1208. Limitations on actions

'(a) CRIMINAL PROCEEDINGS- No criminal proceeding shall be maintained under this chapter unless it is commenced within three years after the cause of action arises.

'(b) CIVIL ACTIONS- No civil action shall be maintained under this chapter unless it is commenced within three years after the cause of action arises or claim accrues.

'(c) ADDITIONAL LIMITATION- No criminal or civil action shall be maintained under this chapter for the extraction or use of all or a substantial part of a collection of information that occurs more than 15 years after the investment of resources that qualified the portion of the collection of information for protection under this chapter that is extracted or used.'.

SEC. 3. CONFORMING AMENDMENT.

The table of chapters for title 17, United States Code, is amended by adding at the end the following: 1201'.

SEC. 4. CONFORMING AMENDMENTS TO TITLE 28, UNITED STATES CODE.

(a) DISTRICT COURT JURISDICTION- Section 1338 of title 28, United States Code, is amended--

(1) in the section heading by inserting 'misappropriations of collections of information,' after 'trade-marks,'; and
(2) by adding at the end the following:

'(d) The district courts shall have original jurisdiction of any civil action arising under chapter 12 of title 17, relating to misappropriation of collections of information. Such jurisdiction shall be exclusive of the courts of the States, except that any action against a State governmental entity may be brought in any court that has jurisdiction over claims against such entity.'.

(b) CONFORMING AMENDMENT- The item relating to section 1338 in the table of sections for chapter 85 of title 28, United States Code, is amended by inserting 'misappropriations of collections of information,' after 'trade-marks,'.

(c) COURT OF FEDERAL CLAIMS JURISDICTION- Section 1498(e) of title 28, United States Code, is amended by inserting 'and to protections afforded collections of information under chapter 12 of title 17' after 'chapter 9 of title 17'.

SEC. 5. EFFECTIVE DATE.

(a) IN GENERAL- This Act and the amendments made by this Act shall take effect on the date of the enactment of this Act, and shall apply to acts committed on or after that date.

(b) PRIOR ACTS NOT AFFECTED- No person shall be liable under chapter 12 of title 17, United States Code, as added by section 2 of this Act, for the use of information lawfully extracted from a collection of information prior to the effective date of this Act, by that person or by that person's predecessor in interest.
THE LEGAL PROTECTION OF DATABASES

FROM COPYRIGHT TO DATARIGHT
LEGISLATION AND PREPARATORY MATERIALS

INTERNATIONAL


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Microsense v Control Systems Technology Ltd, avalaibale on Lexis: UK;ENGCAS file (Chancery Division, Patents Court, 1991).

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**DOCUMENTATION I**

**DATACase – Dataright Cases Database**

DatCase is a bibliographical compilation that includes details about cases and judgements relevant to database protection. Data was collected and recorded throughout this research for assisting and tracking materials while writing the thesis. Then, the collected information was organised to form a database.

The DatCase is an application based on Microsoft Access, a *Database Management System* software. This software enables the construction of tables, forms and reports according to the user’s needs (*Figure 1*) so to form an application. The database application is controlled by a menu (*Figure 2*) which assist to navigate between the tasks that can be performed in that application.

This database is constructed by employing the so-called relation-database technology. At the core of it, *tables* consisting of specified *fields*, which are used to organise the collection of data. For instance, the *Cases* table and its fields is shown below (*Figure 3*). Forms are used for data entry and consultation (*Figure 4*). Reports according to specified requests can be generated. For instance, a full list of cases sorted by jurisdictions (*Figure 5*).

![Figure 1](image1.png)  ![Figure 2](image2.png)
### Cases: Table

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Data Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>AutoNumber</td>
<td>Index key. Automatically inserted.</td>
</tr>
<tr>
<td>ShortName</td>
<td>Text</td>
<td>Short name of the case.</td>
</tr>
<tr>
<td>FullName</td>
<td>Text</td>
<td>Full name of the case.</td>
</tr>
<tr>
<td>Source</td>
<td>Text</td>
<td>Law reports citations.</td>
</tr>
<tr>
<td>Court</td>
<td>Text</td>
<td>The name of the court.</td>
</tr>
<tr>
<td>Jurisdiction</td>
<td>Text</td>
<td>Name of country/jurisdiction.</td>
</tr>
<tr>
<td>KeyWords</td>
<td>Text</td>
<td>Topics and issues dealt with in the case.</td>
</tr>
<tr>
<td>Year</td>
<td>Number</td>
<td>The year when the case was given.</td>
</tr>
<tr>
<td>Filing</td>
<td>Text</td>
<td>Pointer to where the case is filed.</td>
</tr>
<tr>
<td>Reference</td>
<td>Text</td>
<td>Sections of the thesis where the case is cited.</td>
</tr>
<tr>
<td>Select</td>
<td>Yes/No</td>
<td>Manual selection of cases for reporting.</td>
</tr>
<tr>
<td>FullText</td>
<td>Hyperlink</td>
<td>Link to full-text file of the case (when available).</td>
</tr>
<tr>
<td>Notes</td>
<td>Memo</td>
<td>Free-text field for summary, comments and notes.</td>
</tr>
</tbody>
</table>

**Figure 3**

**Figure 4**

**Citation**

An appeal on: Warren Publishing Inc v Microdos Data Corp and others, 115 F. 3d 1509; Copyright L.R. P27,667 (11th Cir., 1997)

Warren compiles and publishes annually a printed directory concerning cable television systems. This publication is known as the "Television and Cable Factbook". A section of the Factbook of the 1998 edition is the specific part at issue in this case. This section includes two distinct lists. The first, known as the "Directory of Cable Systems", lists cable systems arranged alphabetically by states and, within each state alphabetically by the name of the...
DOCUMENTATION II

DATARIGHT — THE WEBSITE

The Dataright Website is dedicated to the topic of intellectual property rights in databases and it accompanies this thesis in various ways. Firstly, it provides a place where the main legal texts concerning intellectual property rights in databases can be located online. Secondly, it follows the updates in the stated topic. Thirdly, its construction served as a case-study for examining at first-hand the issues of the thesis.

The Dataright Website can be accessed over the Internet at: <http://dataright.haifa.ac.il>.

As for the time of writing (October 1998), the picture below (Figure 6) is the Home Page of this Website. Consequently, the main pages are documented (Figure 7 – Figure 9). Note that due to the dynamic nature of the World Wide Web, the pages – as well as additional sections and pages – are continuously-updated.

Figure 6
Main Legal Texts relating to IPR in Databases

- **WIPO Proposed Treaty on Databases**
  Basic proposal for the substantive provisions of the treaty on intellectual property in respect to databases to be considered by the diplomatic conference. Prepared by WIPO, Geneva, December 1996.

- **WIPO Recommendation concerning Databases**
  The recommendation adopted by the Diplomatic Conference on 20 December 1996, on the proposed Treaty on Databases.

- **Records of WIPO Information Meeting on Databases**
  The records include reports on existing national and regional legislation concerning intellectual property in databases. The final report of this meeting set the agenda for the next steps towards the adoption of a treaty on databases.

- **Standing Committee on Copyright and Related Rights**
  First Session, Geneva, November 2 to 10, 1998
  Database protection is on the agenda of this Session.
  Records of the information received from member states of WIPO, the European Community and other organisations.

- **EU Directive on the Legal Protection of Databases**

- **UK Database Regulations**

- **US Bill on Database Antipiracy**
Figure 8

**IPR in Databases within the Copyright Context**

- **TRIPS Agreement**

The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) is a part of the Marrakesh Agreement establishing the World Trade Organization, signed on April 1994, and joined to-date by 132 members (as on 22 October 1997). The TRIPS Agreement, which came into effect on 1 January 1995, is the most comprehensive multilateral agreement on intellectual property.

Article 10.2 of TRIPS clarifies the status of copyright in databases and other compilations.

- **The Berne Convention**


Article 2 lists the protected works by copyright including 'literary works' (Article 2.1) and 'Collections of literary works' (Article 2.5) which may be interpreted to comprise databases.

- **WIPO Copyright Treaty**

The Copyright Treaty was adopted by the WIPO Diplomatic Conference on 20 December 1996. It includes certain provisions to clarify and amend the Berne Convention. Not in force yet.

Article 5 of the Treaty deals with copyright in databases and other compilations under certain conditions.

- **US Copyright Act**

Title 17 of the US Code incorporates the 1996 Copyright Act as amended.

Article 103 states the law on 'compilations and derivatives works', which applies to databases.

- **Digital Millennium Copyright Act**


The Act includes measures regarding technological protection, and measures on limitations of liability of on-line material providers.
Figure 9

Commentaries on IPR in Databases

- **From Copyright to Dataright**
  An overview of the current status of IPR in databases, as a transition from copyright protection towards tailor-made IPR protection - Dataright.

- **EU Database Directive Implementation**