Is the SUI Generis Right a Failed Experiment?

A Legal and Theoretical Exploration of How to Regulate Unoriginal Database Contents and Possible Suggestions for Reform

Herr, Robin E.

Document Version
Final published version

Publication date:
2008

Is the *Sui Generis* Right a Failed Experiment?

To my grandfather, Eugene Staley, an economist who loved his work.
And to my grandmother, Phyllis Staley, whose tales of the world beyond
gave me perspective and the will to wander.

Robin Elizabeth Herr

Is the *Sui Generis* Right a Failed Experiment?

A Legal and Theoretical Exploration of How to Regulate Unoriginal Database Contents and Possible Suggestions for Reform

DJØF Publishing Copenhagen
2008

Is the Sui Generis Right a Failed Experiment?
A Legal and Theoretical Exploration of
How to Regulate Unoriginal Database Contents and Possible Suggestions for Reform
1. edition

Cover: Morten Højmark
Print: Narayana Press, Gylling
Binding: Damm's Forlagsbogbinderi, Randers

Printed in Denmark 2008
ISBN 978-87-574-1881-1

DJØF Publishing
17, Lyngbyvej
P.O.Box 2702
DK-2100 Copenhagen
Denmark

Phone: +45 39 13 55 00
Fax: +45 39 13 55 55
E-mail: forlag@djoef.dk
www.djoef-forlag.dk

Table of Contents

Preface 9

Chapter 1. Introduction
1.1 The Context 11
1.2 Policy Questions 13
1.3 Methodology 14
1.4 Delimitations 15
1.5 Justifying Economic Analysis 17
1.6 Chapter Descriptions 18
1.7 A Word about Organization and Style 21

Chapter 2. The Value of Databases to Society
2.1 Introduction: The Database Revolution 23
2.2 Database Industry Basics 25
2.3 What Is a Database? 28
2.4 What Is the Function of a Database? 29
2.5 Incentive and Access Needs of Commercial Producers 30
2.6 Information Exchange within the Noncommercial Sector 35
2.7 Distributing Public Sector Information 37
2.8 Free Access for Commons-based Production 40
2.9 Recreating the Offline World for Consumers 41
2.10 Conclusion: Policy Implications 42

Chapter 3. Future Visions – Economic Theories and Policy Options
3.1 Introduction: What Is Our Future? 45
3.2 The Incentive Theory 46
3.3 An Economic Primer 51
3.4 Property Rights Theory 54
3.5 Is Property Rights Theory Realistic? 59
3.6 Recalibrating Efficiency: Balancing Incentives with Access 63
3.7 What is the Correct Balance? 70
3.8 Infrastructural Theory: A Demand-Side Analysis 71

3.9 Applying Infrastructural Theory: How Much Access? 75
3.10 Free Access and the New Networked Economy 76
3.11 Can All Content be Free? 81
3.12 Conclusion 83

Chapter 4. Swinging the Pendulum – The Database Right's Legislative History
4.1 Introduction: Creating the Information Society 85
4.2 The 1988 Green Paper Sets the Stage 88
4.3 The First Draft Balances Stakeholders' Needs 90
4.4 Initial Problems that Plague the Final Directive 94
4.5 Subsequent Revisions Produce a Strong Right 97
4.6 The 1996 Database Directive is a Strong Property Right 101
4.7 Testing the Database Right at the ECJ 104
4.8 The Facts of *British Horseracing Board* 106
4.9 Thresholds are Lowered in the First Instance 107
4.10 The Advocate General Generally Confirms 108
4.11 The ECJ Raises the Qualification Threshold 110
4.12 Conclusion 113

Chapter 5. Revising the Database Right
5.1 Introduction: The Commission's Evaluation 117
5.2 The General Purpose 121
5.3 The Function of a Database 123
5.4 Should Non-electronic Databases be Protected? 124
5.5 Re-interpreting the Qualification Threshold 127
5.6 Restricting the Scope of the Right 134
5.7 Interpreting Extraction and Re-utilization 140
5.8 Evaluating Infringement of a Substantial Part 142
5.9 Who is a Lawful User? 145
5.10 Transforming User Rights 147
5.11 Harmonizing the Exceptions 148
5.12 What is the Right of Consultation? 149
5.13 Are the Contents Protected? 150
5.14 Establishing a System of Limited Renewals 152
5.15 Conclusion: The Future 155

Chapter 6. The Effect of No Protection in the United States
6.1 Introduction: The Copyright Balance 157
6.2 The Circuits Split on Unoriginal Contents 160

6.3 The Supreme Court Upholds Free Access 163
6.4 The Repercussions 165
6.5 Re-users Defeat Legislation 167
6.6 Copyright Pre-empts License Provisions 169
6.7 Online Licenses and Provisions to Prevent Copying 172
6.8 Online License Validity 176
6.9 Are Copy-prevention Provisions Valid? 177
6.10 Technical Measures Offer Secure Protection 179
6.11 Using License Provisions and Technical Measures in Europe 182
6.12 Conclusion 185

Chapter 7. A Final Analysis – Comparing Two Policy Options
7.1 Introduction: Revising Policy 187
7.2 Are Databases Generic Infrastructural Inputs? 189
7.3 The Policy Questions Revisited 191
7.4 The Current Regime Skimps on Access 194
7.5 Providing Minimum Incentives and Flexible Access 197
7.6 Conclusion 201

Appendix 1. Resume på Dansk 203

Appendix 2. Bibliography 209

Index 217

Preface

Completing a Ph.D. at Copenhagen Business School was a tremendous privilege. Not only was I granted the luxury of thinking deeply about intellectual property law, but due to the school's unique business environment, I was allowed to develop more policy-oriented areas of research including in economic analysis of the law and in the regulation of intellectual property. While looking forward to next project, I am pleased to present my Ph.D. thesis.

This work would not have been completed without the wise counsel of my Ph.D. advisor Thomas Riis. He guided me through the intricacies of European law and methodology and provided detailed feedback on law and economics. He also created a teaching niche for me in the law of the creative industries and opened up potential avenues for cooperation with CBS economists.

I also wish to thank my secondary advisor, Lynn Roseberry, who made herself available for consultation and speculation on issues regarding theory and academic research. It was Lynn who first mentored me through the process of becoming a Ph.D. student at CBS and who greatly smoothed my adjustment. For this, I am deeply grateful.

A number of other people provided advice and feedback on the economic and legal aspects of the thesis. Theodoros M. Diasakos spent five months helping me brush up on microeconomics. His enthusiasm was infectious. Tina Skotte Sørensen provided substantive support for my forays into economic analysis. Her belief in my work helped build my confidence. Henrik Lando gladly commented on my ideas and Kim Frost gave much needed advice in the last months of the project. Merete Løwe Drewsen kindly read the EU law chapters.

Competent practical and logistical support can be rare. But this was not the case at the law department where Christian Petersen, Finn Petersen, Susie Lund Hansen, Marie Elisabeth Pade Andersen and Mikala Schiellrup patiently supplied help. Librarian Erik Sonne performed miracles by obtaining documents at short notice. Julie Englander did a fantastic editing job despite our location on different continents. My good friend, Joanne Newman, solved all practical problems during research trips to Stanford Law School.

Writing a Ph.D. is occasionally a lonesome venture. Luckily, I was surrounded by caring friends in academia who understand the process. I am especially indebted to Yufeng Mao, who was also completing a Ph.D, and with whom I had weekly skype meetings. Her ability to enforce deadlines and contribute insight into the research and writing process was priceless. Carl Minzner, another willing skype user, provided key feedback at critical junctures. I am forever grateful for our friendship. Here in Denmark, Maria Theresa Larsen was always available to talk at short notice. She provided many valuable comments.

No project could be completed without the support of family and friends. Benedicte Ginnerup, Sanne Arvin and Lise-lotte Andersen were especially understanding and willing to meet when I needed social interaction. My mother, Pamela Herr, and my step-father, Barton Bernstein, provided editing advice and moral support as did my father, Donald Herr, and my step-mother, Julie Herr. My life is richer because of them.

Copenhagen, September 2007
Robin Elizabeth Herr

CHAPTER 1

Introduction

1.1 The Context

The 1996 Information Database Directive ("the Database Directive") grants producers exclusive rights to prevent the extraction and/or re-utilization of the whole or of a substantial part of the contents of a database for 15 years with possible term renewals.[1] To qualify for the *sui generis* right (also referred to as "the database right"), a database must display "a substantial investment in either the obtaining, verification or presentation of the contents."[2] In a series of four cases involving horseracing and football fixture lists, the European Court of Justice (ECJ) has ruled that database contents, which evidence a substantial investment in the creation of data rather than in its obtainment, are excluded from protection.[3]

The decision to protect database contents is based on the incentive theory of intellectual property. According to this theory, the public goods characteristics of intellectual property mean its price approaches zero and there exists little economic incentive for production. Legal mechanisms can be used to create an incentive so that producers can recoup their investment and make a profit.

1. Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases OJ (L) 77/20, 27/03/1996.
2. Ibid., Art. 7.1.
3. See *British Horseracing Board Ltd and Others v. William Hill Organization Ltd*, ECJ case C-203/02, 9 Nov. 2004 (from England); *Fixtures Marketing Ltd v. Oy Veikkaus Ab*, ECJ case C-45/02, 09 Nov. 2004 (from Finland); *Fixtures Marketing Ltd v. Organismos prognostikon agonon podosfairou AE*, ECJ case C-444/02, 09 Nov. 2004 (from Greece); and *Fixtures Marketing Ltd. v. Svenska Spel AB*, ECJ case C-338/02, 09 Nov. 2004 (from Sweden).

Despite what seems like sound economic reasoning, the European Commission has expressed a willingness to rethink the entire initiative. In its first evaluation report written nearly eight years after implementation,[4] the Commission states, "The economic impact of the 'sui generis' right on database production is unproven."[5] It asks, "Is 'sui generis' protection therefore necessary for a thriving database industry? The empirical evidence, at this stage, casts doubts on this necessity."[6]

Additional empirical research is necessary to explore whether the lack of improvement is a demand or supply side problem.[7] But the evidence we do have reveals that the number of databases remained the same from 1998 at 3,092 databases to 2004 at 3,095.[8] These figures hide numbers which suggest that database production went up to 4,085 in 2001 but dropped after most Member States had implemented the Directive.[9]

The unexpected outcome of the Commission's legislative initiative is spawning efforts to revise database protection policy. The Commission itself has forwarded the following policy options: (1) repeal the entire Directive, (2) withdraw the *sui generis* right, (3) amend the *sui generis* right or (4) maintain the status quo.

It is important to proceed with caution in reformulating current policy, however. Like many modern information goods, databases do not fit per-

4. Under Article 16.3 of the Directive, the Commission is mandated to evaluate the impact of the Directive three years after the implementation deadline of 1 January 1998, and every three years thereafter. Germany, Sweden and the United Kingdom met the implementation deadline. Austria, Belgium, Denmark, France, Finland and Spain implemented the Directive during 1998. Italy and the Netherlands implemented it in 1999, Greece and Portugal in 2000 and Ireland and Luxembourg in 2001.
5. European Commission, "First Evaluation of Directive 96/9/EC on the legal protection of databases" (Brussels: 12 December 2005), p. 5 (hereinafter *The 2005 Evaluation*).
6. Id.
7. Empirical analysis from a demand side perspective could reveal, for example, that there are only so many databases that a particular Member State can absorb, especially those in a language with a limited number of speakers. It could also corroborate the theory that countries producing in languages with broader global appeal, such as English, may be more successful regardless of the status of legal protection.

   There could also be supply side explanations. One of the most jarring to the Commission could be that when it comes to database production, economic incentives may not provide a meaningful stimulant. Another explanation could be that it is consistency of policy that matters regardless of whether or not there is legal protection. Without thorough empirical research, such questions are difficult to answer.
8. European Commission, *The 2005 Evaluation,* ¶ 1.4.
9. Id.

fectly into the traditional intellectual property paradigms with their more finely-tuned balance between production incentives and information access. Thus, a danger of overprotection arises which could lead to less, not more, production.[10]

The negative effects of overzealous regulation can be compounded in several ways. First, the formulation of a new policy is costly. Experience with the Database Directive demonstrates that any new initiative will be bound up in litigation in order to clarify the nature of the right. Moreover, if perceived to be successful, a database protection regime is likely to be replicated in other regions and so may have repercussions beyond Europe. The *sui generis* right could also serve as a precedent for the further extension of protection to even less deserving subject matter. Such an outcome needs to be seriously evaluated.

1.2 Policy Questions

The invitation to rethink policy options is a rare opportunity that cannot be missed. A number of legal academics have written detailed analyses of the database protection regime both from the standpoint of what the law is and how it should be interpreted.[11] Some have applied economic theory.[12] Poli-

10. J.H. Reichman, "Legal Hybrids Between the Patent and Copyright Paradigms," 94 *Columbia Law Review* 2432 (Dec. 1994), pp. 2455-65.
11. See for example Estelle Derclaye, "What is a Database? A Critical Analysis of the Definition of a Database in the European Database Directive and Suggestions for an International Definition," *Journal of World Intellectual Property* 5, no. 1 (Nov. 2002), pp. 981-1011; Estelle Derclaye, "Database Sui Generis Right: What is Substantial Investment? A Tentative Definition," *International Review of Intellectual Property and Competition Law* 36, no. 1 (2005), pp. 2-30; Matthias Leistner, "The Legal Protection of Telephone Directories Relating to the New Database Maker's Right," *International Review of Intellectual Property and Competition Law* 31, no. 7-8 (Nov. 2000), pp. 950-967; Perttu Virtanen, *Database Rights in Safe European Home: The Path to More Rigorous Protection of Information* (Ph.D., Lappeenranta University of Technology, 2005), Guido Westkamp, "Protecting Databases Under US and European Law – Methodological Approaches to the Protection of Investments Between Unfair Competition and Intellectual Property Concepts," *International Review of Intellectual Property and Competition Law,* no. 7 (2003), pp. 772-803.
12. See Thomas Riis, "Economic Impact of the Protection of Unoriginal Databases in Developing Countries and Countries in Transition," LEFIC Working Paper (Copenhagen: Copenhagen Business School Center for Law, Economics and Financial Institu-

cymakers have benefited from this expertise as well as from the experience of Member States in protecting unoriginal database contents ranging from sweat-of-the-brow copyright to the Nordic Catalogue Rule to the tort of unfair competition.

Rather than reiterate these traditional protection models or duplicate the fine efforts of other academics, this thesis is an effort to add something new to the discussion. Building from the ground up, the author seeks to question the basic rationale and theory behind protection of unoriginal database contents in order to determine the best method of regulation.

A major contention is that the policy question addressed by the *sui generis* right – that of how to stimulate the production of databases – is not, in fact, the correct question to ask. Instead, based on the evidence presented in this thesis, it is argued that the most pertinent policy questions are:

1. What is the best way to provide production incentives for those who need it?
2. What is the best way to provide legal access to materials contained within a database?

These policy questions are variations of the classic debate over how to regulate any type of intellectual property. The challenge is to find where the balance lies.

1.3 Methodology

In exploring where the balance should be established, the following factors are considered: (1) the specific nature of the database industry, (2) economic analysis of the law and (3) the empirical evidence offered by the European and US protection regimes.

A contention of this thesis is that the nature of the subject matter should be taken into account when determining the best way to regulate. Therefore, the function of databases is examined with the intention of discovering their value to society. Focus is placed on articulating the needs of all stakeholders from the perspective of balancing incentives and access.

tions, 2002-3); Mark J. Davison, *The Legal Protection of Databases* (Cambridge: Cambridge University Press, 2003).

Armed with an understanding of the uniqueness of the subject matter and of its implications for regulation, economic-based theories of intellectual property are surveyed in order to further pinpoint the most appropriate policy option. The choices represent a spectrum ranging from property rights theory, where strong rights are advocated, to commons-based licensing options, where free access is promoted. A critical knowledge of these theories enables a more intelligent selection of the most appropriate regulation method.

Further investigation of possible policy options continues through an evaluation of the strengths and weaknesses of the applicable law. The raw materials for this phase of the thesis are the protection regimes in Europe and in the United States. The analysis will highlight the regime currently operating in each region and their effect on production and use. The focus will be placed on Europe which arguably includes a realm of no protection similar to that in the United States and a realm of strong protection under the database right. Lessons learned from 16 years without unoriginal database content protection in the United States will be explored to the extent it is relevant to Europe.

A final evaluation will synthesize the implications of the nature of the subject matter, economic analysis of the law and the empirical evidence in order to answer the policy questions and to establish the correct balance. This determination will be employed to evaluate the following two policy options: (1) the two intertwining regimes currently operating in Europe and (2) amendments to the relevant European law. The evaluation will be conducted by comparing the costs and benefits of each alternative and its impact on the balance between incentives and access. It is hoped that the outcome will be the most appropriate policy option.

1.4 Delimitations

The goal of this thesis is to evaluate the impact of the database right on the protection of unoriginal database contents and to formulate amendments to improve its effectiveness. There is no discussion of copyright of the structure and arrangement, also harmonized under the Directive, because it is generally considered less problematic.

In contrast, the database right continues to be controversial. It is a legislative innovation with no legal precedent. Confusion as to its interpretation has

resulted in four cases decided by the ECJ.[13] Its lack of clarity continues to challenge policymakers, judges and academics. The empirical evidence on the impact of the right is also less than convincing. That is why basic questions are still being contemplated as to whether the right is effective and whether it should be revised.

The database right is contained in a European Community Directive. As a result, the analysis concentrates on law at the European level. National transpositions of the law and the national case law are not discussed.

Since there exists no comparable right in the United States, that regime is explored to the extent that it provides insight on the situation in Europe. Two legal phenomenon are worthy of investigation. The first is the impact of technological protection measures and their enforcement. The second is contractual provisions, valid in some jurisdictions, which can override copyright and prevent copying. The implications of these developments are highlighted in order to avoid similar occurrences in Europe.

Other legal mechanisms in the United States are not analyzed simply because they lack relevance within the European context. Examples include trespass to chattels, US anti-trust law and the "hot news" tort of misappropriation. Trespass to chattels is a concept emanating from property law which can be used in some jurisdictions to prevent the re-use of database contents.[14] This mechanism is not likely to be employed in Europe simply because it is not a widespread practice to import property rules from case law in order to regulate intellectual property.

US anti-trust law is more permissive than European competition law. As a result, anti-trust law is not generally looked towards as a solution to the locking-up of database contents. *Feist Publications, Inc. v. Rural Telephone Services Co.*, which involved a telephone company's refusal to license the white pages of its directory to a regional directory compiler, is a case in point.[15] It is likely that a refusal to license by a telephone company which possesses market power by virtue of a legal monopoly could be embraced by competition law under EC rules. It is unclear, however, who would prevail.

The tort of misappropriation, which is similar to unfair competition law, can be viewed as a possible alternative for database contents protection. However, the "hot news" misappropriation cases within the United States encompass a specific context of the re-use of information whose value comes

13. See supra, footnote 3.
14. See *eBay v. Bidder's Edge*, 100 F.Supp. 2d 1058 (N.D. Cal. 2000); *Register.com v. Verio*, 126 F.Supp. 2d 238 (S.D.N.Y. 2000).
15. 499 U.S. 340 (1991).

from its timeliness.[16] But the policy in Europe is to pursue database contents protection in general. Thus, the "hot news" tort is too narrow.

Theoretically, a general right against unfair competition could be adopted in Europe to protect database contents. Despite the appealing nature of such a solution, it is not discussed in detail for three reasons. The first is that forwarding a completely new solution would disturb any legal certainty and stability that exists. Second, since the legislative intent of the Directive has always been to forward an exclusive right, it is impractical to expect that an unfair competition regime will be pursued. As will be described, however, the first draft of the Directive was an exclusive right inspired by unfair competition principles. Therefore, it is possible to narrow the exclusive rights regime so that unfair competition principles continue to influence its interpretation.

1.5 Justifying Economic Analysis

Since the primary objective of the Database Directive is economic and the database right mirrors a version of the incentive theory, a detailed economic analysis of protection is critical to any evaluation. Yet the use of economic analysis of the law is controversial. This is because the goals of a legal system extend beyond the need for efficiency. Most troubling, economic analysis ignores distributive justice, the promotion of democracy and service of the greater public interest. Unlike in a business setting, the application of economic principles to legal decision making does not provide the kind of direct feedback needed for readjustment.[17] A failed economic policy for a specific issue does not bankrupt a nation. It can bankrupt a company.

But economic analysis can be helpful for understanding policy issues that are primarily economic in nature. Because the focus is on the general welfare of society, it can provide perspective to policymakers who may be caught up in legal details or who may be vulnerable to well-funded lobbyists. In addition, economic analysis can prove helpful in cutting through complicated issues to reveal their contradictions. Enlightening conclusions can emerge simply by comparing the costs and benefits of various policy options.

Even though it may be argued that economic analysis does not generally apply to the law, the fact is that economic principles have found their way

16. *International News Service v. Associated Press, 248 U.S. 215 (1918); National Basketball Ass'n v. Motorola, Inc., 105* F.3d 841 (2nd Cir. 1997).
17. Paul Newman, ed., "Posner, Richard Allen," *Palgrave Dictionary of Law and Economics*, vol. 3, (London: MacMillan Reference Limited, 1998), pp. 55-62.

into both policymaking and judicial decision making. The Database Directive is a prime example. Not only can economic reasoning be found in the Directive itself, but it is also evident in national court decisions interpreting the Directive.[18]

In what could be a misapplication of economic analysis, the trend is to treat information as property. This tendency emanates from the United States where law and economics is an established field, but it is seeping into the European continent. For example, EC documents in Danish now translate directly the English term "intellectual property" rather than using the term "intangible rights," which is the correct term under Danish national law. As the concept of information as property spreads, an economic perspective is particularly needed to evaluate this trend and to understand its implications.

Words of caution are in order, however. Economic analysis can be misleading because economists may hide their most basic assumptions in complicated economic terms or mathematical equations. In understanding any theory, then, it is important to tease out basic assumptions. Moreover, economic principles can be applied in a vacuum without reference to empirical analysis of the subject matter being regulated. Any policy conclusions ought to incorporate the nature of the subject matter and empirical evidence back into the equation.

1.6 Chapter Descriptions

Chapter 2 begins with a critical analysis of the subject matter. The assumption is that the type of intellectual property to be regulated should be taken into account. It is posited that databases function as resource tools which aid in the understanding, analysis and transformation of information. A database is thus different from a book. Whereas a book is an *example* of information, knowledge and culture, a database is a storage, processing and retrieval *tool* that aids in accessing that book and all other works. A database is thus more like the Internet than a creative work. Both are tools that facilitate information use.

Following the description of the function of a database, strategies of production and of use are explored. A sampling of models exposes the extent of access needed to create databases. The analysis reveals that the re-use of

18. See for example Derclaye, "Database Sui Generis Right: What is a Substantial Investment?," p. 19.

information is particularly important within the context of the industry. Therefore, it is suggested that any policy regulation should incorporate the interests of three types of stakeholders instead of two: producers, re-users and consumers.

Producers are defined as the first to obtain data and compile it into a database. Re-users are secondary users who intend to transform the original contents for another productive purpose. That could be to create value-added databases or to engage in a productive activity outside the industry. In contrast, consumers simply use information for their own personal satisfaction for activities that do not lead to further production. The explanation of the function of a database and the re-categorization of stakeholder interests mean that there should be a focus on expanded access.

Chapter 3 introduces theories on the economic analysis of the law in order to understand the various regulatory options available. Each theory contains a vision of the balance between production incentives and information access and of which type of regulatory mechanism is most appropriate. The rationale for discussing such a range is that it enables a broader perspective in designing a suitable policy.

Several lessons can be drawn from this theoretical journey. The first is that the popular notion of "the more protection, the more production," as illustrated by the example of Goldstein's celestial jukebox, may not be viable in reality. Instead, Landes and Posner reveal that the highest production levels and the greatest social welfare can only be achieved through the provision of access. Their research thus supports the need to balance incentives with access in formulating a regulatory policy. Due to the importance of re-use in the database industry, it is suggested that the optimal level of protection may be lower for databases than for copyrighted works.

Frischmann and Lemley point out, however, that supply-side economic models can be woefully misleading when intellectual property functions as a generic infrastructural input. To qualify, three criteria must be satisfied. The work must be: (1) nonrivalrous, in that many people can exploit it simultaneously, (2) an input upon which others can build and (3) generic or used as a building block for the production of a wide variety of goods and services. In such cases, access assumes such a high priority that regulation should be provided in an openly accessible manner, which the authors define as access regardless of identity or use. Given the function of a database and its pattern of production and use, it is postulated that databases may be generic infrastructural inputs.

Chapter 4 dives straight into the evolution of the Database Directive and the subsequent ECJ case law. The goal of this chapter is to elucidate the poli-

cymaking process in order to provide the necessary background for a better understanding and evaluation of the current law. The legislative initiative began as an effort to balance the needs of producers, re-users and consumers. However, late in the game, it was transformed into a strong property right and provisions granting access were reduced. Nearly seven years after the Directive was first implemented, however, the ECJ may have restored some of the balance by heightening the qualification threshold.

The effect is two intertwining protection regimes. Database contents that are not protected arguably feature a system similar to that in the United States. Those that do qualify are offered a strong right that may, in fact, be overprotective. Because re-use is made more difficult, the result may be the opposite of what is intended. Instead of encouraging production, it may reduce it. Therefore, there is a need to revise the applicable law in order to promote more access.

Chapter 5 begins with an exploration of the general purpose of the Directive and the definition of a database. This legal analysis provides further evidence for the argument that a database functions as a generic infrastructure input. Next, an interpretation and evaluation of the Directive is provided from the perspective of adequately balancing incentives and access. Since it is difficult to divorce a discussion of the valid law from possible suggestions for its improvement, amendments to the law are also proposed.

The chapter ends with a number of suggestions to narrow the database right and restore the incentive-access balance. Possible amendments to the Directive include: (1) interpreting the qualification threshold and determining infringement according to economic criteria, (2) narrowing the scope of the right and (3) transforming the rights and obligations of the user to include traditional copyright exceptions.[19]

Chapter 6 reviews the US model of no protection for database contents. It features a private ordering regime in which the database maker decides upon and pays for the type of protection and for enforcement of it. Two main lessons can be gleaned. While the lack of certainty in protection may result in fewer databases, it could also result in fewer that are dependent on statutory protection of database contents. In other words, some compilers may switch their model so that free use of content is incorporated. This would stimulate re-use and consumer access. It is precisely the effect of re-use on production

19. Directive 2001/29/EC of the European Parliament and of the Council on the harmonization of certain aspects of copyright and related rights in the information society, OJ (L) 167/10, 22 May 2001, Art. 5.

that may help explain why database production is currently thriving in the United States.

There is a catch, however. To the extent that re-users are dependent on databases that employ technical measures, that information is likely to be priced higher. Less re-use will be made as a result. If technical measures become more widespread, the amount of re-use will decline. The implication is that information may be locked up even more than under the European database right.

It is difficult to determine which trend will prevail, if either. Translated into the European context, there could be more production within the sector of databases that do *not* qualify for the *sui generis* right, at least in the short run. In the long run, however, policymakers, judges and academics must carefully monitor and mediate the tendency towards an information lock-up in order to avoid a situation in which there is both less production *and* less access.

Chapter 7 wraps up the thesis by synthesizing the conclusions drawn from previous chapters in order to answer the policy questions and come up with an appropriate model. Based on the evidence provided, it argues that databases should be treated as generic infrastructural inputs. The implication is that the balance should be placed on providing minimum incentives and maximum access.

The effects of the two policy options, the current EC regime and its amended version, are then evaluated. A comparative analysis reveals that the best way of addressing the policy questions and of striking the appropriate balance is to adopt the amended version of the valid law forwarded in Chapter 5. Implementation will result in a regime that adequately protects producers, grants a healthy amount of access to re-users and satisfies consumer needs. By incorporating re-users back into the picture, a vibrant database industry and an innovative society can be realized.

1.7 A Word about Organization and Style

Because the author of this thesis is grounded in the American legal tradition, the organization and writing style are standard American. Thus, the economic theory is introduced prior to the descriptive section on the EC and US legal regimes. The rationale for such an ordering is that the theory can form a prism through which to view, understand and evaluate the currently operating regimes. Moreover, the thesis is written in a narrative style. This is meant for easier understanding and communication to everyone, not just to the aca-

demic community. If some of the words seem strangely spelled or the grammar slightly off, it is because the operating language is American English. In the spirit of professional publications in the United States, the *Chicago Manuel of Style* is used for both grammar and footnotes.[20]

20. *The Chicago Manuel of Style,* 15th ed. (Chicago: University of Chicago Press, 2003).

CHAPTER 2

The Value of Databases to Society

2.1 Introduction: The Database Revolution

Innovation is not the invention of the extraordinary. It is the achievement of progressive incremental change. One business executive may strike gold by astute observation and the most efficient adjustment of an established business method. Another may identify the right product from abroad and successfully introduce it to a new region. In fact, many of society's major achievements are not derived out of thin air, but are based on the work of others.

In the information society, databases are important tools that contain the basic building blocks from which new knowledge can be developed. They enable the comprehensive collection of logically related material that can be easily accessed, searched, analyzed and transformed. Every hour, thousands of people are consulting thousands of databases. Academics use research, industry and news databases to conduct studies, develop new theories and distribute their work. Managers tap into databases to determine specifications for new products, survey their inventory or keep tabs on markets.

Some databases are absolutely necessary for the smooth running of society. These include financial compilations featuring stock market quotes, criminal registries used by international law enforcement and collections of raw data needed to forecast the weather. Some aid private business and are for commercial use, such as product catalogs or sports fixture lists.[1] Still others are critical to the development and exchange of scientific information necessary for innovation.

1. See Thomas Riis, "Economic Impact of the Protection of Unoriginal Databases in Developing Countries and Countries in Transition," LEFIC Working Paper (Copenhagen: Copenhagen Business School Center for Law, Economics and Financial Institutions, 2002-3), pp. 9-14.

So why are databases so essential? Rather than borrow volumes of books from multiple libraries, a user can sit at home or the office and instantly access extremely comprehensive and constantly updated information. Others can do the same thing with the same database at the same time. Instead of pouring through tables of contents and indexes, users can search and select information that is most relevant to them and construct their own databases.

The ability to understand, analyze and transform comprehensive information at a lower cost and in less time has multiplied the potential for even more sophisticated innovation and knowledge development. One example is the publicly-funded Human Genome Project Database created by hundreds of scientists worldwide to map every gene in human DNA. A project leader described the product's multiple uses: "It's a history book – a narrative of the journey of our species through time. It's a shop manual, with an incredibly detailed blueprint for building every human cell. And it's a transformative textbook of medicine, with insights that will give health care providers immense new powers to treat, prevent and cure disease."[2]

Yet the history of this essential database also reveals the possible clashes that can arise between divergent modes of production. The private company, Celera, developed a competing database for which it asserted proprietary rights.[3] But the company had to compete against the freely available data of the publicly-funded project and also had to resist significant public pressure asserting that basic scientific information should be free. The battle officially ended when the number of Celera's subscribers dwindled and the company donated its contribution to the public benefit.[4]

As the example of the Human Genome Project Database illustrates, there are many different modes of database production and of use. In pay-per-use databases, the goal is to make a profit. Here, consumers expect to pay for access. Databases created by governments can be compiled as a public service and distributed for free or sold, though some may feel they have already paid for use through their taxes. Scientific or academic databases may be developed in a cooperative process of sheer discovery in which the producers

2. Quote from Francis S. Collins, M.D., Ph.D., leader of the Human Genome Project since 1993, in "An Overview of the Human Genome Project," available at http://www.genome.gov/12011238 (last visited 9 August 2007).
3. For example, Celera charged two pharmaceutical companies US $50 million each for five years of access. See Nicholas Wade, "The Genome's Combative Entrepreneur," *The New York Times*, 18 May 1999.
4. Andrew Pollack, "Celera to Quit Selling Genome Information," *The New York Times*, 27 April 2005.

are also the users. To aid in this exchange, such databases often are available at little or no cost.

The premise of this chapter is that an understanding of the function of databases and an appreciation of their modes of production and of use must be taken into account when formulating policy. The chapter begins with a short summary of basic statistics and a description of the components which comprise databases. Next, their function is examined. Based on their inherent nature, it is suggested that the purpose of databases is similar to that of the Internet. Both are general resource tools which facilitate the understanding, analysis and transformation of information.

After this discussion, the following models of production strategies and of use are explored: commercial, noncommercial, public, commons and consumer. The analysis reveals that the re-use of information assumes a greater role within the industry than the standard producer-user model presumed in regulatory policy and in the academic literature. Therefore, it is proposed that the interests of three categories of stakeholders must be taken into account instead of two: producers, re-users and consumers. Based on the function of a database and the types of stakeholders involved, the following policy implication emerges: in order to exploit the full social value of databases, access may be more important than some have realized.

2.2 Database Industry Basics[5]

More than 10 years after the introduction of the Database Directive, comprehensive figures on the value of the database industry are difficult to find. Sector-wide statistics may be hard to isolate simply because databases are generated by a range of industries whose businesses comprise a host of other activities. Yet, the absence of independent data is counter-intuitive because it is the burden of the database maker to prove substantial investment in order to gain *sui generis* protection. Thus, it would seem reasonable to assume that such statistics are collected and could be made available to an independent, objective source for assembly and analysis.[6]

5. Unless otherwise noted, the information in this section is from Martha E. Williams, "The State of Databases Today: 2004," *Gale Directory of Databases 2004*, vol. 1. (Detroit: Gale Research, 2005).
6. One reason articulated by database makers as to why such information is difficult to find is that investment information is confidential. See European Association of Directory and Database Publishers, "Consultation on 'DG Internal Market and Services

Statistics on the revenues of various industries involved in database production may be overestimates. For example, the European Federation of Magazine Publishers states, "A study by FAEP shows that up to 30 percent of costs in this vital sector is invested in building and marketing databases of various kinds."[7] It then mentions that these figures are extrapolated from a survey conducted in the United Kingdom. A questionnaire from the Database Publishers Association reveals that "58% of publishers are producing more databases in 2005 than in 2000."[8] Yet it is based on the response of 19 members.[9]

Additional statistics are available. According to an industry report by the European Association of Directory and Database Publishers, revenue reached an estimated nine billion euros in 2005.[10] Merely as a source of comparison, US government data on directory and mailing list publishers records an estimated 14 billion euros in revenues in 2005.[11]

The US-compiled Gale Directory of Databases has been collecting global statistics on databases that stretch back to 1974. Its accuracy has been questioned by European stakeholders, however. For example, the Software and Information Industry Association found eight popular US databases not in-

Working Paper – First Evaluation of Directive 96/9/EC on the legal protection of databases' EADP Contribution," 12 March 2006, p. 6. According to the Federation of European Direct and Interactive Marketing, those of its members on the New York Stock Exchange are not legally permitted to break down revenues and report on them. FEDMA, "FEDMA input on the DG MARKET Working Paper – First Evaluation of Directive 96/9/EC on the legal protection of databases," 9 March 2006, p. 2. All stakeholder opinions are available at http://ec.europa.eu/internal_market/copyright/prot-databases/prot-databases_en.htm (last visited 9 August 2007).

7. European Federation of Magazine Publishers, "Why the *sui generis* right must be protected and the 'Database Directive' should stay," Brussels, 12 March 2006, p. 3. Refer to footnote 6 for availability online.
8. Data Publishers Association, "Submission from the DPA to the European Commission DG Markt [sic] in response to the Working Paper 'First Evaluation of Directive 96/9 on the legal protection of databases,'" Brussels, 10 March 1996, p. 3.
9. Data Publishers Association, "Annual Members Survey 2006," p. 1.
10. EADP, "First evaluation of Directive 96/9/EC EADP Contribution," p. 1. Refer to footnote 6 for availability online.
11. US Census Bureau, *2005 Service Annual Survey: Information Sector Services* (Washington D.C.: Government Printing Office, 2005), p. 1. Available at: http://www.census.gov/svsd/www/services/sas/sas_data/sas51.htm (last visited on 18 July 2007). The US dollar figure of 19.371 billion was converted to euros on 18 July 2007 when one dollar equaled 0.724228 euros.

cluded in the Directory.[12] Still, its objectivity is less suspect simply because it is compiled by an independent source. Even if some of the criticisms are valid, the Directory's data is worth outlining because it provides the best picture of global industry development currently available.

According to the Gale Directory of Databases, the biggest factor contributing to the growth of the database industry is the transition from paper to electronic. From 1975 to 2003, the number of databases worldwide grew from 301 to 18,214. Western Europe and North America have consistently been the two largest producing regions. While Western European production wavered from 24% in 1991 to 34% in 2001 to 26% in 2003, North American output dropped from 71% of all databases in 1991 to 68% in 2003.[13] Countries operating more than 100 databases are the United States (8125), England (1156), Germany (656), Finland (385), Canada (382), France (286), Australia (283), Denmark (242), Norway (227), Sweden (162), Netherlands (160), Korea (156), Switzerland (122) and Belgium (121).

Worldwide, there are about 4,000 database makers. The dominant type of producer has changed over time. Governments created the majority in 1977 at 56%, but this figure dropped to 11% in 2003. During the same period, commercial manufacturers became dominant, starting at 22% in 1977 and increasing to 78% in 2003. Academic and not-for-profit institutions published 10% in 2003, while 1% was created through collaboration among different producer types.

In 2003, the average producer made 4.5 databases. Excluding the 5% with a million records or more, most contain an average number of 150,000 records. The majority are distributed online (59%) or by CD-ROM (30%). The rest are placed on diskettes, magnetic tapes, batches or handhelds.

Users choose databases according to subject category. In 2003, business databases and science/technology/engineering databases each comprised 22% of the total produced. Other subject areas included health and life sciences

12. The Software and Information Industry Association, "Comments Submitted by The Software and Information Industry Association on the DG Internal Market and Services Working Paper First Evaluation of Directive 96/6/EC on the Legal Protection of Databases," (no date), p. 4. Refer to footnote 6 for availability online.
13. Statistics from the Gale Directory reveal that in Europe during the end of the dot-com bubble from 2000 to 2002, database production increased from 30 to 33%. While the European Association of Directory and Database Publishers asserts contrary evidence, this evidence involves global statistics that do not include Europe. See EADP, "First evaluation of Directive 96/9/EC EADP Contribution," § 1.2.1. Refer to footnote 6 for availability online.

(15%), general (10%), multidisciplinary academic (9%), law (8%), humanities (6%), social sciences (6%) and news (3%).

2.3 What Is a Database?

A typical database comprises three components: (1) the contents, (2) a logical schema which describes the contents and the relationships within it and (3) a database management system through which one can find, manage and transform data.[14]

The contents can range from unoriginal numbers or facts to copyrighted expression to a combination of both. Whereas analog databases are restricted by their paper form to writings or pictures, electronic databases can accommodate many media including film and sound.

A pile of facts or sounds is incomprehensible, however. The purpose of a logical schema, then, is to present and interpret the material so that it has order and makes sense. Features can include menus with different categories and subcategories, links to further information and other organizational tools. Once the contents make sense, a database management system in the form of a computer program allows for searching, further manipulation and addition.

An example of how the components function can be seen by logging on to www.aok.dk.[15] The website's contents include listings (names, addresses and phone numbers), dates, schedules, reviews, surveys and links. For those who cannot speak Danish, the subject matter can be guessed at, but it will be incomprehensible. It is as if the logical schema is missing.

It is only when one reads the menu options provided in Danish, or switches to the English menu options, that this vast collection of materials begins to make sense. According to the website, it is the largest Internet city guide to Copenhagen. Various search options are provided in order to gather enough information to make an educated decision about places to go or things to do. A quick perusal of the menu reveals categories such as restaurants, cafes and nightlife, music, film, art and shopping. Activities can be found

14. "Database," from Wikipedia at http://en.wikipedia.org/wiki/Database (last visited May 2007); Michael Pattison, "The European Commission's Proposal on the Protection of Computer Databases," *European Intellectual Property Review* 14, no. 4 (1992), p. 115; Perttu Virtanen, "Database Rights In Safe European Home: The Path To More Rigorous Protection of Information," (Ph.D., Lappenranta University of Technology, 2005), pp. 26-37.
15. http://www.aok.dk/ (last visited 9 August 2007).

according to a specific calendar day, type of activity, city location, reputation or review. For example, a restaurant can be found through searching by alphabetical order, type of food desired, location in the city, user ratings or through a combination of categories. Links to a map of the restaurant's location and to the restaurant's own website, if it exists, are also provided.

The production of a database requires conversion of meaningless data into something useful – information[16] – that can then be understood, analyzed and further transformed. It is the value-adding process that is so critical. At the level of the data, the process can include selection, verification, updating and addition of complementary data.[17] At the level of the logical schema, it includes presentation of the database's organization. In the Database Directive, these are some of the investments that form the basis of database content protection.

2.4 What Is the Function of a Database?

The function of a database is to facilitate use of the vast amount of information available in the modern world. In 2003, for example, it was estimated that 167 terabytes of fixed web pages, the equivalent of approximately 323 billion books, comprised the surface web of the Internet. The deep web of database-driven websites that create web pages on demand was estimated to be 91,850 terabytes.[18] Without the ability to understand, analyze or transform this data, it ceases to have meaning.

It is the nature of a database – its contents, logical schema and data management system – that determines its function. Returning to the Copenhagen city guide www.aok.dk, it is evident that the pile of facts that it contains is incomprehensible in the absence of a logical schema that provides organization to the data. Once the contents makes sense, the information can be further analyzed through its search mechanism. To find the best Thai restaurant in the city, for example, one can read the restaurant reviews, look at the price comparisons and consult any applicable customer survey. Based on qualifica-

16. Mark J. Davison, *The Legal Protection of Databases* (Cambridge: Cambridge University Press, 2003), pp. 2, 237-9 and 247-254.
17. EADP, "First evaluation of Directive 96/9/EC EADP Contribution," § 1.2.2. Refer to footnote 6 for availability online.
18. University of California at Berkeley School of Information Management and Systems, "Executive Summary, How Much Information? 2003," (27 Oct. 2003), pp. 11-12. Bright Planet estimates that the deep web is 400-450 times larger. Id.

tions developed by the database user, it is possible to determine and produce new information: what is the best Thai restaurant in Copenhagen?

The above example illustrates that the function of a database is to facilitate the understanding, analysis and transformation of data. It is a tool that facilitates information use. Is a database like a book or an invention? No. Simple intuitive sense makes this clear. Databases function as tools to make available all the culture, knowledge and information in the world. This is in contrast to the function of copyrightable subject matter such as a book or a song. A book is a *specific* example or expression of world culture, knowledge or information, it is not a tool to facilitate the use of *all* the world's culture, knowledge and information.

A database is also different from a patentable invention. An invention is a *specific* example of a new innovation capable of commercial application. It, too, is an application of world knowledge and information. But, unlike a database, it is not a tool which facilitates use of *all* the world's commercially applicable inventions.

It is not a leap of faith to state that the whole function of a database is to aid in the understanding, analysis and transformation of information. Without tools such as databases, information on the World Wide Web would be incomprehensible. Thus, a database is more like the Internet than a book or an invention. In order to understand, analyze and transform information, access is necessary to both of these tools.

2.5 Incentive and Access Needs of Commercial Producers

Naturally, companies will only create databases if they can make a profit. Differences in the business model affect the type of protection and access that is needed. The goal of any regulatory mechanism should be to accommodate these different modes of production and of use.

Business models range from pay-per-use to freely available content supported by advertising. The primary investment can be toward ensuring that public domain data is comprehensive and timely, that its structure and arrangement is user-friendly and that the search engine is sophisticated. Or it can be in adding value to the actual data through verification, enrichment and updating. Value can also be provided through repeated re-use of insubstantial bits from other databases.

The following are examples of different production models used to assemble commercial databases. In the absence of any detailed study, it must be noted that these descriptions are not comprehensive, but rather represent a

sampling. Legal databases, such as Westlaw or Lexis-Nexis, provide one example of successful pay-per-use databases.[19] They employ price discrimination to reach a variety of clients. In the United States, law schools are offered discount prices so that students can have unlimited free access. Practicing attorneys, on the other hand, pay according to the type of search (for example, key cite, case law or preliminary history), the database used (such as all state and federal cases, Supreme Court cases, or California state cases) and whether the material is printed out or downloaded.

The legal decisions that comprise part of the database are free and in the public domain. Yet most US litigation attorneys are happy to pay, and nearly exclusively use, the case law sections of these databases. What enables Westlaw and Lexis-Nexis to charge more than the cost of dissemination for this part of its product?

It is the value added that is so important. Unique components include the comprehensiveness and timeliness of the materials, the sophisticated structure and arrangement and the advancement of the search engine. Although quite expensive, these features are likely to save the common law lawyer, who charges by a six-minute increment, a tremendous amount of time and money.

Take Westlaw as an example. Almost every legal decision in the United States, past and present, is on the website. Case law appears shortly after it has been decided. Moreover, each decision is organized in a very user-friendly fashion. Flag symbols signify whether a decision is good law, is subject to question or has been overturned. The preliminary history is available with a click. Key cites are interwoven into the decisions to explain legal precedent in detail. The search mechanism is also sophisticated. For example, key cite searches can provide a string of decisions on a fine legal point.

Since the legal decisions and statutes are available for free, what prevents other companies from making similar databases? First, both Westlaw and Lexis-Nexis have a reputation for generating a high quality database against which it would be difficult for a newcomer to successfully compete. In addition, the timeliness and comprehensiveness of the materials may be hard to match. Unless another company is able to collect and compile all legal decisions as fast as the incumbents, then Westlaw and Lexis-Nexis may have some lead time advantage. This is due to the significant cost of tracking and gathering case law from all 50 states and 13 federal circuits in a timely fash-

19. For Westlaw, see http://www.westlawinternational.com/. For Lexis-Nexis, see http://global.lexisnexis.com/us.

ion. That advantage is compounded by the fact that fixed costs may be substantial and even prohibitive.

Clearly it takes significant investment to produce these legal databases. But what type of incentive is needed to stimulate their creation? First and foremost, technical measures provide an overall form of protection regarding access and use. Protection is available for the components that add value to the materials and attract a customer base. While the comprehensiveness and timeliness are likely safeguarded by lead time, the structure and arrangement are secured by copyright, as is the computer program that runs the search engine.

Because the value-added components are secure, it is not clear that protection of the database contents is necessary. In fact, it is a hindrance. When it comes to re-use, these companies benefit from the fact that the case law is created by government and thus is in the public domain. Any attempts to change this would no doubt increase costs. Rather than clamor for protection of database contents, then, these producers may prefer to rely on other methods.

For another type of database creator, the primary investment may be to add value to the information itself. The news media, for example, contributes a significant amount of investigation, analysis and expertise to the information they gather and create. While much of the content is copyrightable expression, the raw data from statistics, tables, surveys, polls and listings is not. Information may comprise: (1) pre-edited and unedited current news, (2) statistics and tables on sports, finance, and politics, (3) surveys and polls and (4) entertainment listings. Databases are also formed from archives, press-clippings and advertisements.[20]

A variety of business models are employed.[21] Due to the competitiveness of online news, for example, the contents may be provided for free. Adver-

20. See Agence France-Press, "Consultation re DG Internal Market and Services' First Evaluation of Directive 96/9/EC (Database Directive)," 20 March 2006; European Alliance of New Agencies, "EANA Database Right: European Commission Submission, (no date); and The Newspaper Society, Letter to European Commission Unit Head Tilman Lueder, 12 March 2006. Refer to footnote 6 for availability online.

21. Another model is to license information to other companies who will then re-use the data to generate their own profits. An example could be up-to-the-minute business, sports or political information. It may be bought because it is timely, accurate, of high quality and because the media organization has a good reputation. It also may be bought simply because it is cheap. Ordinary readers can also be charged a subscription rate. But given the plethora of free news online, the information must be specialized enough to attract a loyal paying clientele. In a highly competitive environment with new challenges posed by the nontraditional media, some media organizations may argue that selling this unoriginal content is an important income source.

tisements are then placed on the company website and income is generated based on the number of customers that visit. Readers are attracted to a particular database because of the organization's reputation, the type of news they cover and their point of view. On some websites, readers are encouraged to share what they have read through tools that can be used to send the materials to others. Presumably, the media can count this sharing as part of their statistics for advertisers.

In contrast to the legal databases, then, the bulk of the value-added investment contained on media databases goes straight to the information itself. Of course, a sophisticated news database will also feature frequently updated and timely information that is easily searchable with a user-friendly structure and arrangement.

So how precisely is their information vulnerable? Because the contents are free, it is unlikely that insubstantial use is considered a threat. In fact, it is expected that consumers will share their information. Rather than preventing such practices, then, businesses merely need to instill in their customers the habit of using the mechanism provided to share so that it is reflected in advertising statistics.

The likelihood is, however, that these companies need protection against competitors who may take the information and re-sell it as their own or place it on their own websites. An appropriate form of protection, then, defends against unfair competition by anyone, whether a company or private person, that may affect the demand for the original product.

Media organizations are also users of databases. In order to engage in news reporting without incurring high costs in time and money, it is incumbent that information be available for free in some circumstances. Stated one news organization, "The BBC would wish to be able to quote from a database (for example a directory or website) as part of its normal news reporting or programme making, without having to obtain permission to do so. Recent examples include a programme about the siting of mobile telephone masts, where the relevant information was contained in a table."[22] Naturally, it is better not to risk legal action in order to report the news.[23]

The primary investment of publishers of dictionaries, encyclopedias, classified directories and other compilations is also toward adding value to the

22. The British Broadcasting Corporation, "The BBC's comments on the Commission's evaluation of Directive 96/9/EC on the legal protection of databases," 10 Mar. 1996, p. 1. Refer to footnote 6 for availability online.
23. For a contrary opinion, *see* Agence France-Press, "Consultation re First Evaluation of Directive 96/9/EC." Refer to footnote 6 for availability online.

information itself. According to the European Association of Directory and Database Publishers, "For most telephone directory publishers, the raw data obtained from telecommunications operators is not usable in the way it is received. Consequently, they have to work on the data, verifying, complementing and modifying it if needed. This transformation, which may result in the creation of new data, is the principal object of investment and therefore of piracy."[24] Other components, such as the search mechanism or the structure and arrangement, tend to be more standardized. This is because the nature of the information requires little variation in organization. It is what customers expect and are willing to pay for.

A profit is made in several ways. One method is to sell industry directories or reference sources to businesses or libraries and other customers. It is these producers who likely need the most protection for their database contents. In contrast to other databases, the information contained is vulnerable not only to competitors who may take away the original producer's market, but also to individuals who make unauthorized use of the data rather than pay for it. Thus, statutory protection, provided by a general prohibition against unauthorized copying, is needed for the contents.

Access should also be provided, however, since some database creators may re-use information. While some producers may re-use proprietary information, others may depend on information from the public domain.

Lastly, there are commercial database makers which harvest, sort through and compile information on other databases. They can be termed databases of databases. Examples include www.aok.dk, which provides a city guide to Copenhagen, Yahoo! Europe, which serves as a management resource to the online world and www.rottentomatoes.com, which is primarily a guide to movies. These websites offer a valuable service by helping to sort through and link to the plethora of information available online.

Claiming to be one of the largest database companies in the world, Yahoo! has supplied information to the European Commission on its business model.[25] By providing most of its information and services for free, the company is angling to be the default webpage through which a user can manage their everyday life. Among the features it offers is a search engine capable of perusing 20 billion items, an online dating service with more than 350,000

24. EADP, "First evaluation of Directive 96/9/EC EADP Contribution," § 3.3. Refer to footnote 6 for availability online.
25. Yahoo! "Comments of Yahoo! Europe on the DG Internal Market and Services Working Paper on the Database Directive," (no date). Refer to footnote 6 for availability online.

personals in Germany and the UK alone, updated news and information on numerous topics and free email.

Competition may be tough for businesses such as Yahoo!. In making a decision about whether to offer a particular resource, the company considers commercial viability. Because the bulk of its content is free, an obvious income-generating activity is advertising. In the case of personal ads, the question is whether there will be sufficient demand so that the service can be paid for by listing fees. In other cases, such as with the search engine, income can be gathered through sponsored searches in which companies pay to be included.

Yahoo! Europe adds value to its database by offering a combination of services, from email to news to personal listings. It is dependent on being able to harvest information from other databases and is not in need of protection for database contents. In fact, such protection hinders production. Although websites can place technical measures so that Yahoo! web crawlers will not take their information, this does not always occur. As a result, Yahoo! risks being sued in regions where database contents are protected.

2.6 Information Exchange within the Noncommercial Sector

Educational and research establishments such as schools, universities, archives, libraries and research facilities comprise part of the noncommercial sector. Within this world, the culture revolves around unrestricted information exchange. The ability to conduct activities is often dependent on the availability of high quality, but cheap, information. Much of the value of the work stretches significantly beyond database production and to the advancement of society economically, politically, scientifically and technologically.

Libraries are one example. The primary function of a library is to collect, organize and preserve information for research purposes. As the European Bureau of Library, Information and Documentation Associations put it, "The creation and consultation of databases is nowadays the life-blood of research activity."[26] The types of databases produced include catalogues, archives, documentation services and metadata registries.

Libraries work to fulfill their social task of providing information to the public. When it comes to database production, the focus is on maximizing

26. European Bureau of Library, Information and Documentation Associations, "EBLIDA Response to the Commission on the evaluation of EU rules on databases," The Hague, 9 March 2006, p. 2. Refer to footnote 6 for availability online.

access and exchange so that databases can be shared, combined and improved for the benefit of researchers. Access to databases is not only important for individual borrowers but also for cooperation among libraries and other organizations that facilitate research.

Within the digital environment, opportunities are greatly increased for cooperation between libraries to merge local, national, regional and international resources. Re-utilization is the cornerstone of such database creation. For example, the linking or combining of catalogues mandates re-utilization, as does cooperative creation of new databases. If database contents are protected, the formalities of waivers and the clearing of rights could obstruct this process. Similar to some commercial re-users, libraries may risk legal action in order to fulfill their mandate.[27]

For research in academia, just as with libraries, the advantages of free access form the basis of a culture of exchange. Most academics do not expect to make a profit. Instead, they have a public interest in the pursuit of knowledge. A more personal motivation is to establish a reputation and gain recognition. The production of databases is not the mainstay of life. Rather, the academic wishes to understand, analyze and transform the information contained within a database in order to produce further research. By making presentations at conferences, writing articles and books, and teaching, the academic makes a significant contribution to society.

Databases can be the direct result of research conducted. Examples are a compilation of astronomical data, a collection of the world's intellectual property laws or a directory of economic data on world poverty. Databases can also be a byproduct of a research activity that is used to publish empirical or theoretical claims to be discussed and tested by others.

A hypothetical example of research yielding a database is the results of a Ph.D. student's three-year project on the workings of a rat's brain. While the study is progressing, it could be that the information is not made available to the public. Thus, copying by competing researchers is not an issue. At the

27. Cooperation can present problems. The main goal of Electronic Information for Libraries is to ensure that their databases remain open to the public even when incorporated into commercial ones. Leverage can be difficult to obtain when negotiating with commercial entities. This library group asserts that a legal right to database contents provides them with leverage because it makes the information more valuable. However, there are likely to be other ways to provide leverage that are more specifically tailored to database contents and which have a less damaging effect on general access. See Electronic Information for Libraries, "First evaluation of Directive 96/9/EC on the legal protection of databases," Brussels, 12 December 2005, 21 and 22.

same time, the student is likely to consult other databases to conduct his work and to improve his scientific understanding.

As soon as the researcher is ready to publish, he will release his data. This is because it is in his interest to have other researchers analyze it, compare it with their data and test the veracity of its results. The researcher's reputation is dependent on others being able to work with his materials. If the results are pathbreaking, he hopes that others will use his work and build upon his dataset.

The equivalent of unauthorized copying within the academic world is plagiarizing. That is when someone takes an academic's work and claims it as their own. If someone plagiarizes the Ph.D. student's database, legal protection is not the remedy of choice. Rather there is a much stronger social mechanism in place. Being found guilty of plagiarism can ruin one's career whether one is an economist or a scientist. This prohibition is much more effective in stopping copying than any legal remedy.

On the other hand, using other people's work as opposed to plagiarizing is a basic building block of the research process. While there are plenty of lone researchers such as our hypothetical Ph.D. student, there are also plenty of academics that conduct cooperative research on a local, national or international level. In such instances, being able to utilize the work of others assumes heightened importance. Within the world of the noncommercial sector, then, free access to information is highly valued. Any attempt to charge for use of information could damage the productivity of this sector, prevent cooperative efforts and thwart societal advancement.

2.7 Distributing Public Sector Information

Public databases are built by governments using taxpayer dollars. The information ranges from compilations of legislation to directories of local government services to collections of raw scientific data such as the weather. It can be critical to the smooth running of society, to the resolution of pressing societal issues or to further scientific advancement. Because of the importance of the information contained, access is a priority.

The two main types of dissemination are the open access and the cost recovery models.[28] Under open access, public information is offered at the

28. See Peter Weiss, *Borders in Cyberspace: Conflicting Public Sector Information Policies and Their Economic Impacts*, Summary Report (Washington D.C.: US Department of Commerce National Weather Service, Feb. 2002), p. 2

cost of distribution. Through the cost-recovery model, a government can generate revenue by selling the information in order to pay for the creation of the database. While the United States pursues an open access policy, some European Member States employ a cost-recovery model.

A survey of studies conducted in Europe and the United States reveals, "the consensus of recent research is that charging marginal cost of dissemination for public sector information will lead to optimal economic growth in society and will far outweigh the immediate perceived benefits of aggressive cost recovery. Open government information policies foster significant, but not easily quantifiable, economic benefits to society."[29]

A report prepared for the European Commission on these two models substantiates the diverging effects. The European Community invested 9.5 billion euros in public sector information which generated an economic value added of 68 billion euros. The United States, on the other hand, invested 19 billion in public sector information which resulted in an economic value added of 750 billion euros.[30]

An increase in the number of commercial databases has been a priority stretching back to the genesis of the Database Directive. In 1985, for example, the Commission noted that it was "essentially public bodies or non-profit-making learned bodies … which market two thirds of the specialised data bases produced in Europe for online access today, whereas in the United States 75% of the data bases are provided by the commercial sector."[31]

Legislation has been passed in order to encourage the re-use of public sector information.[32] One goal is to facilitate fair competition. Towards this end, there exists an upper limit on charging for information based on costs and a reasonable return on investment, an obligation to avoid discrimination between market players and a prohibition against exclusive arrangements under certain circumstances. Databases created by the educational, scientific, broadcasting and cultural sectors are not covered.

29. Ibid., p. 16.
30. Pira International Ltd., "Commercial exploitation of Europe's public sector information Executive Summary," (Luxembourg: The European Commission Directorate-General for the Information Society, 20 Sept. 2000), pp. 6-9.
31. Communication from the Commission to the Council," Work Programme for Creating a Common Information Market," COM (85) 658 final (Brussels: 29 November 1985),§ I.9.
32. Directive 2003/98/EC of the European Parliament and of the Council of 17 November 2003 on the re-use of public sector information, OJ(L) 345, 31/12/2003, pp. 0090-0096.

Both the open access and the cost-recovery models seem to be viable under the Directive on the Re-use of Public Sector Information. The issue of whether or not public databases should be commercialized cannot be resolved by this thesis. Still, it is worth noting that selling public information sometimes can be counterproductive. As has been illustrated, public data serves as an input for commercial producers such as Westlaw or Lexis-Nexis. Any efforts to charge for materials would raise costs. And yet, statutory protection through the Database Directive makes public information more valuable and so could increase the incentives of Member States to privatize their databases.[33]

The free exchange of public information is also necessary for many cultural, educational and scientific endeavors.[34] One report presents the following sets of questions in determining whether or not the distribution of scientific data should be privatized: (1) Does the scientific research depend on a substantial public investment in facilities that generate the data of interest? If the sole purpose of the project is to generate data, its collection, processing and distribution are typically most efficiently integrated into the same program because it is less costly, (2) Is the scientific research coordinated across researchers in different countries? In such instances, the database is often the mechanism by which researchers communicate with each other and is the sole means of professional exchange. Ensuring that the data is free is an important part of the project itself, (3) Are the producers of the data also the users? If so, it could be counterproductive to privatize the distribution system because the costs of administration could be higher than the revenues realized and (4) Is the user community large enough to support more than one data distributor? If not, then commercialization will allow the data to be supplied under monopoly conditions.[35]

As the report mentions, privatization of distribution does not change the requirement that data acquisition be publicly funded. Instead, it changes the

33. Riis, "Economic Impact of the Protection of Unoriginal Databases," p. 14.
34. UNESCO, "Observations," presented at WIPO Information Meeting on Intellectual Property in Databases, Geneva, 17-19 September 1997; World Meteorological Organization, "Observations," presented at WIPO Information Meeting on Intellectual Property in Databases, Geneva, 17-19 September 1997.
35. Committee on Issues in the Transborder Flow of Scientific Data, USA National Committee for CODATA, Commission on Physical Sciences, Mathematics and Applications and the National Research Council, "Bits of Power, Issues in Global Access to Scientific Data," (Washington D.C.: National Academy Press, 1997), chapter 4. Available at http://www.nap.edu/readingroom/books/BitsOfPower/ (last visited 9August 2007).

locus of funding from a situation in which publicly funded entities distribute the data to researchers at a low cost to a situation in which the researcher becomes a consumer who must buy the data. These two situations are not equivalent. In the first, public funding goes to large institutions that can lobby for more funding for their research. In the second, funding is directed towards the individual researcher. The danger is that the individual will not pull the same clout needed to capture the necessary funds for data purchasing.

2.8 Free Access for Commons-based Production

Another mode of production that has emerged as a result of the digital revolution is commons-based production.[36] This model features free access, production, use and control of resources. It can be described as follows: "The inputs and outputs of the process are shared, freely or conditionally, in an institutional form that leaves them equally available for all to use as they choose at their individual discretion."[37]

Just as with scientific research, the culture is based on free exchange: "This kind of information production by agents operating on a decentralized, nonproprietary model is not completely new. Science is built by many people contributing incrementally – not operating on market signals, not being handed their research marching orders by a boss – independently deciding what to research, bringing their collaboration together and creating science. What we see in the networked information economy is a dramatic increase in the importance and centrality of information produced in this way."[38]

But unlike scientific research, it is not only the output that is free. All inputs – labor, content and computer resources – are also freely contributed. Open source software is the quintessential example of this type of production. However, databases are also being created.

One success story is Wikipedia, a multilingual, free online encyclopedic database.[39] When comparing it to the Encyclopedia Britannica, the journal *Nature* declared that "the difference in accuracy was not particularly great."[40]

36. For more details on commons-based production see Chapter 3.
37. Yochai Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (New Haven: Yale University Press, 2006), p. 62.
38. Ibid., p. 63.
39. http://wikipedia.org/.
40. Ibid., p. 71, citing J. Giles, "Special Report: Internet Encyclopedias Go Head to Head," *Nature*, 14 December 2005.

The database comprises a collaborative authorship tool which allows contributions and additions by anyone, stores all versions so that all changes are clearly visible and allows for revision to prior versions. In the event of a dispute, an elaborate protocol begins with recommendations to take a deep breath and a break from the site. It ends with resolving the dispute through an arbitration committee which can provide an advocate to help if needed.

The authorship tool is complemented by a self-conscious effort at neutrality. Social norms and cohesion are created within Wikipedia, using the following components: "an explicit statement of common purpose, transparency, and the ability of participants to identify each other's actions and counteract them."[41] Facilitators strive to promote neutrality, as opposed to objectivity, through an explicit statement of purpose, efforts to represent all points of view on a subject and explicit declarations when a particular entry is biased and needs more work.

From the point of view of the most ardent commons producer, all information should be free. Whether or not one adheres to this philosophy, it is clear that the more access that is created, the more room there is for experimentation in commons-based database production.

2.9 Recreating the Offline World for Consumers

The category of consumers is restricted to those who merely consume the information contained in a database but do not make productive use of it. A basic desire of those who were born before the digital revolution is to repeat the experience they have in the offline world. This would require the ability to consult, share and gain free access to certain information available on the net. Although the needs are the same for consumers who have grown up solely in the digital world, their idea of what is possible may be broader. Thus, sharing for a young person may mean sharing with a greater number of people and free access may mean access to a broader range of items. Of course, this discussion is limited to the needs of consumers for unoriginal information contained in databases only.

Consultation is the first expectation of the consumer. Activities can range from looking up a phone number to copying down addresses to jotting down information in order to make educated decisions about purchases. Before the Internet, one would usually go to the library to accomplish this. Now it can be

41. Ibid., p. 73.

achieved at home. When conducted online, consultation is an active process which requires clicking on menus and other organizational tools, conducting a search, reading the information and writing it down. The term consultation thus means making full use of a database: reading, clicking, searching and copying down information. It does not mean permanently copying or transmitting all of its contents.

Sometimes a user wishes to replicate the experience of browsing in a book store. Anyone can walk in, search for a book on the store's computer system, ask a reference clerk for help and locate it. To make a decision about whether or not to borrow the book, a person can pick it up, look through its table of contents, and read a section here or there. A similar experience is available over the Internet. On www.amazon.co.uk, one can search for a book, read the available excerpt, look at customer reviews and receive automated recommendations that may be of interest. This model is often available on databases that sell products – consulting is free, but one must pay for the good.

Another consumer expectation is free access to certain tools, services or goods available in the virtual world. This could include email accounts, telephone services, general news, computer software and websites that aid in searching the web. In addition, most people have located a range of free websites to provide information for their personal use. Such a collection could comprise a city guide, a dictionary and a free encyclopedia.

Finally, consumers expect to share what they have found with others. This can be achieved by sending a link, cutting and pasting the information or by emailing a copy. Database owners may prefer some methods over others. Cutting and pasting could deprive an owner dependent on advertising of an important statistic. While acknowledging the basic need to share, owners could encourage consumers to use a particular method that counts for advertising purposes. For example, a news article could be sent to a friend by filling out a form.

2.10 Conclusion: Policy Implications

The exploration in this chapter has revealed that the production and use of databases is much more complex than the categories of producer and user presuppose. If we merely analyze the commercial sphere, it is evident that some models are dependent on content protection, while others require significant access and still others operate with a combination of both. The story gets even more complicated when consumers, the noncommercial and the public sectors are added into the picture.

The problem is that the interests of the producer and of the user are pitted against each other in regulation battles, with the result being that one side wins over the other. But a more nuanced categorization reveals that these two stakeholders can share the same interests. Yahoo! Europe provides an obvious example. Although a creator of databases, it appears that access is critical for production and that protection of contents is not.

In an effort to accommodate all modes of production and use, a more nuanced categorization is required. These categories are producers, re-users and consumers.[42] Producers can be defined as the original manufacturers of a particular database. They are either the first to create the data or the first to gather it from its original source, not from another database. One example is those who compile sophisticated business information directly from companies. Another could be a news organization that provides political statistics based on its own research.

The protection needs of these companies vary according to their business model. Pay-per-use databases using technical measures are likely not to need any additional protection at all. Databases that feature a model of free content funded by advertising are in need of protection against unfair competition by competitors who can include private individuals. Producers who add value to the data itself and whose contents are unoriginal are likely to be most vulnerable. Prevention against the taking of their contents by both competitors and consumers may be necessary.

Re-users exploit databases for other productive uses. This is a broad category. It comprises those who re-use contents in order to make value-added databases. Westlaw and Lexis-Nexis are two examples, as is Yahoo! Europe. The category also includes those who employ contents for other productive activities. Librarians, scientists and academics in the noncommercial sector are some examples.

The access needs of re-users vary widely. While some commercial re-users survive by taking repeated insubstantial amounts from a large number of databases, others rely on free access to government information. Within the noncommercial world, re-use of substantial amounts may be necessary in

42. Other academics have employed different categories. Derclaye has used producers, users and the public at large. See Estelle Derclaye, "What is a Database? A Critical Analysis of the Definition of a Database in the European Database Directive and Suggestions for an International Definition," *Journal of World Intellectual Property* 5, no. 6 (Nov. 2002), p. 982. Virtanen talks about database makers and the world-at-large. See Virtanen, *Database Rights in Safe European Home*, p. 48.

order to achieve research goals. Meanwhile, those who engage in commons production rely on completely free content.

Lastly, consumers are those who simply use a database for their own consumption rather than transform it into something else. They include every private individual who hops onto a database in order to perform an activity to satisfy their own personal need. Their access requirements include the ability to consult databases, to take insubstantial amounts for their own use and to share that information with others.

Any statutory protection needs to ensure that consumers continue to receive access. Such needs must also be prioritized for re-users because their activities result in concrete and measurable advancements in society, including more databases. In Chapter 3, theories on the balance between production incentives and information access will be more thoroughly analyzed. The lesson to take from this chapter is that the function of a database, and the re-categorization of the stakeholders involved, signal a need to focus more on access.

CHAPTER 3

Future Visions – Economic Theories and Policy Options

3.1 Introduction: What Is Our Future?

The celestial jukebox is a compelling symbol of the potential offered by a pay-per-use system. "Like a nickel in the old jukebox, and the punch of a button,"[1] it is a giant database from which tens of millions of people can order their news, entertainment and information from a super receiver which combines essential tools such as a TV, DVD player and computer. A consumer who wishes to see the famous Danish movie, "The Celebration,"[2] ("Festen") can type in the name and a powerful search mechanism will sort through hundreds of small databases to pull up all versions. The consumer can click on his preference – the original Danish, the dubbed German, the one with English subtitles or any other. He can click on his preferred use which could include a one-time viewing, monthly rental or a permanent downloading with potential for making an additional copy. The fee will be immediately debited from his bank account or placed on his monthly bill. The jukebox functions just as simply for the commercial producer wishing to make a profit. Files can be deposited electronically into the system, labeled with the price for each work and for each type of use.

A re-user may prefer a more decentralized database. He could be an academic who seeks to write an article on the authenticity of an early map of Europe. Using file-sharing technology offered by a university consortium, he can locate and download all articles and maps made available by academics and university libraries. When his article is finished, he can open it up for

1. Paul Goldstein, *Copyright's Highway From Gutenberg to the Celestial Jukebox*, rev. ed. (Stanford: Stanford University Press, 2003), p. 187.
2. "Festen" is famous because it is an excellent early example of the Danish innovation of dogma filmmaking in which the entire film is shot with a hand-held camera. Moreover, the plot involves a universal taboo – divulging dark secrets during a family celebration.

downloading through the consortium's file sharing network. The academic can also archive it under open-access standards so that those not part of the university community can retrieve it. He may even decide to publish it in a peer-reviewed journal that is freely available online.

Such visions of the future inspire every successful theory on how to regulate intellectual property, including databases. The choice is vast. The theories in this chapter illustrate the full range available, starting with private property rights in which maximum production incentives are granted, and ending with commons-based licensing in which maximum access is facilitated. Not all these theories have official names, and the legal scholars cited are mere representatives. However, every one of them suggests a vision of what kind of incentive is needed to stimulate production, how much access should be granted and which type of regulatory mechanism is appropriate.

The goal of this chapter is to understand and critique the existing theories. It begins with a basic description of the incentive theory of intellectual property and with an economic primer on cost-benefit analysis. Then, each theory is described in an objective style. This is followed by a critique in the subsequent section. A key point of the analysis is that while the idea that more protection results in more production may be appealing in theory, it is not viable in reality. An equally important point is that there are economic reasons, not just public interest reasons, to support access. In fact, when intellectual property functions as a generic infrastructural input, it may be best to regulate it in an openly accessible manner; that is, access for a price, but regardless of identity or use. Armed with an understanding of these theories and the range of policy options available, we can more easily evaluate the database protection regimes currently operating in the EC and the US.

3.2 The Incentive Theory

A database is a form of intellectual property. Like all other intellectual property, it is hard to successfully regulate. According to the incentive theory, legal protection is needed to provide an impetus for production. This is because, similar to a copyrighted or patented work, a database features characteristics of a public good. It is nonexcludable, meaning that no one can prevent other people from using it. It is also nonrivalrous because many people can exploit the good simultaneously without depleting it.

Nonexcludability can dampen production incentives. In the absence of protection, a database maker could have trouble identifying those who do not pay for a work and either demanding payment or preventing usage. More-

over, there may be nothing to prevent competitors from taking the product and re-selling it at a lower price so that the original producer loses his market. The inability to prevent unauthorized copying, sometimes called free-riding or pirating, can prevent a database from being created in the first place.

The nonexcludability problem is compounded by the fact that intellectual property is also nonrivalrous. Because many people can exploit a work simultaneously, economic logic suggests that, in the absence of regulation, prices should approach zero. Standard economic theory sets prices at marginal cost, which is the amount it takes to make an additional unit.[3] But due to nonrivalry, an additional unit should be priced at the cost of distribution, which tends to be low for digital works. The problem is that the marginal cost does not reflect the investment needed to produce a database in the first place. If the database maker believes he cannot recover this initial investment, called fixed costs, and make a profit, he will not produce.[4]

A major assumption is that individuals are motivated by profit. This means that no one will invest in intellectual creation unless the expected return exceeds the costs. A production incentive can be created through the law. If database rights are too strong, however, access to information contained within the database can be stymied. Thus, the economic logic of nonrivalry also demonstrates that it is efficient to allow anyone to use a database because, in the absence of legal protection, access should be priced at the cost of distribution. In fact, modern society relies on access to databases to drive much more than database production. Information is used to run such parts of our basic infrastructure as global weather prediction systems and international criminal investigations, to foster revolutionary developments in science and technology, and to stimulate continuous innovation in business.

In copyright law, one mechanism used to balance production incentives with information access is the idea-expression dichotomy. This principle states that ideas, processes, systems and facts remain in the public domain and are free to use, but that expressions of such materials are copyrightable. It is incorporated into international law through various mechanisms including Article 9.2 of TRIPS which states that, "Copyright protection shall extend to expressions and not to ideas, procedures, methods of operation or mathemati-

3. Robert S. Pindyck and Daniel L. Rubinfeld, *Microeconomics*, 6th ed. (Upper Saddle River, N.J.: Pearson Prentice Hall, 2004), p. 218.
4. Fixed costs are costs that do not vary with output and that must be paid no matter what. Ibid., p. 216.

cal concepts as such."[5] The rationale behind this principle is that ideas and facts form the basic building blocks of all expressive works and thus should remain free in order to promote future creativity. Obtaining a monopoly on an idea requires meeting the more stringent qualifications of patent law.

Ideas and facts comprise the basic building blocks of much more than copyrightable works. Major societal advancements could be jeopardized in the absence of the idea-expression dichotomy. If researchers suddenly had to pay for Einstein's theory of relativity, for example, the publicly-financed and nonprofit sectors could be effectively priced out of scientific development, technological innovation and academic research.[6]

Reaching beyond the idea-expression dichotomy, the fact is that unauthorized copying can be productive, "Uncompensated gains are pervasive and universal; our well-being and survival depend on them."[7] Moreover, copying can be good for competition, "Freedom to imitate, to copy, is a cornerstone of competition and operates to minimize monopoly profits."[8]

Various institutional mechanisms exist to balance production incentives with information access. They include exclusive rights such as copyright or a *sui generis* right, the tort of misappropriation (otherwise known as unfair competition) and compulsory licenses. Under an exclusive rights model, a limited monopoly is granted so that the database maker can control certain aspects of a work, such as reproduction and distribution to the public. No transfer of these rights can occur without the owner's consent. Thus, anyone who wants to use the work must negotiate a license at market price. The granting of exclusive rights provides an economic incentive by allowing the

5. See also, WIPO Copyright Treaty Art. 2 (20 Dec. 1996); the European Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs Art. 1(2), OJ (L) 122, 17/95/1991 pp. 0042-0046; The 1976 Copyright Act of the United States, 17 U.S.C. § 102(b).
6. See Committee on Issues in the Transborder Flow of Scientific Data, USA National Committee for CODATA, Commission on Physical Sciences, Mathematics and Applications and the National Research Council, "Bits of Power, Issues in Global Access to Scientific Data," (Washington D.C.: National Academy Press, 1997). Available at http://www.nap.edu/readingroom/books/BitsOfPower/ (last visited 9August 2007).
7. Wendy J. Gordon, "On Owning Information: Intellectual Property and the Restitutionary Impulse," 78 *Virginia Law Review* 149, Symposium on the Law and Economics of Intellectual Property (Feb. 1992), p. 168, footnote 67 citing John P. Dawson, "The Self-Serving Intermeddler," 87 *Harvard Law Review* 1409, 1412 (1974).
8. William M. Landes and Richard A. Posner, *The Economic Structure of Intellectual Property Law* (Cambridge: Harvard University Press, 2003), p. 23.

rightholder to charge above marginal price in order to recoup initial investments and make a profit.

The following mechanisms can serve to limit exclusive rights and promote access: (1) raising the qualification threshold so that only certain works are protected, (2) narrowing the scope by restricting it to particular uses, (3) instituting exceptions in which no authorization for use is needed, such as for research, teaching or news reporting and (4) ensuring that certain parts of a work are always free, such as those that are not within the scope of protection.

An exclusive rights regime promises several advantages. Depending on the specificity of the rights established, it tends to provide more legal certainty and stability. In addition, it offers a direct incentive for production – control over certain uses for which the owner can charge. The incentive is generally considered to be broader than that normally provided under an unfair competition regime because it can apply to everyone regardless of use. At the same time, access tends to be narrower since it must be specifically carved out of the exclusive right. This does not have to be the case, however. An exclusive rights regime also can be narrowly drawn and allow broad access.

Other policy options have been proposed for database protection. The first is a tort of misappropriation, otherwise known as unfair competition. This model protects against competitors so that investment in a product can be recouped. The entitlement itself does not provide the producer with the right to charge for different kinds of uses as it would in the case of an exclusive right. Rather, anyone can use the product without permission. But if that use violates the owner's rights, he can sue to obtain a damage award determined by the court. This amount can be viewed as payment for use.

The incentive granted is assurance that the original producer can reap profits without fear of wholesale copying that would interfere with his market potential. However, the maker must find his own means to gain customers and make an income by, for example, delivering timely and comprehensive data or having a sophisticated search engine.

The right can be designed so that infringement occurs when the original maker's market or potential market is clearly hurt. The relationship between the parties can be analyzed to see whether the defendant's product substitutes for and therefore is taking away income from the plaintiff. In addition, the costs and benefits of the use can be weighed for each party and for the general social welfare.[9]

9. Mark J. Davison, *The Legal Protection of Databases* (Cambridge: Cambridge University Press, 2003), pp. 37-40.

An advantage of an unfair competition model is that judicial decisions can be easily tailored to the specific facts of a case. However, a disadvantage is that the scope of the right is less certain and secure. The right is generally viewed as narrower than that of an exclusive right and as promoting greater access. It is not necessarily the case, however. An unfair competition right can feature narrow access and a broad scope that encompasses the acts of private individuals as well as commercial competitors.

A last policy option is compulsory licensing. This model does not allow the rightholder to control use of a work. Instead, a work can be exploited without consent but with payment. Some argue that a compulsory license can thwart production incentives because one cannot necessarily choose who uses the product and at what price. As a result, the price tends to be lower than that paid under an exclusive rights regime. The purpose of a compulsory license, then, is to guarantee access.

Despite a general acceptance of the necessity of legal incentives to encourage production, empirical evidence is inconclusive as to whether such incentives work and what is the most effective balance. Landes and Posner maintain that, "the economic arguments that we make for intellectual property protection are not based primarily on a belief that without legal protection the incentives to create such property would be inadequate. That belief cannot be defended confidently on the basis of current knowledge."[10] Indeed, empirical and theoretical studies on the book and periodical industry, for example, offer evidence that certain sectors could function in the absence of copyright law.[11] Moreover, an empirical study on the effect of performance rights royalties on musicians found that no additional incentives were provided.[12] Lastly, in the area of patent law, it has been shown that an increase in

10. Landes and Posner, *The Economic Structure of Intellectual Property*, pp. 9-10.
11. Arnold Plant, "The Economic Aspects of Copyright in Books," *Economica* 1, no. 2 (May 1934), pp. 167-195; Robert M. Hurt and Robert M. Schuchman, "The Economic Rationale of Copyright," *American Economic Review* 56, no. 2 (1966), pp. 421-432; Stephen Breyer, "The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies and Computer Programs," 84 *Harvard Law Review* 281 (Dec. 1970), pp. 281-351; and Stephen Breyer, "Copyright: A Rejoinder," 20 *UCLA Law Review* 75 (1973), pp. 75-83. For contrary opinions, see Barry W. Tyerman, "The Economic Rationale for Copyright Protection for Published Books: A Reply to Professor Breyer," 18 *UCLA Law Review* 1100 (1970-1), pp. 1100-1125 and Goldstein, *Copyright's Highway*, pp. 13-20. For a general discussion, see Landes and Posner, *The Economic Structure of Intellectual Property Law*, pp. 41-60.
12. Ruth Towse, "Copyright and Economic Incentives: An Application to Performers' Rights in the Music Industry," *Kyklos* 52, no. 3 (1999), pp. 369-390.

patent duration may or may not increase innovation depending on the relationship between competition and innovation in the particular industry.[13]

Because the veracity of incentive theory is inconclusive and it is impossible to tell where exactly the balance should lie, various opinions exist on how much production incentives are needed and how much access should be granted. As a result, the incentive-access balance can be seen as a pendulum swinging from maximum incentives on the one side to maximum access on the other.

3.3 An Economic Primer

The theories described in this chapter incorporate an economic analysis of the law in which the goal is to promote efficiency through the maximization of social welfare. Efficiency can be defined as the allocation of goods and services in which those who are made better off could, at least in theory, compensate those who are made worse off.[14] Total social welfare is the sum of consumer and producer surplus, or the satisfaction of individual preferences achieved through market transactions. For consumers, it amounts to how much each individual is better off as a result of buying on the market. For producers, it is the amount of income received minus the cost to make each additional unit of a product.[15]

In the theoretical world of perfect competition, efficiency occurs automatically. The invisible hand is at work. The price of a good will be set where demand equals supply. If there are more goods supplied than demanded, producers will lower the price. Consumers will want to buy more if the price is reduced. But a lower price also means less profit for producers and some may leave the market. This will reduce supply and bring it closer to the quan-

13. Vincenzo Denicolò, "Patent Races and Optimal Patent Breadth and Length," *The Journal of Industrial Economics* 44, no. 3 (Sept. 1996), pp. 249-265.
14. Pindyck and Rubinfeld, *Microeconomics*, pp. 583-4. Efficiency is defined in several ways. Pareto efficiency is the allocation of goods in which no one can be made better off unless someone else is made worse off. Under this definition, gainers have to compensate losers for whatever it would take for them to be indifferent. This is difficult to implement. Kaldor-Hicks efficiency is more operational. It allows exchanges in which there are gainers and losers but requires gainers to gain more than losers lose. In the Kaldor-Hicks efficiency model, compensation only has to be possible in principle. See Robert Cooter and Thomas Ulen, *Law and Economics,* 4th ed. (Boston: London Pearson Addison Wesley, 2004), pp. 15-17, 48.
15. Pindyck and Rubinfeld, *Microeconomics*, pp. 128, 279.

tity demanded. Conversely, if demand is greater than supply, consumers will be willing to pay more. Producers will then charge a higher price which will attract more producers to make the good because their profit will increase. This will bring supply up to the level of demand. When the quantity demanded equals the quantity supplied, equilibrium is established. If everyone trades in this competitive marketplace, all mutually beneficial exchanges will be completed and the resulting allocation of resources will be economically efficient.

Such a perfectly competitive market depends upon a number of assumptions. First, there are so many sellers and buyers that their choices do not significantly affect price. Instead, everyone is a price taker. In addition, new producers can enter and exit the market at will because there are no barriers. Lastly, the goods produced in a particular market are perfect substitutes.[16] Additional assumptions are made at the transaction level. For example, everyone behaves rationally and has the necessary information so they can maximize their own private welfare by making the best choice that constraints allow.

But the real world is imperfect. Market failures occur when prices do not provide proper signals to sellers and buyers, so that the production and consumption of goods and services is inefficiently allocated and total social welfare cannot be achieved. An example of a market failure is a monopoly in which the sole producer of a good sets the price higher and makes less of a product than he would in a competitive market. The undersupply of nonrival, nonexclusive goods, such as intellectual property, is also a market failure. Finally, externalities, the effects of a particular transaction on third parties, are market failures because the price of a good will be lower than if the cost of the externality were incorporated.[17]

Legal regulations can be used to correct such market failures and promote efficiency. To determine whether a rule is efficient, the requisite costs and benefits are analyzed. If the economic gains are greater than the costs, the regulation is desirable. The costs of granting an intellectual property right include rent-seeking, transaction costs, monopoly pricing, and enforcement costs.[18] Reductions in production incentives or in access can also be considered costs. The main benefits of granting a right are, for the purposes of this thesis, production incentives and access. However, reducing any of the costs mentioned above can also be viewed as a benefit.

16. Ibid., pp. 8, 262-3.
17. Ibid., pp. 306, 608-9.
18. Landes and Posner, *The Economic Structure of Intellectual Property Law*, pp. 16-21.

Rent-seeking arises when too many producers pay to achieve an intellectual property right even when that investment exceeds the overall social benefit – for example, lobbying and litigation efforts to expand rights. Rent-seeking can occur when the amount to be gained from a right is significantly higher than what it costs to receive it. It can also signal overprotection. The stronger the right, the more profit can be made and hence the greater likelihood of rent-seeking. The tendency is exacerbated when it is apparent that greater profits can be generated if competition will be minimal once the right is captured. Such could be the case in some database industry sectors due to exclusive contracts between database makers and information suppliers and due to the market power inherent in certain niche sectors.[19]

Transaction costs are impediments to bargaining that can defeat a transaction. There are many types. If there are too many parties involved, a deal may be difficult to conclude. This is one explanation for some of the exceptions existing in the Database Directive. For example, the high costs involved in identifying and collecting payments provide a rationale for allowing insubstantial uses of a database. Another transaction cost occurs when a producer refuses to sell at a level acceptable to buyers because he thinks he can get a higher price, even though in reality the buyers value the good more highly than the seller and the reasonable and economically efficient outcome would be a sale. Such a situation could arise if an intellectual property right is overprotected, allowing a rightholder to engage in monopoly pricing.

The aim of intellectual property is to permit the producer to charge above marginal cost, which is the cost of producing an additional unit, in order to recoup initial investments. An obvious problem in overprotection is that it allows prices to rise above the competitive norm and toward monopoly pricing. Such a practice results in less output at higher prices which can decrease access and result in demand not being met. This outcome is particularly egregious if a right increases a producer's inherent market power.[20] Market power, as distinguished from monopoly pricing, not only results in higher prices and less output, but also barriers to entry into the relevant market and other anticompetitive practices.

Yet another impediment is enforcement costs, that is, practices such as technical measures, contract provisions, litigation and other efforts by pro-

19. See Davison, *The Legal Protection of Databases*, pp. 245-6 and Thomas Riis, "Economic Impact of the Protection of Unoriginal Databases in Developing Countries and Countries in Transition," LEFIC Working Paper (Copenhagen: Copenhagen Business School Center for Law, Economics and Financial Institutions, 2002-3), p. 9.
20. Riis, "Economic Impact of the Protection of Unoriginal Databases," pp. 6-7.

ducers to protect their rights. These costs are particularly high in the case of intellectual property because of its nonexclusive nature and the difficulties of preventing unauthorized copying and of detecting infringement.

3.4 Property Rights Theory

The celestial jukebox described by Paul Goldstein is a property right theorist's bliss. Society as a whole benefits when the greatest variety of copyrighted works is produced and consumed at the lowest possible price. Instead of posing a threat due to the ease of unauthorized copying, Goldstein asserts that the digital technology of the jukebox is capable of achieving total social welfare through the perfection of market forces.

In his book *Copyright's Highway: From Gutenberg to the Celestial Jukebox*, Goldstein advocates that the best prescription for the market is implementation of a strong copyright that extends to every consumer use. A term originally coined by US President Clinton's Administration in 1995 for what was then called the information superhighway, the celestial jukebox purports to enable an ideal functioning of the market.[21] It can provide a nearly limitless supply of entertainment and information to meet all needs, it can keep track of and charge for all uses and preferences, and it can prevent exploitation of a work without payment.

Goldstein claims, however, that his prescription is nothing new. The aim of copyright law in both Europe and the US has always been to subsume production of creative works under the control of market forces. Moreover, the idea of extending copyright to every use has its origins in the natural rights philosophy underpinning authors' rights, as well as in the "two hundred years of practical intuition and economic analysis" of common law copyright in the US and England.[22] Adherents to copyright optimism, as Goldstein terms it, argue that no damage results in extending copyright to all valuable uses and, in fact, that it is unfair not to do so.

This pay-per-use system is also a producer's dream. By facilitating compensation for every use, a potential creator can be assured that fixed costs will be covered and thus will be provided with adequate production incentives. With the prospect of such compensation, he will also be motivated to manage his product by making different versions, allowing a variety of uses or as-

21. Goldstein, *Copyright's Highway*, p. 184.
22. Ibid., p. 146.

sembling derivative works according to consumer preference. Even if a producer decides not to further develop a work despite clear consumer demand, he can license that ability to others.

Through its tracking, recording and charging system, the celestial jukebox can provide the most precise measure of consumer demand. Such an exact record of preferences can help direct investments so that all needs will be met. Any unpaid uses will weaken the effectiveness of this demand-signaling function and diminish the ability to meet consumer needs. If a copyright owner creates a work or licenses production for everything consumers are willing to buy, both the supply and demand signals are correct and the market is functioning smoothly. When that owner meets all consumer demand and gets compensated for it, then society's desires become his own so that private welfare and social welfare become one and the same.

The system is equally compelling for consumers. Goldstein explains that in the non-digital world, the first sale doctrine, in which the copyrightholder does not control distribution of a work once it is sold, means that creative works cost more because only one charge can be extracted from them. As a result, certain consumers are automatically priced out of the market. But when every use can be compensated, Goldstein states, prices will be lower and nearly all consumer needs will be met. From his perspective, then, price discrimination is not only more efficient but more equitable. A clear consequence of the celestial jukebox, he argues, is sharply decreasing prices due to expansion of a worldwide audience combined with decreasing distribution costs. Other benefits he describes include a more direct role for artists in the production and distribution process, a much more varied cultural milieu, enhanced wealth and possibly even greater societal freedom.

Goldstein notes that in the past, the economics of cultural production and distribution have given intermediaries a central role. But computer technology offers artists the opportunity to bypass these commercial enterprises as well as to bypass distributors such as libraries and retail stores. Goldstein sees a limit to this revolutionary potential, however, simply because it is impossible for users to sort through the mass of copyrighted works available. Thus, book publishers, motion picture producers, radio station operators, art critics and their equivalents will still play an important role.

One of the clearest benefits, according to Goldstein, will be the emergence of a much more varied cultural output. Indeed, the celestial jukebox applied internationally spells a larger audience of consumers so that copyright owners would have an incentive to offer more niche culture. One possible result according to Goldstein is that, "the digital environment of the celestial jukebox will dissolve the magic that today makes American entertainment fare pre-

eminent in world markets."[23] Furthermore, reduced costs of production could provide opportunities for developing countries to successfully export their culture. In fact, Goldstein asserts a connection between free societies and strong intellectual property systems. He quotes the current head of the US Copyright Office as saying, "We know, empirically, that strong copyright systems are characteristic of relatively free societies."[24]

The technology of the celestial jukebox could solve the two problems caused by nonexcludability: how to control uses of a work and how to prevent unauthorized copying. Yet its technological promise could also be its vulnerability. Goldstein disputes that the answer is an ongoing war against hacking. Indeed, he finds that solution nearly as radical as the solution that information must be free and intellectual property rights eliminated. According to Goldstein, pure reliance on technical measures can weaken copyright, which posits a system of balances between incentives and access. It "also challenge[s] the more fundamental premise of all forms of intellectual property, that property law is a less costly and more efficient mediator between owners and users than are fences and laws against tearing down fences."[25]

Believing that the technological arms race can never be won and that suing consumers for private copying from the home is useless and costly, Goldstein places his bet on low prices and the creation of norms. If prices were drastically reduced, honest people would simply prefer to buy creative works. He quotes one MIT professor who explains, "You're not putting up a barrier to prevent copying but a speed bump that will frustrate people who want to copy illegally."[26] One role of copyright, then, is to institute societal norms geared towards "principles of restraint and permission"[27] that are as effective as those that operate for real property.

Goldstein proposes the standard test used in economic analysis of the law to determine when a new use should be covered under copyright: "except where transaction costs – the costs to copyright owners and users of locating and negotiating with each other – will defeat the practice."[28] There are exceptions, however, where "the very decision to extend copyright into corners where transaction costs appear to be insuperably high may galvanize the

23. Ibid., p. 213.
24. Ibid., p. 212.
25. Ibid., p. 171.
26. Ibid., p. 184.
27. Ibid., p. 214.
28. Ibid., p. 201.

market forces needed to reduce transaction costs."[29] The creation of collective rights organizations is one example.[30]

What, then, is the impact of the celestial jukebox on transaction costs? Negotiating a license, granting full or partial use of goods and services, and monitoring and enforcement can all be achieved at a significantly lower cost: the mere click of a button. This means that many statutory exemptions which exist precisely to lower transaction costs will be unnecessary. One example is the ability to quote from a work. States Goldstein, "Indeed, the economic logic of the celestial jukebox, when superimposed on the text of the Copyright Act, might produce a law that contains no exemptions from liability at all."[31]

Goldstein offers two prescriptions for copyright in the digital world: "extend copyright into every corner of economic value" and "choose copyright subject matter carefully."[32] First, he advocates that all new uses of copyrightable subject matter should be incorporated into the law provided that transaction costs are lowered as a result. Chief among these is an extension of copyright to private uses, including home audio and videotaping.

In the past, argues Goldstein, copyright did not cover private uses due to impossibly high transaction costs. But because the celestial jukebox drastically lowers these costs, it makes sense to extend copyright. Otherwise, states Goldstein, copyright owners will lose much of the value of their product. Reflecting on past failed legislative efforts, he warns that timeliness is the most important factor. "By and large, copyright owners suffer and consumer electronics companies benefit any time Congress postpones a decision on home copying. As time passes, more and more consumers acquire new copying equipment and, with it, the expectation of free copying. . . . Ideal, balanced laws that might have been possible within a year or two of a new technology's arrival in the marketplace can, five years later, be politically impossible."[33]

Goldstein's second recommendation is to eliminate exceptions such as fair use, the American equivalent to the statutory exceptions detailed in EC copyright law, and substitute a registration process. This will solve the problem that copyrights cost nothing to acquire but are expensive to license. He argues

29. Ibid., p. 202.
30. Robert P. Merges, "Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations," 84 *California Law Review* 1293 (October 1996).
31. Ibid., p. 207.
32. Ibid., p. 209.
33. Ibid., p. 109.

that the difficulties in locating the owners, some of whom do not even know they have a copyright, can significantly increase costs and may prevent creative production. In documentary filmmaking, for example, Goldstein notes that licenses have to be obtained for hundreds of old sound recordings, radio broadcasts and TV footage. Fair use is too unpredictable and narrow to resolve such problems. Instead, he suggests the imposition of a requirement of registration of intent to use a copyright within a specific time period or else the right will be extinguished. A registration system would be better than fair use, claims Goldstein, because more works would fall into the public domain. In order to pass muster under the Berne Convention, Goldstein recommends the implementation of a provision to allow a reasonable royalty for non-registered works.

Goldstein concedes that a robust copyright system does a poor job of redistributing wealth. He admits that some exemptions under the law are not an attempt to lower transaction costs, but are instead a government decision to subsidize certain uses that serve the public interest. States Goldstein, "It seems clear that if pay-per-use becomes the dominant means for access to information, and if 'free' sources of information such as broadcasting and public libraries decline in quality and quantity, Congress will need to consider the distributional aspects of its copyright agenda and whether to carve out new exemptions, or provide overt subsidies, if the country's have-nots are to continue to receive these goods."[34]

The second prescription offered by Goldstein asserts that, "adherence to copyright's traditional strictures in the digital marketplace offers the surest prospect for the production and consumption of creative work in the widest possible variety and at the lowest possible price."[35] Goldstein acknowledges that copyright's originality criterion is intended to balance production incentives of first producers against the needs for re-users to exploit copyrighted works. This balance is preserved by both the idea-expression dichotomy and its corollary, the fact-expression dichotomy, which states that facts are not copyrightable but their expression is.

Maintaining the balance between incentives to first creators and access to subsequent ones is even more important in the digital environment. Databases are just one example. Goldstein supports efforts to rebuff "attempts to annex new islands of monopoly" such as the US Supreme Court's refusal to grant copyright protection to the white pages of a telephone book in *Feist Publica-*

34. Ibid., p. 208.
35. Ibid., p. 188.

tions v. Rural Telephone Service.[36] However, he asserts that protection under US copyright law does not provide adequate incentives because it is too thin and because it is only triggered after a database maker has decided to invest. Therefore, he suggests, "No one will seriously argue that investment in . . . databases does not require some form of intellectual property protection. The only question is what form of protection will best serve the general welfare."[37]

Instead of tainting copyright, Goldstein recommends that any new potential subject matter should be regulated by a *sui generis* right that can more efficiently guide production innovation levels and be specifically tailored to particular technological characteristics. He readily deflects any arguments against the use of *sui generis* protection. One objection is that a narrow focus can be self-defeating, as in the example of a regulated technology that becomes obsolete. But Goldstein retorts that such legislation can be revised just as one would amend the copyright law. Another objection is that a new law may actually disrupt investment exactly at the time when certainty is needed to encourage production. To this Goldstein answers, "The turbulent history of copyright protection for databases and computer software suggests that a *sui generis* law that aims at a desired level of innovation, and takes into account the special characteristics of its subject matter, will, however uncertain its outcome, outperform a copyright law whose undifferentiated embrace and low level of protection are of little benefit."[38]

3.5 Is Property Rights Theory Realistic?

The powerful vision that fuels property rights theory is that intellectual property should be regulated as property. This article of faith derives from economist Harold Demsetz who in 1967 argued that the primary function of private property rights is to guide incentives to internalize externalities.[39] Under ideal circumstances, externalities are taken into account by contracting parties. When they are, the pursuit of private welfare simultaneously achieves

36. Ibid., p. 190. For Goldstein's discussion of *Feist*, 499 U.S. 340 (1991), see pp. 197-198.
37. Ibid., p. 199.
38. Id.
39. Harold Demsetz, "Toward a Theory of Property Rights," 57 *The American Economic Review* 2, Papers and Proceedings of the Seventy-Ninth Meeting of the American Economic Association (May 1967), pp. 347-359.

social welfare. When they are not, a market failure results in inefficient resource allocation and social welfare is not maximized.

An example is the effect of factory smoke on the crops of nearby farmers. Smoke becomes an externality if the factory fails to absorb the cost of damage to nearby crops, thus resulting in an overproduction of factory goods that is not welfare maximizing. The cost of smoke damage may not be internalized because it would be too difficult to negotiate an agreement due to the number of farmers involved. But if, for example, a polluter can buy the right to pollute, transaction costs become low and the factory owner can factor in the damaging effects of smoke, thus resulting in a lower output that maximizes social welfare. All it takes is the granting of a property right that can be exchanged.[40]

Demsetz posits that the establishment of private property rights is an evolutionary process which emerges when the gains of internalization are larger than the costs. Triggering events include advancements in knowledge, technology and modes of production that result in old property arrangements becoming inefficient. He points to the development of private hunting grounds among Native American Indians in response to a growing fur trade as convincing evidence of the veracity of his theory. Before the fur trade emerged, it was costly and unnecessary to consider the effects of hunting on others. With the growth of the fur trade and the subsequent increase in hunting, however, overhunting threatened livelihoods. To conserve this scarce resource, Indians established private hunting grounds.

Private property rights are the most efficient mode of ownership, according to Demsetz, because they lower the costs of exclusion, control and transacting. The fact that an owner can exclude others gives him an incentive to invest in and develop his resource. An owner can also control how the property is exploited and by whom. In addition, the cost of negotiating an agreement for a particular use is reduced. As a result, an owner tends to use his

40. In 1959, Ronald Coase wrote an article called "The Federal Communications Commission," in which he explained how the granting of property rights can eliminate differences between private and social costs which, at the time, economists thought could only be abolished through government intervention. See 2 *Journal of Law and Economics* 1 and further clarification in Ronald Coase, "The Problem of Social Costs," 3 *Journal of Law and Economics* 1 (1960). In his article, "Toward a Theory of Property Rights," Demsetz sought to explain why such a property rights system evolves. See Demsetz, "Toward a Theory of Property Rights II," 31 *Journal of Legal Studies* 2 (June 2002), p. 655.

property more efficiently than if the resource were communally or publicly owned.

The logic of the property rights model is that the full internalization of externalities will create near perfect welfare maximization. When it comes to intellectual property, the goal is to eliminate all possibilities of free riding and to capture every use through the constant expansion of intellectual property rights. Armed with Demsetz' thesis that the drive toward increased property rights is a natural evolutionary process, property rights enthusiasts forget that expansion only should occur when the benefits exceed the costs. Instead, they push for absolute intellectual property rights whatever the cost. At the level of policymaking, any incursions on these absolute rights are regarded with skepticism. At the level of the individual work, any use of a work without payment is stealing.

There are many problems with the analogy between intellectual property and property. From a moral perspective, it would seem there is a natural right to one's creation and that it is just to obtain the benefits of one's labor. Yet while it may be convincing to argue that a gardener has the sole right to the fruits of his labor, such an argument is less persuasive in the area of intellectual property. A more sophisticated understanding of creation reveals that all intellectual property, whether creative or inventive, is based upon previous works. Shakespeare was successful precisely because he copied well-known dramas. The aim of scientific research is to explore, refine and surpass previous work. Recognizing that all intellectual creation results from understanding, analyzing and transforming past creation erodes the moral persuasiveness of property rights theorists.

The fact is that intellectual property rights are legal constructs in which the balance between access and incentives is constantly being readjusted. Under strong exclusive rights, the main arbiter of the incentive-access balance shifts from policymakers, who are accountable to the public, to businessmen, who are accountable to shareholders. Due to the importance of maintaining access for further production, it is not clear that decisions regarding the locus of the balance should rest in the hands of those motivated by profit.

Even if, theoretically, the granting of absolute property rights can result in the satisfaction of all desire, it is not possible in reality. Price differentials may not be justifiable to the user and there always will be market segments whose needs are not satisfied. The inability to perfect demand signals is further compounded because many of the positive benefits of intellectual production are undervalued or simply cannot be incorporated into market transactions. As a result, these signals underestimate social value. Furthermore, if perfecting demand signals is the true goal, then it can only be achieved in a

complete monopoly situation. This is the theoretical opposite of perfect competition. The considerable cost of higher prices, lack of competition, lower output and less access is clearly not worth the price.

Of course, the purpose of intellectual property rights is to allow the owner to charge above marginal cost in order to recoup initial investments. However, an increased price can result in a loss of access. Not only does this interfere with consumption, but it also blocks the ability of re-users to improve upon a work or use it to make additional goods and services that benefit society. The stronger the right, the greater the possibility that there will be fewer productive uses made of a particular piece of intellectual property.

In certain markets, a strong right could help to reinforce inherent market power. Examples include databases comprised of price quotations, galactic data and other scientific or technical information.[41] Although in theory some of these database types could be compiled by a re-user, the fact is that the cost of compilation and servicing is high and the possibility of commercial exploitation limited. These factors operate as significant barriers to entry because realistically no re-user will be able to make a profit. Such an anticompetitive effect, which results in still higher prices and lower output, could be exacerbated by absolute property rights.

Absolute property rights can also result in rent-seeking, as when a number of database makers invest to become the first to produce a database knowing they will have little competition once they gain protection. After obtaining these rights, additional rent-seeking will be spent on lobbying and litigation in order to protect and expand rights. Such overinvestment has distortive effects on the allocation of resources and does not promote social welfare.

According to Demsetz, internalization should only occur when the gains are greater than the costs. Under a pay-per-use system such as the celestial jukebox, the costs of exclusion and control are vastly reduced. This is because negotiating a license simply requires the click of a button and enforcement may be established through the use of technical measures. Of course, it could turn out that upgrading technical measures is expensive. But even with a cost savings, the pay-per-use system may not actually be worth the price in terms of decreases in access and re-use, losses from monopoly pricing and inherent market power, rent-seeking and enforcement costs. Such decreases may actually make such a system so inefficient that the benefits are not worth the costs.

41. Riis, "Economic Impact of the Protection of Unoriginal Databases," p. 9.

3.6 Recalibrating Efficiency: Balancing Incentives with Access

William M. Landes and Richard A. Posner believe that drawing the parallels between intellectual property and real property is a valuable exercise. However, they caution that the higher costs of establishing exclusive rights in intellectual property do matter and should be taken into account. According to these two academics:

(1) "We can expect intellectual property law, to the extent it is guided by a concern with economic efficiency, to endeavor to reduce the costs of these rights,"
(2) "One way the law will do this is by imposing limitations on intellectual property rights that go beyond what is found in the domain of physical property" and
(3) "The high social costs of intellectual property rights create uncertainty as to whether on balance such rights are, from an overall social standpoint, cost-justified at all."[42]

They provide a new twist on the incentive-access debate beginning with their 1989 article on the economic analysis of copyright law.[43] The two deliberately narrow their focus in order to explore the effect of copyright protection on original producers and copiers. In their model, consumers are left out of the picture. By showing that the optimal level of copyright protection is lower than that provided by absolute rights, their analysis discredits Goldstein and other property rights theorists. It also reveals that the aim of copyright law is not "to put that value in the copyright owner's pocket."[44] Rather, it is also to the producer's advantage to favor a balance between incentives and access. As the authors admit, however, the problem is that no one knows where that balance lies.

In their 2003 book, *The Economic Structure of Intellectual Property Law*, these scholars set out to more deeply explore the relationship between the optimal level of copyright protection and its effect on total welfare, total production and welfare per work.[45] While producers are defined as those who

42. Landes and Posner, *The Economic Structure of Intellectual Property Law*, p. 21.
43. William M. Landes and Richard A. Posner, "An Economic Analysis of Copyright Law," *Journal of Legal Studies* 18 (June 1989), pp. 325-363.
44. Goldstein, *Copyright's Highway*, p. 4.
45. A Formal Model of Copyright, Chapter 3 of Landes and Posner, *The Economic Structure of Intellectual Property Law*, pp. 71-84.

make original expressive works, copiers are those whose income derives from copies that range from straight duplications to value-added additions of an original work.[46]

The authors begin by discussing the relationship between the level of copyright protection and the total number of works made by both copiers and producers. In terms of the effect of protection on access to original works for copiers, the authors show that there is a negative relationship between the level of copyright protection and the production of copies. What this means is that the higher the level of protection, the lower the number of copies put on the market. Conversely, the lower the level of copyright protection, the higher the number of copies created.

Why? If, for example, copyright protection is increased, then the marginal cost of making a copy will also increase. This is because some copiers will have to negotiate and pay for a license which they did not have to before or they will have to incur costs trying to find a substitute. The additional expense will cause some to refrain from producing in the first place because they are unable to recoup their costs and make a profit. Conversely, if copyright protection is low, then the marginal cost of the copier is equally low and it will be cheap to produce copies. The result will be a higher number of copies on the market. This is because a copier can copy more from the original product without paying for a license or incurring costs such as searching for other works in order to avoid payment.

While the level of protection only affects marginal cost when it comes to copiers, Landes and Posner posit that it impacts both the cost of expression and the gross profits of producers of original works. The authors define the cost of expression as costs incurred before a product is first sold. Gross profits are generally defined as all sales minus all costs to produce a good, both fixed and variable.[47] The first effect is that a strengthening of copyright protection increases the costs of expression for the author. Just as with the effect on copiers, this is because transaction costs, costs of acquisition and costs to find a substitute are higher. The overall effect leads to a decrease in the number of new works because some producers will lack incentive to create, due to fears that they can not recover their costs and make a profit.

46 Copiers may form a narrower group than the definition of re-users used in this thesis. While copiers seem to be only involved in duplication or transformation of an original work, re-users extend to those who use a work to engage in a completely different activity such as scientific research.

47 Variable costs differ with the level of output. They include wages and raw materials. See Pindyck and Rubinfeld, *Microeconomics*, p. 216.

But, there is a second dynamic at work. As copyright protection increases, the producer's gross profits also increase: they can sell more of their original works since there are fewer competing works made by copiers on the market. Although the authors do not fully explain the reason in detail, one logical explanation is that a decrease in production by copiers will create more demand for the original work and also will make it easier for the producer to price according to what the market will bear.

The trick is to figure out which effect has the strongest influence. In their analysis, these academics place a positive spin on the balance between these two effects. Under normal circumstances, they assume that the number of original works will increase with copyright protection. However, as they specifically warn, their conclusion is "actually ambiguous."[48]

What will maximize total social welfare? Landes and Posner define total social welfare as a function of welfare per work, defined as the sum of consumer and producer surplus generated for each individual work produced, plus the total number of works created, both copies and originals.[49] The authors posit that welfare per work would, in most circumstances, be lower than optimal. This is because greater copyright protection normally results in higher prices and the higher the price the lower the level of access for consumers who find substitutes or are unable to pay. But, note the authors, "The traditional analysis emphasized the tradeoff between the benefits of copyright protection in encouraging the production of works and the losses from reducing access to the works by consumers. . . . That view stresses losses to consumers from higher prices – a factor that drops out of our analysis."[50]

Instead, the economic model focuses on the effects of the original producer and the copier, not on the consumer. The authors predict that welfare per work also decreases in their framework but for different reasons. It is because the cost of expression for the original producer and the marginal cost of the copier will increase.

Total welfare depends not only on welfare per work but also on the total number of works created. Landes and Posner note that, "the number of works may rise as copyright protection expands even though welfare per work falls."[51] The overall implication is that copyright protection is needed to generate incentives so that producers create original works in the first place. But

48. Landes and Posner, *The Economic Structure of Intellectual Property*, p. 76.
49. The costs of administering and enforcing the copyright system are also included. Ibid., p. 81.
50. Id.
51. Id.

if protection becomes too strong, the cost of creating a work can be so high that a producer cannot cover his costs even though he will have full copyright protection for that creation. The key issue, of course, is what level is optimal.

The authors use the insights from their formal model to provide suggestions on almost every aspect of copyright law. Because there is no correct balance, they advise a pick-and-choose approach to their recommendations. One potential package of interest for database protection is a combination of short fixed terms, an economic interpretation of the criterion of substantial similarity to prove infringement and a broad fair use doctrine. The authors' economic interpretations of the rationale for the protection of derivative works and for the idea-expression dichotomy are also intriguing.

When it comes to the duration of copyright, the authors advocate short fixed terms with unlimited renewals. They declare, "The result might be a larger public domain, and in particular fewer restrictions on copying most works created recently, than under the current system."[52] This claim is partly based on data from 1883–1964 that shows fewer than an 11% copyright renewal rate for books at the end of what was then a 28-year term. Of the 10,027 books published in 1930, only 1.7%, or 174 books, were still in print in 2001.[53] In a footnote, the authors mention that this recommendation requires the United States to pull out of the Berne Convention.

The authors cite many advantages of unlimited renewals. Depending on the initial term length and the renewal fees, the system could be used to regulate the size of the public domain. In addition, unlimited renewals would provide a record of who the copyright owner is and so eliminate tracing costs. They caution that transaction costs for copyright licenses may be highest for composite works such as anthologies under this system. However, aggregate transaction costs would fall with a decrease in the total number of works renewed. Lastly, rent-seeking for term extensions would be eliminated. In sum, the authors declare, "It has been argued that the optimal duration of a patent would be infinite if the scope of patent protection were narrowed appropriately."[54] They suggest that "a narrow construal of substantial similarity and a broad construal of fair use would help maintain an ample public domain under a system of indefinite renewals."[55]

In order to prove infringement under US copyright law, a combination of access to the original work and substantial similarity between the original and

52. Ibid., p. 210.
53. Ibid., p. 212.
54. Ibid., p. 218.
55. Ibid., p. 217.

the allegedly infringing work must be shown. Traditionally, the degree of substantial similarity varies according to the type of work involved. However, these authors offer an economic test based on unfair competition principles, "an alleged copy of a copyrighted work is infringing if it is a close substitute, in the market, for the expressive aspect of the work and so would cut significantly into the demand for the work."[56] Just as under the ordinary substantial similarity test, only copying of the protectable elements of a work can result in infringement.

To illustrate their test, the authors provide an example of two economic textbooks. Clearly, any two books on the same subject are likely to be substitutes for each other in the same market. However, the similarity of the two books would be at the level of unprotectable ideas and therefore would not be infringing. But if a second book actually copied the wording of the first one so that an inattentive reader would not realize they were different, then the protectable expression of the first textbook would be copied and it therefore would not be allowed. According to the authors, infringement would occur even if only the wording of one chapter were taken.

The authors provide a whole new twist on fair use analysis inspired by their formal model, "The question for an economist is not production or transformation versus reproduction or suppression, as such, but the impact of the copying on the demand for the original and the potential cost savings and other benefits that are likely to arise from reducing the cost of creating a new work that builds upon the original copyrighted work."[57] The first factor is whether the use saves on the transaction costs of licensing. In other words, does it lower the costs of copies? The second factor is whether the use harms or benefits the original producer. For example, does it expand demand for the product?

Several reinterpretations of fair use cases are detailed. They begin with the employment of quotations as a clear example of a high transaction cost, no harm case. Quoting saves licensing costs and causes no harm to the original producer because transaction costs are so high that the producers would not be able to capture those benefits anyway. Alternatives to licensing, such as a liability rule or a compulsory license, they assert, would be equally expensive.

The next series are implied consent, negative harm cases. The easy case here is book reviews. Even though the original producer would lose money

56. Ibid., p. 89.
57. Ibid., p. 123.

on a potential licensing fee, book reviews are a form of advertising that can increase sales. In addition, book reviewers save on transaction costs.

The case of *Sony Corporation of America v. Universal City Studios* concerns whether or not VCRs facilitate copyright infringement.[58] Time-shifting, or the taping of TV programs to watch at another time, was considered to be a substantial noninfringing use and a benefit to the original producer because otherwise that section of the audience would be lost. The decision was criticized because it failed to balance the harm from infringing uses against the benefits of noninfringing ones. The authors state, "Striking the correct balance might be impossible, since from a social standpoint the harm is not the reduction in copyright revenues but the reduction in consumer and producer surplus caused by the impact of infringement on the creation of new copyrighted works."[59]

The economic rationale for the copyright of derivative works is also informative. Derivative works are defined as any transformation, translation or adaptation of a work. The right to create derivative works rests with the original producer. However, Landes and Posner argue that the economic reasoning behind this right is not to recover the costs of initial investment. This is because, often, the derivative work serves neither as a substitute nor as a complement to the original and therefore does not affect the demand curve of the original work. The authors conclude, "Since it is uncertain whether *any* copyright protection, let alone the amount conferred by current law, is necessary to enable authors and publishers to recover fixed costs that must be incurred to generate the socially optimal output of expressive works, it would be speculative to conclude that without control over derivative works authors and publishers would be unable to cover those costs. What is true is that some works would not be created without the expectation of revenues from derivative works."[60] An alternative explanation is offered, which is to lower transaction costs.

The idea-expression dichotomy is also analyzed from an economic perspective. The traditional rationale is to prevent monopolization of an idea. The authors focus instead on how such protection reduces the total number of works by increasing costs, "Since the investment required to come up with the kind of new idea likely to be embodied in an expressive work usually is low relative to the costs in time and effort of expressing the idea… and since the originator of the idea will probably obtain a normal return in one form or

58. *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984).
59. Landes and Posner, *The Economic Structure of Intellectual Property*, p. 119.
60. Ibid., p. 110.

another from being first in the market without receiving copyright protection …authors, behind a veil of ignorance, would probably agree to a rule that gave legal protection to expression but denied it to ideas."[61]

The authors begin by analyzing the 1879 case of *Baker v. Selden* in which the idea-expression dichotomy was first articulated in the United States.[62] The Court held that the use of bookkeeping forms was not an infringement. Its rationale was that granting a copyright over the forms included in a book would grant a monopoly over the bookkeeping system itself. In fact, Landes and Posner point out that the inventor probably had alternative methods of recouping his expenses such as through a copyright on the explanations of the system attached to the forms. A copyright on the forms may be overcompensation, they argue.

The authors also believe that the 1991 case of *Feist Publications v. Rural Telephone Service* was correctly decided. It marked the official end in the United States of sweat-of-the-brow copyright protection of unoriginal database contents such as the white pages of telephone books. State the authors, "Since Rural distributed its phone book free of charge, it is hard to see how it could have been injured by Feist's copying. It may well have been helped; Feist's directory made searching for phone numbers easier and thus may have increased phone usage."[63] They conclude, "The point is not that there is no free riding in such a case; there may be; and depending on the cost of obtaining the facts, free riding may discourage socially useful activities. But as they are activities distinct from expression, the question whether and by what means to establish property rights in them should be addressed on its own terms rather than answered uncritically by a mechanical extension of copyright law to nonexpressive activities."[64]

The authors view the problem posed in *Feist* as similar to that of databases in general, "The issue is acutely posed by recent developments in the creation and copying of digital data. Huge electronic databases are being created at great cost yet the copying of an entire database, also electronically, is often cheap and virtually instantaneous, inviting massive free riding on large investments. Copyright is of little help because ... the user's search replaces the compiler's traditional creative function of arrangement. The question whether and in what form to extend property rights to the creators of such databases, rather than forcing them to rely on contract enforcement and other self-help ...

61. Ibid., p. 93.
62. *Baker v. Seldon*, 101 U.S. 99 (1879).
63. Landes and Posner, *The Economic Structure of Intellectual Property*, p. 104.
64. Id.

requires careful consideration rather than automatic extension of copyright law to electronic databases."[65]

3.7 What is the Correct Balance?

Landes and Posner provide theoretical evidence that too much copyright protection can actually hurt total social welfare. This insight provides a critical policy guideline and diminishes the validity of property rights theory. The rationale behind these academics' conclusion is that stronger protection increases costs for both the producer and the copier. They thus introduce a utilitarian approach to law and economics. Here, the goal of welfare maximization is to balance incentives with access so that the benefits are greater than the costs.

However, as the authors themselves mention, their model drops the consumer who merely uses a product. Placing the ordinary consumer back into the picture could reinforce their arguments and heighten the rationale for additional access.

When it comes to regulation of databases, the need for access could be even greater. This is because it is unclear whether the authors' definition of "copier" also includes those who re-use a work to make databases for non-commercial, public or commons purposes. Neither is it clear whether the definition extends beyond those who duplicate an original work to re-users who transform a work to engage in a completely different activity such as scientific research. The incorporation of such re-users back into the model could turn it upside down so that access must be heightened in order to promote total social welfare.

The scholars state that an increase in copyright protection decreases welfare per work but increases total social welfare because a greater number of works are produced. However, they admit that this determination is speculative. In order to arrive at such a conclusion, it must be demonstrated that the benefits of protection are greater than the costs. The benefits of higher protection are that original producers can meet their fixed costs and make a profit. The costs of protection are that production costs will increase for both original producers and copiers. An additional cost is the decrease in welfare per work.

65. Id.

When it comes to databases, where re-use is an important factor in production, stronger protection may decrease total social welfare. For example, if the cost of production is high, it could be that more original producers than anticipated stop production. This proposition does not seem so unreasonable given that the authors admit their assumption that producers will create more with more protection is "purely speculative." In addition, so many copiers could stop creating that total production actually drops. This could be the case if the re-users and consumers mentioned above, were included in the model.

The bottom line is that we simply do not know what the impact of stronger protection is, especially for a subject matter such as databases where access may be a priority and the need for protection is unproven. The fact is that the logic of a standard law and economics analysis, which is to provide incentives by allowing the producer to capture all consumer surplus, may be inadequate when all re-users are factored back into the picture.

3.8 Infrastructural Theory: A Demand-Side Analysis

When it comes to the production of intellectual property for commercial use, Brett M. Frischmann and Mark A. Lemley believe in the efficiency of the market system and the establishment of exclusive property rights to balance access with incentives. But, they argue, a supply-side model may not allocate resources efficiently under certain circumstances. This is because focusing on increasing production incentives through internalizing externalities ignores the economic benefits of those externalities that are positive. Instead, they argue that there are economic reasons, not just public interest reasons, to promote these positive externalities.

Advocating the motto, "if infrastructure, then commons," the authors aim to develop a demand-side theory in order to establish that when intellectual property functions as a generic infrastructural input, its use should be guaranteed through open access.[66] The authors define open access as access to anyone regardless of identity or use. It does not mean that a product is free. The authors outline their nascent theory in a series of articles, first separately and then jointly, and contrast it with a property rights model.[67] Their theory is

66. Brett M. Frischmann and Mark A. Lemley, "Spillovers," (Draft April 2006) for American Law and Economics Association 16th Annual Meeting, University of California at Berkeley, 4-5 May 2006, p. 31.
67. Frischmann and Lemley, "Spillovers;" Brett M. Frischmann, "Evaluating the Demsetzian Trend in Copyright Law," paper 17, American Law & Economics Association

valid for all forms of intellectual property, they assert, and can be subjected to both normative and descriptive analyses.

When it comes to production incentives, the authors state that the internalization of positive externalities, which they also call spillovers, is not required to provide adequate production incentives. In fact, such an approach can interfere with productive use and distort market behavior. Instead, they advocate minimum incentives, which they define as enough to recoup the fixed costs that subsequent producers do not face and no more.

In an article entitled, "Property, Intellectual Property and Free Riding," Lemley explains that no businessperson ever expects to capture the full social value of even their real property.[68] Because intellectual property rights are not a response to scarcity like real property rights, but actually a conscious decision to create scarcity, efforts to capture the full social value are even more suspect. Problems include pushing markets away from the competitive norm, interfering with the ability of other creators to make use of a work, high enforcement costs and rent-seeking. Thus Lemley posits, "Granting intellectual property rights imposes a complex set of economic costs, and it can be justified only to the extent those rights are necessary to provide incentives to create."[69]

When it comes to access, Frischmann and Lemley describe how under a property rights model spillovers are considered uncaptured benefits for which a producer should receive compensation in order to increase investment incentives. When such benefits remain uncompensated, they are seen as distorting demand signals. These two academics believe that such an analysis overstates the benefits and understates the costs of internationalization. They claim that economic analysis of intellectual property law has not reconciled the fact that spillovers encourage greater productivity and social value. Their goal is to explain this relationship and how it should affect policymaking.

A major error occurs when considering the example of a good used as an input to make other products. The problem is that a buyer's willingness to pay reflects the private value they expect to realize by creating their particular product. It does not reflect the value others will realize from the result of using that product. By definition, then, any demand-signaling function in a

Annual Meetings, (2006); Brett M. Frischmann, "An Economic Theory of Infrastructure and Commons Management," 89 *Minnesota Law Review* 917 (April 2005); Mark A. Lemley, "Reply: What's Different About Intellectual Property," 83 *Texas Law Review* 1097 (2005); Mark A. Lemley, "Property, Intellectual Property, and Free Riding," 83 *Texas Law Review* 1077 (2005).

68. Lemley, "Property, Intellectual Property, and Free Riding."

69. Ibid., p. 1065.

traditional supply-side analysis will be inaccurate. The fact that the demand function is too low makes it difficult for suppliers to manufacture what is socially optimal. This failure is compounded if there are noncommercial, public or commons-based creators who are dependent on the input but who do not make goods of immediate commercial use.

Frischmann and Lemley posit that when externalities are significant and cannot be measured within the market structure, inputs should be managed in an openly accessible manner. They argue that this should occur when intellectual property functions as a generic infrastructural input. To qualify, the following three demand-side criteria must be satisfied: (1) the good is nonrivalrous, (2) it is used as an input and (3) it is generic.

The first criterion is that the product is nonrivalrous. Although all intellectual property satisfies this criterion, it is precisely because of this quality that the possibility of an inaccurate measurement of demand becomes evident and the market mechanism becomes suspect.

The second criterion is that the resource is used as an input. If so, the case for open access becomes even stronger. This is because most of the societal value comes from the outcome of any productive use, yet the scope of this value cannot be measured through a private transaction between a seller and a buyer. One way to think about such productive use is that the resource is an enabling foundation on which others can build.

The defining criterion is that the input is generic. This means that it can be used as a building block for a wide variety of goods and services, including private, public and nonmarket goods, and in a variety of production modes, from commercial to noncommercial to commons-based. Here, the societal value is derived from the abundant variety of potential products as well as from the benefits of use of those products, none of which is encompassed in a typical commercial transaction. In the eyes of the authors, a nonrival infrastructural input that is generic is an airtight case for market failure under the traditional supply-side market mechanism and a candidate for open access.

Frischmann elaborates on the application of these criteria in his article, "An Economic Theory of Infrastructure and Commons Management."[70] He posits that commercial infrastructural resources that are used to produce rival goods do not qualify. All private property qualifies as rivalrous because use by one person prohibits use by anyone else. A nail is an example of a rival good. So is the idea of a nail because any output is a commercially produced rival good. Neither qualifies as a generic infrastructural input.

70. Frischmann, "An Economic Theory of Infrastructure and Commons Management."

What about the cure for a particular disease? While a cure may be nonrivalrous and an input, it does not qualify because it is not generic – the range of outputs is narrowed to the actual cure and some related research avenues. Thus, Frischmann asserts that even though there could be strong social justice grounds for open access in the case of a cure, he would not classify it as a generic infrastructural input.

So what does qualify? Basic research qualifies because it is nonrivalrous, its value comes primarily from its use as an input and it is generic because there is a wide variation of productive uses to create other public, commercial and nonmarket goods. Additional examples include the Internet, operating systems, abstract ideas and peer-to-peer file sharing technology.

When something is a generic infrastructural input, such as basic research, the introduction of property rights could drive owners to favor uses expected to generate income rather than those that generate positive externalities, "These costs evade observation because basic research is often an input into and output from cumulative processes involving multiple inputs, multiple outputs, multiple actors, and multiple research avenues heading in different directions."[71] Open access can facilitate these additional productive uses.

So how should generic infrastructural inputs be regulated? The three basic institutional approaches mentioned by Frischmann are privatization, government intervention and commons. When commercial infrastructure is involved to produce rival goods, he suggests that the traditional market system is appropriate. But for generic infrastructure inputs, he recommends that open access be considered. Rather than focus on the use of a particular institutional approach, Frischmann proposes that the goal should be to ensure access, "Tying form and function together obscures the fact that access can be provided for or restricted by a variety of institutional forms, which are often mixed (property and regulation, private and communal property, etc.), and not necessarily through one particular form of property rights."[72]

The authors state that the degree of accessibility is flexible and adjustable. However, in making a policy decision, they argue that there is a need to move beyond the incentive-access paradigm. For the authors, many public policy debates boil down to which externality-producing activities to be concerned with and which institutions should regulate and promote them. In addition, efforts should concentrate on allocating private and public open access rights and promoting both commercially valuable and socially valuable activities.

71. Ibid., p. 997.
72. Ibid., p. 934.

While their infrastructure theory provides strong reasons for establishing and maintaining a commons, the authors also realize that producers must continue to receive legal incentives. In some cases, such as with basic research, they support a solution that includes government funding in order to eliminate the incentive-access problem altogether. But in other instances, they suggest that intellectual property law can be recalibrated.

According to Frischmann, "Ultimately, the optimal degree of openness or restrictiveness depends upon a number of functional economic considerations related to the nature of the resource in question, the manner in which the resource is utilized to create value, institutional structures and the community setting."[73] What then is the optimal level? The authors admit that the appropriate level is difficult to determine. What they feel they can say with certainty is that the level is greater than zero.

3.9 Applying Infrastructural Theory: How Much Access?

Frischmann and Lemley turn supply-side analysis on its head by providing compelling economic reasons for why positive externalities are beneficial and should be promoted. Under their theory, positive externalities are not something bad that should be stamped out and treated as free riding, but rather something to be encouraged, particularly when intellectual property functions as a generic infrastructural input.

The serious demand-side malfunctions these academics highlight clearly need to be incorporated into policymaking efforts. Moreover, their principle that generic infrastructural inputs should be regulated through open access is pathbreaking. Despite these significant contributions, however, there is a lack of clarity on how to determine what precisely qualifies as a generic infrastructural input and how to implement an open access policy.

When it comes to commercial use, the authors generally agree with the supply-side analysis of how to get the market signals correct. But, they assert that minimum production incentives should be granted and no more. They do not discuss how to implement a minimum incentives regime for commercial production. Yet, it would be worth hearing these two academics' view on where this balance lies.

A problem emerges in clarifying when demand signals distort enough to require open access. The authors state that in terms of commercial produc-

73. Ibid., p. 935.

tion, the demand signals can be adequately calibrated according to willingness to pay. But it could also be true that demand signals are wrong for a commercial product. For example, a private good could be used as an input for noncommercial production. Or use of a good could benefit third parties in such a way that the value to society is not met by satisfying private demand. The question then becomes when is demand so important that open access is required, and why draw the line at generic infrastructural inputs?

Frischmann and Lemley reveal that there are solid economic reasons to guarantee access when intellectual property functions as a generic infrastructural input. Their efforts to develop a demand side theory that incorporates these insights are significant. However, the authors do not focus specifically on database content protection. As a result, an exploration of the kinds of policy options available to promote access is missing.

Despite this lack of clarity, it behooves us to consider whether databases qualify as generic infrastructural inputs, particularly due to the importance of re-use in the industry. As already explained, a database is a type of intellectual property and is therefore, by definition, nonrivalrous. Moreover, the discussion of re-use in Chapter 2 reveals that a database functions as a building block for an innumerable number of purposes, many of which cannot be captured in an ordinary market transaction. Lastly, it is generic because a database is employed for different types of goods and services using a variety of production modes. However, additional proof is needed, such as the empirical evidence of the current legal regimes, before a final determination will be made in Chapter 7.

3.10 Free Access and the New Networked Economy

In a boldly-titled book, *The Wealth of Networks*, Yochai Benkler attempts to substantiate the birth of a post-industrial production system which he terms the networked information economy.[74] Benkler argues that near ubiquitous ownership of a connected computer is enabling behavior everyone has engaged in all their lives – social sharing – to fuel a new mode of economic production. He posits that this economy can be more efficient at producing information, culture and knowledge than the previous capital-intensive industrial model. More importantly for Benkler, it has the potential to advance

74. Yochai Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (New Haven: Yale University Press, 2006).

values critical to modern democratic societies including individual freedom, a more participatory political system and a more transparent and critical culture. Benkler is convinced that whether such an admittedly utopian society emerges depends, first and foremost, on how many people participate. But policy decisions that support these developments, including those concerning intellectual property rights, can also make or break the outcome. Based on past experience, Benkler suggests that we have about ten years to make these decisions.

According to Benkler, for the past 150 years the production and dissemination of information, culture and knowledge has featured a highly capital intensive, producer-to-receiver design. It was spurred by the invention of new communication technologies, beginning with the printing press and continuing beyond the television set, that allow high volume production. The model is capital-intensive simply because the production technologies and the establishment of distribution channels are expensive. Because it is marked by high up-front costs, investment in production seems reasonable only if a substantial income can be generated to cover the costs. Mass production is the most efficient manner of achieving this goal. The ability of individuals to engage freely in the production process or to provide feedback is limited by the high capital requirements and by the producer-to-receiver organizational model.

Benkler states that the institutional mechanism that best perpetuates this model is an intellectual property system with strong exclusive rights. It encourages producers to acquire more intellectual property in order to minimize costs and to capture the bulk of revenues through exploitation of these rights. Benkler asserts that the result is greater concentration within each industry and greater commercialization.

In the industrial age, Benkler claims that, "market-based proprietary production has often seemed simply too productive to tinker with."[75] But the rise of the networked information economy has dramatically altered the factors of production so that it is no longer highly capital-intensive. The development of new technology enables a transition from the one-way communication of mass culture to one in which every member of society has the capacity to actively create, take, share and comment on information and cultural production. Whereas under the industrial model, production is market-based, commercial and proprietary, under the networked information economy, it is commons-based, social and non-proprietary.

75. Ibid., p. 8.

The inputs of the networked information economy are: (1) the networked computer, (2) free content and (3) human creativity and organizational capacity. A computer equipped with an Internet connection has replaced the expensive physical capital of the industrial age with one that is cheap, easily obtainable, and almost universally owned, at least within the Western world. This technology vastly reduces the cost of production and places tools directly in the hands of ordinary persons who can explore, contribute to and take from the information environment. The low capital requirements of obtaining a networked computer and its universal presence, asserts Benkler, are enabling production through social sharing on a scale never before possible.

While the ubiquitous, cheap computer is the core technologically enabling production input, existing information, knowledge and culture is the key content input. In Benkler's model, access to information is not a critical issue because content is free. This means that anyone can use the information for any purpose whatsoever. He asserts that the rationale behind this state of affairs is that intellectual works are nonrival public goods. As a result, it is economically efficient to allow free access. Unless exclusive rights or some other regulatory policy makes it expensive, explains Benkler, the fact that content is free means that it can be employed and built upon for any reason, not just to make a profit.

With both the basic physical input and content being free or nearly so, the most valuable and scarce factor of production in Benkler's eyes is human creativity and organizational capacity. According to the economic theory of the industrial model, more money means more production. But with the free inputs and outputs of the non-proprietary, non-market model, where do production incentives come from? Benkler argues that we intuitively know the answer. At times, "we choose to act in some way that is oriented towards fulfilling our social and psychological needs, not our market-exchangeable needs. It is that part of our lives and our motivational structure that social production taps, and on which it thrives."[76] He points to a variety of sociological, psychological and economic theories and to empirical evidence in order to substantiate his argument. The bottom line is "recognition that there is some form of social and psychological motivation that is neither fungible with money nor simply cumulative with it."[77]

Benkler describes how social production is organized to exploit free time as a scarce resource through a combination of social norms, sophisticated

76. Ibid., p. 98.
77. Ibid., p. 96.

technical capabilities, multifarious peer review and innovative institutional arrangements. His analysis focuses on large-scale commons-based peer production.

Simply put, a person who can spend just 5-20 minutes a day commenting on a news piece, co-moderating a discussion or co-managing a project is more likely to participate. Technological organizational capacities have developed to take a person's limited time into account. A key is the ability to break down a project into pieces that can be separately produced – the tinier, the better – and then to integrate them back together. One example is the NASA Clickworkers, which hosted 85,000 volunteers in its first six months to help mark craters for space research. The work of professional scientists was replaced by breaking down the complex project to small independent modules, by building in redundancy and automated mechanisms for eliminating errors and by recompiling the work. The result was deemed by NASA as "virtually indistinguishable from the inputs of a geologist with years of experience."[78]

The final element in social production is the creation of supporting institutional mechanisms to perpetuate the system. According to Benkler, commons-based production occurs when "the inputs and outputs of the process are shared, freely or conditionally, in an institutional form that leaves them equally available for all to use as they choose at their individual discretion."[79] Efficiency and stability give rise to the market system through private ownership, which enables individual satisfaction through the price system. Within commons-based peer production, individual satisfaction occurs through a collective system of self-selected individual action. It is devoid of intellectual property rights.

The primary legal tool is the General Public License, originally developed in the world of open-source software. The key provision requires anyone who uses the information to license it under the same terms as the original so that free access is perpetuated. This principle became known as copyleft. Various adaptations and varieties of GPL licenses exist, including those with provisions for attribution only or for noncommercial use only. Even though the inputs and outputs to commons-based production are free, one can still make a profit. For example, Benkler states that in 2003, IBM made double the

78. Ibid., p. 69, citing "Clickworker Results: Crater Marking Activity," 3 July 2001.
79. Ibid., p. 62.

money from its Linux-related services than it did on all its patent-related sources.[80]

Benkler posits that the social production model can be more efficient both quantitatively and qualitatively than the industrial model. In terms of a quantity, he divines massive potential, "A billion people in advanced economies may have between two billion and six billion spare hours among them, every day. In order to harness these billions of hours, it would take the whole workforce of almost 340,000 workers employed by the entire motion picture and recording industries in the United States put together, assuming each worker worked forty-hour weeks without taking a single vacation, between three and eight and a half years!"[81] Qualitatively, Benkler also argues that social production is more efficient because those who perform the jobs select themselves and as a result tend to be more motivated and skilled. Although he asserts that such a production system is efficient, he also states that this is beside the point because social production is self-sustainable and does not require outside expenses.

For Benkler, the important issue is not whether social production is efficient but whether it promotes the values of democratic societies. These include individual freedom, meaningful political participation, a critical culture and social justice. For example, Benkler describes how the networked information economy makes culture more writable and transparent, "The basic tools enabled by the Internet – cutting, pasting, rendering, annotating, and commenting – make active utilization and conscious discussion of cultural symbols and artifacts easier to create, sustain and read more generally."[82] One example discussed by Benkler is a search for the word "Barbie" on the Internet. The Google site, which orders results according to the number of links to a particular website, reveals a Barbie which is more than a doll and a symbol of glamour. By highlighting the oppressive nature of Barbie, sites such as "AdiosBarbie.com" reveal the complexity of a cultural icon that can have multiple and conflicting meanings.[83] By providing a more complex experience than what one would get at the toy store, the networked information economy expands our possibilities.

The main policy challenge is to ensure that social production can not only survive but flourish. When it comes to content, Benkler asserts that strong intellectual property rights and enforcement of them favors the industrial

80. Ibid., pp. 46-7.
81. Ibid., p. 55.
82. Ibid., p. 294
83. Ibid., p. 286.

production model. The effect is to increase the cost of information inputs and to constrain further development. For example, when it comes to database content protection, he views the ten-year experience of the United States and Europe as clear evidence that "exclusive rights are detrimental to various downstream industries that rely on access to data."[84] Such protection is justified, according to Benkler, by traditional incentive theory which states that intellectual property rights are needed so that producers can recover their high upfront costs. The correct policy option in his view would be not to protect database contents.

Other important policy questions are: (1) to what extent should information be governed as a commons free for all to use? and (2) to what extent should it be proprietary? In making a determination, Benkler says that the guideline should be to allow free access to content, "whenever it is possible to produce information in a way that allows the producer – whether market actor or not – to appropriate the benefits of production without actually charging a price for use of the info itself."[85]

Another key is to ensure that the inputs to social production – the connected computer, free content and human capacity and creativity – are not encumbered by restrictions that either discourage individuals from participating or make it ineffective. States Benkler, "We must understand these new modes of production. We must learn to evaluate them and compare their advantages and disadvantages to those of the industrial information producers. And then we must adjust our institutional environment to make way for the new social practices made possible by the networked environment."[86]

3.11 Can All Content be Free?

Benkler provides an exciting and substantiated vision of how the information network economy delivers social production into the hands of ordinary people. Contrary to the other legal academics, he seriously considers the impact of technology on intellectual production processes and explains its revolutionary impact. While his careful research establishes that social production is here to stay, problems in his analysis highlight possible limitations to its proliferation.

84. Ibid., p. 450.
85. Ibid., p. 48.
86. Ibid., p. 58.

The most serious limitation is Benkler's assumption that existing content is free. When he establishes free content as one of the major inputs, he seems to mesh the descriptive with the normative. What Benkler seems to be saying is that information *should* be free. A lack of access to free content places a clear restriction on the viability of the model. At its very worst, it could be that social production remains on the periphery as intellectual property law becomes stronger and the majority of works cannot be used without a license.

Given that free content may be scarcer than anticipated, a discussion about how policymakers could take a more active role in encouraging social production would have been welcome. Although Benkler provides concrete recommendations on how to regulate the physical and logical layers of the Internet, his recommendations on how to regulate the content layer fall short. Instead, he spends more time illustrating how intellectual property rights promote the industrial production model and stamp out social production. From the perspective of database creation, then, the most that can be said is that efforts should be made to encourage, or at least to accommodate, social production.

At the same time, Benkler cites examples where social production co-exists with and is incorporated into the industrial mode. Several questions naturally emerge. For example, are there limits to what can be created through social production or can most intellectual works be made in this way? In addition, what kind of policy options should be put in place to encourage such mixed production at the content level? The answers to these questions are important to policymakers so they can define the government's role.

Given the available inputs, Benkler argues that social production can be more efficient both quantitatively and qualitatively. As an illustration of quantitative efficiency, he provides a hypothetical regarding the amount of information that can be generated. Yet expecting one billion people in one day to use two to six hours of their spare time engaging in social production is an overestimate.

As Benkler mentions, the aim of social production may not be economic efficiency or the promotion of social welfare in an economic sense of the term. Instead, it may be the promotion of individual freedom, a more participatory political system, a more transparent critical culture and social justice. This adds further fuel to the argument that there is a clear role for government as a provider of funds in the service of the public interest. It also provides additional grounds to increase access. Yet without a clearer vision of how two diametrically opposed models can co-exist and mix, and of the govern-

ment's role in facilitating this blend, it is hard to see how social production will thrive.

3.12 Conclusion

The goal of this chapter has been to explore the various theories and policy options available for the protection of databases. An important conclusion is that there are economic reasons, not just public-interest reasons, to support access.

The vision that propels property rights theory, as represented by Goldstein, is the pay-per-use system of the celestial jukebox. The goal is to perfect market signals through absolute property rights. While access to materials is provided through price discrimination, production incentives are stimulated by ensuring compensation for every use.

It has been shown, however, that the underlying philosophy of the more protection, the more production is not viable in reality. From an access perspective, perfect price discrimination is impossible in the absence of a monopoly position. Equally important, it is to the original maker's advantage to promote access. Therefore the strongest form of property rights may not only discourage full access but also depress creation.

While Landes and Posner have shown that it is even to the producer and copier's advantage to promote access, they still posit that, in the main, greater protection will yield greater production. Yet their economic model is based on a number of assumptions, which if not true, could turn the model upside down. Indeed, the nature of the database industry leads to the conclusion that protection should be lower than that for copyright. Given the costs of exclusive property rights and the lack of clarity on their benefits, it seems reasonable to look for other alternatives.

Towards this end, Lemley and Frischmann fill the gap by positing that when intellectual property qualifies as a generic infrastructural input, demand-side signals are so inadequate that open access should be considered. Although this theory is a likely candidate for the regulation of database contents, as will be discussed in Chapter 7, the authors do not provide enough guidance on appropriate regulatory options.

Rounding out the theoretical survey is Benkler's theory of social production. But because this theory posits the existence of free information, its application may be limited. Moreover, the major policy recommendation to encourage this type of production is to stop regulating. While Benkler has

clearly established the importance of social production, the only lesson that can be drawn for database regulation is simply to grant more access.

CHAPTER 4

Swinging the Pendulum – The Database Right's Legislative History

4.1 Introduction: Creating the Information Society

The birth of the information society in the 1980s brought global recognition that "information constitutes now more than ever an element of power, in business, in society and between nations."[1] Throughout the world, the creation, transformation and exploitation of information goods and services had the potential to bring significant competitive advantage. Information was evolving into a highly valuable commodity which could contribute significantly to gross national product and could employ a considerable sector of the population. But the volume of information produced sparked an urgent need for investment in advanced information processing and retrieval tools to better understand, analyze and transform the data available.[2]

One tactic was the creation of a vibrant database industry. The European Community decided that large economies of scale were needed to recoup the significant costs required to develop and generate databases. But the realities of legal, technical and linguistic barriers made such economies of scale hard

1. European Commission, *Communication from the Commission together with a draft decision concerning The Establishment at Community Level of a Policy and a Plan of Priority Actions for the Development of an Information Services Market*, COM (87) 360 final/2, (Brussels: 2 September 1987), § I.1.
2. Ibid., § I and *Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases* OJ (L) 77/20, 27/03/1996, Recital 10 (hereinafter *The 1996 Database Directive*).

to achieve. Conditions hospitable to a community-wide market in commercial databases needed to be fostered.[3]

Member States offered a variety of models that could form the basis of a potential directive. At the time, probably the strongest property right existed in England and Ireland where factual database contents were safeguarded by sweat-of-the-brow copyright. Under the Nordic Catalogue Rule, Scandinavian countries prevented reproduction of large collections of data for 10 years, while in the Netherlands unoriginal database contents were protected through the text right.[4] Narrower forms of protection also existed. In some countries, factual database content did not qualify for copyright, but the selection and arrangement, if original, did. Nations such as France and Germany also prevented slavish copying by competitors through unfair competition law.[5]

In 1988, policymakers began to explore avenues to encourage further growth through harmonization.[6] Attention was directed toward providing a production incentive to database makers, ensuring that competitors and other re-users could make transformative use of database contents and guaranteeing access for consumers. The interests of all stakeholders was embodied in the first draft of the Directive in 1992 and contributed to a healthy balance be-

3. See European Commission, *Communication from the Commission to the Council Work Programme for Creating a Common Information Market*, COM(85) 658 final, (Brussels: 29 November 1985), § I.8.
4. Jaap H. Spoor, "The Impact of the EU Database Directive on Catalogue Protection in the Netherlands and Sweden," in *Festskrift till G. Karnell*, (Stockholm: Göta AB, 1999), pp. 731-744.
5. See Mark J. Davison, *The Legal Protection of Databases* (Cambridge: Cambridge University Press, 2003), pp. 103-159.
6. The Database Directive was drafted under the co-decision procedure. According to this process, the Commission introduced the first draft. The European Parliament requested an opinion from the Economic and Social Committee. With this opinion in mind, the EP then presented amendments at the First Reading. The Commission then decided which of the Parliament's amendments it wished to incorporate in its Amended Proposal. Since the Council disagreed with the Commission's Amended Proposal, it introduced a Common Position in which it accepted some of Commission's changes but also made its own substantial changes. The Commission then delivered an opinion to the Parliament in which it accepted the Council's Common Position. In its Second Reading, the Parliament made minor changes but also largely accepted the Council's Common Position. Eventually, the Council voted to pass the Directive. For more information on the current co-decision procedure, see http://ec.europa.eu/codecision/procedure/index_en.htm (last visited 9 August 2007).

tween incentives and access.[7] This balance was preserved throughout most of the four years of drafting and through six of the eight preparatory documents submitted.[8]

But the balance swung drastically in the 1995 Common Position offered by the Council.[9] The right to prevent unauthorized extraction and re-utilization was expanded while access guarantees to re-users and consumers were gutted. Many of the key changes occurred without explanation, in a lack of transparency that has been criticized.[10] By 1996, the final Database Directive had been transformed into a strong property right with flexible production incentives and narrowly drawn access provisions.[11]

The battle to recalibrate the balance soon flared up again at the European Court of Justice.[12] In Finland, Sweden and Greece, representatives of the British and Scottish Football leagues sued state-owned betting monopolies for printing their data on betting coupons. Meanwhile, the British Horseracing Board sued an online sports betting facility, William Hill, for indirectly using its factual data without permission.

The ECJ responded by raising the qualification threshold for protection and holding that the databases in question did not qualify. As the pendulum

7. The European Commission, *Proposal for a Council Directive on the legal protection of databases*," OJ (C)156/4 23/6/92. (hereinafter *The 1992 Proposal*).
8. While the first draft was promulgated in 1992, the final Directive was completed in 1996. Ten preparatory documents were released during this period, but two were explanatory documents. Thus, of the eight documents that represented drafts or amendments to the Directive, six kept the initial balance of the first draft.
9. Council of Europe, *Common Position (EC) No. 20/95 adopted by the Council 10 July 1995 with a view to adopting Directive 95/ /EC of the European Parliament and of the Council of … on the legal protection of databases*, OJ(C) 288/14, 30/10/1995. (hereinafter *The 1995 Common Position*).
10. See Annette Kur, Reto M. Hilty, Christophe Geigerand and Matthias Leistner, "First evaluation of the directive 96/9/EC on the legal protection of databases – Comment by the Max Planck Institute for Intellectual Property, Competition and Tax Law, Munich," *International Review of Intellectual Property and Competition Law* 37, no. 5 (2006), pp. 551-558 and Perttu Virtanen, *Database Rights in Safe European Home: The Path to More Rigorous Protection of Information* (Ph.D., Lappeenranta University of Technology, 2005).
11. See *The Database Directive*, Chap. III on the *Sui Generis* Right.
12. See *British Horseracing Board Ltd and Others v. William Hill Organization Ltd*, ECJ case C-203/02, 9 Nov. 2004 (from England). The three other cases are: *Fixtures Marketing Ltd v. Oy Veikkaus Ab*, ECJ case C-45/02, 09 Nov. 2004 (from Finland); *Fixtures Marketing Ltd v. Organismos prognostikon agonon podosfairou AE*, ECJ case C-444/02, 09 Nov. 2004 (from Greece); and *Fixtures Marketing Ltd. v. Svenska Spel AB*, ECJ case C-338/02, 09 Nov. 2004 (from Sweden).

swung back toward access, advocates of strong protection were surprised and disappointed. But the ECJ's judgments may have restored some of the balance.

The effect is two intertwining regimes. Those database contents that are not protected are subject to a system similar to that in the United States. The implications of such a regime will be discussed in Chapter 6. Meanwhile, those that do qualify for protection are offered a strong right. Such a pattern of a high qualification threshold coupled with strong protection is typical of a civil law system. However, the problem is that the database right may be so strong that it jeopardizes production. This is due to the difficulty of engaging in a wide range of re-use under the database right. While access is narrow and difficult to alter, there is significant flexibility built into the producer's right so that it can be even further strengthened. Bluntly put, as it stands now, it may not be the type of regulation that can foster the most growth and value in situations where re-use of database content is critical.

The purpose of this chapter is to explore the evolution of the Database Directive and the ECJ case law in order to understand its transformation. It begins with a narrative of the legislative process. Focus will be placed on the first draft, a description of the final Directive and a detailing of the subsequent case law. This will provide the necessary substantive background for Chapter 5, where further evaluation of the relevant law will enable the proposal of a series of amendments to restore the balance.

4.2 The 1988 Green Paper Sets the Stage

Policymakers at the Commission first officially floated the idea of harmonizing database protection in a 1988 Green Paper on Copyright and the Challenge of Technology.[13] Their inquiry reflected concern over the challenges posed by the digital revolution in the re-use (storage), access (retrieval) and protection of databases. As a result, the needs of all stakeholders including the re-user, consumer and producer were taken into account. Comments were solicited on whether copyright protection or a *sui generis* right should extend to the "mode of compilation," or structure and arrangement, of unoriginal databases.[14] Protection for database content was not articulated as part of the

13. European Commission, *Green Paper on Copyright and the Challenge of Technology – Copyright Issues Requiring Immediate Action*, COM (88) 172 final, (Brussels: 7 June 1988), (hereinafter *The 1988 Green Paper*).
14. Ibid., ¶ 6.6.2.

agenda. Policymakers cautioned that, "the scope of protection and the restricted acts would have to be carefully considered lest access to computerized information be unjustifiably restricted."[15]

Since the inquiry occurred before the harmonization of copyright law, some of the issues raised are now moot. Still, it is important to understand the spirit in which the right first evolved. At that time, it was unclear whether or not the incorporation of smaller parts of a protected work in databases constituted a restricted act. While bibliographical information, indexes and references from published works could be employed, it was unclear how much other information, such as abstracts, extracts, or summaries could be used. Policymakers predicted, "Uncertainty as to whether such abstracts can be inserted in a data base without the consent of the author or his successor in title may have a negative impact on the development of this particular kind of data base."[16] Although such insubstantial use is now patently legal under the Information Society Directive on Copyright and Related Rights (the InfoSoc Directive), other types of re-use remain restricted under the database right.[17]

A second problem was access, or the retrieval of information from electronic databases. While some Member States considered all downloading a restricted act, others made a distinction between consulting and downloading. Although subsequent intellectual property legislation has legalized temporary copying necessary for normal use, such a provision is arguably still missing from the text of the database right.[18]

The last problem was that unoriginal selection and arrangement of a database was not protected, even though it took skill and effort to create and often was the most convenient mode of organization for the consumer. According to policymakers, "In cases where protection does not follow from the application of ordinary copyright law, by reason of the work's brevity or lack of creativity, or its nature, or because the term of protection has expired, it would still seem desirable that protection against copying of the mode of compilation should be available."[19] Because the buying and selling of factual

15. Ibid., ¶ 6.4.8.
16. Ibid., ¶ 6.3.7.
17. Directive 2001/29/EC of the European Parliament and of the Council on the harmonization of certain aspects of copyright and related rights in the information society, OJ (L) 167/10, 22 May 2001 (hereinafter *The InfoSoc Directive*).
18. See Art. 6.1 of *The 1996 Database Directive* in regards to copyright in a database, Art. 5.1 of *The InfoSoc Directive* and Art. 5.1 of the European Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs, OJ (L) 122, 17/95/1991.
19. European Commission, *The 1988 Green Paper*, ¶ 6.4.9.

data was seen as a growth industry, the need for legal protection was considered critical. The Commission noted that, "to combat data piracy, such a right may prove to be an important tool."[20]

4.3 The First Draft Balances Stakeholders' Needs

In 1992, the first draft of the Database Directive was introduced by the Commission. Policymakers clearly strove to balance access and incentives for the three major interest groups: producers, re-users and consumers. This balance is evident in the general objectives of the proposal and in the specific objectives of the *sui generis* provision for database contents, also called the unfair extraction right. As a result, databases are treated as important resource tools, the manufacture and utilization of which must take into account the needs of all stakeholders.[21] In addition, the purpose of the unfair extraction right reflects the incentive theory of intellectual property: "to safeguard the position of makers of databases against misappropriation of the results of the financial and professional investment incurred in obtaining and collecting data."[22]

The right granted amounts to more than the mere protection of unoriginal structure and arrangement as envisioned in the 1988 Green Paper.[23] Instead, it is designed to correct legal gaps by extending protection to unoriginal database content which would otherwise remain unprotected. Member States are directed to "provide for a right for the maker of the database to prevent the unauthorized extraction or re-utilization, from that database, of its contents, in whole or in substantial part, for commercial purposes."[24]

Many of the right's features are derived from unfair competition law. For example, the right applies only to the commercial use of electronic databases. It is intended to prevent infringement when a database is used directly as a source with or without adaptations.[25] Indirect use is not actionable. In addi-

20. Ibid., ¶ 6.4.10.
21. European Commission, *The 1992 Proposal*, Recitals 8-10.
22. Ibid., Recital 28.
23. No explanation is provided as to why.
24. European Commission, *The 1992 Proposal*, Art. 2.5.
25. European Commission, *Explanatory Memorandum to the Proposal on the legal protection of databases,* Com (92) 24 final (13 May 1992), Part Two, ¶ 1.2 (hereinafter *Explanatory Memorandum to the 1992 Proposal*).

tion, the only example of infringement provided is when the results of the unauthorized use substitute as a source for the original materials.[26]

To benefit from the right, two criteria must be satisfied. First, the object of protection must be a database. In Article 1.1, a database is defined as "a collection of works or materials arranged, stored and accessed by electronic means, and the electronic materials necessary for the operation of the database such as its thesaurus, index or system for obtaining or presenting information." It can comprise: "collections of works, whether literary, artistic, musical or other, or of other materials such as texts, sounds, images, numbers, facts, data or combinations of any of these."[27] It does not include three-dimensional objects.[28] Protection does not apply to computer programs used in the making or operation of a database.[29]

The second criterion is that the individual materials assembled in a database must not be protected by copyright or a neighboring right. The rationale behind this bar is to avoid the imposition of a compulsory license on works otherwise protected. The unfair extraction right can apply if the structure and arrangement of a database is copyrighted, however. It also applies if there is no other form of protection whatsoever.[30]

The duration of protection lasts 10 years. It is unclear whether a new term can be triggered and, if so, how.[31] According to Article 9.4, "Insubstantial changes to the contents of a database shall not extend the original period of protection of that database by the right to prevent unfair extraction." According to Article 1.4, "'insubstantial change' means additions, deletions or alterations to the selection or arrangement of the contents of a database which are necessary for the database to continue to function in the way it was intended by its maker to function."

Because the definition of insubstantial change only discusses alterations in the structure and arrangement, it is clearly aimed toward renewal of the copy-

26. Ibid., Part Two, ¶ 8.4.
27. European Commission, *The 1992 Proposal*, Recital 16.
28. European Commission, *Explanatory Memorandum to the 1992 Proposal*, Part Two, ¶ 1.2.
29. European Commission, *The 1992 Proposal*, Art. 1.1.
30. European Commission, *Explanatory Memorandum to the 1992 Proposal*, Part Two, ¶ 2.5.
31. The following other issues are unclear: (1) whether the term of protection begins when the database is first made or when it is first made available to the public, (2) the definition of insubstantial changes for database contents because the definition provided refers only to changes in the structure and arrangement. See European Commission, *The 1992 Proposal*, Articles 1.3, 9 and 12.

right term. Does this mean that the right to prevent unfair extraction is intended to last just 10 years with no renewal? The Explanatory Memorandum implies that the right of unfair extraction is limited: "The one finite period of protection begins on incorporation of the work or material into the database and continues for a period of 10 years from the time when the database was made publicly available. At the end of the 10 year period, the contents of that particular database are no longer protected by the right to prevent unfair extraction."[32]

Various mechanisms exist to provide free access for those who wish to reuse database contents. Under Article 8.4, a lawful user may, without authorization, extract and re-utilize insubstantial parts of works or materials from a database for commercial purposes provided there is attribution. A lawful user is defined as "a person having acquired a right to use the database."[33] As discussed in Chapter 5, the term "acquired" can be interpreted to include direct, indirect or implied use such as by operation of law.

An insubstantial part is defined as "parts of a database whose reproduction, evaluated quantitatively and qualitatively in relation to the database from which they are copied, can be considered not to prejudice the exclusive rights of the maker of that database to exploit the database."[34] No fixed limits are mentioned as to the volume of material which can be taken. Examples include: "small extracts from a database, by quotation or by reference to the information."[35]

Consumers are also provided with an exception. Under Article 8.5, a lawful user can extract and re-utilize insubstantial parts for personal private benefit without authorization or attribution. This exception is further elaborated. First, the material must be for personal use and may not be given to third parties. In addition, it can only be employed in the domestic sphere and not in the professional or commercial environment. Examples include: "incorporating the extracts into other material which is not for commercial use, creating new materials based on knowledge gained from the database and so on."[36]

"In the interests of competition and greater consumer choice" and in order "to avoid a monopoly position being abused by dominant information pro-

32. European Commission, *Explanatory Memorandum to the 1992 Proposal*, Part Two,¶ 9.3.
33. Ibid., Part Two, ¶ 8.4.
34. European Commission, *The 1992 Proposal*, Art. 1.3.
35. European Commission, *Explanatory Memorandum to the 1992 Proposal*, Part Two, ¶ 8.4.
36. Ibid., Part Two, ¶ 8.5.

viders," two compulsory license provisions are included.[37] The rationale for these provisions is to correct access problems that can arise through the protection of unoriginal database contents. It is intended as a substitute for the idea-expression dichotomy which operates under copyright law.[38]

Two types of compulsory licenses are granted. The first is for commercially produced databases that are made available to the public. According to Article 8.1, "if the words or materials contained in a database which is made publicly available cannot be independently created, collected or obtained from any other source, the right to extract and re-utilize . . . shall be licensed on fair and non-discriminatory terms." Such licenses should be made available if "the works or materials so licensed are used in the independent creation of new works and providing that no prior rights in or obligations incurred in respect of those works or materials are infringed."[39] Member States must implement an arbitration mechanism when a license is refused or where the terms are neither fair nor non-discriminatory.[40]

According to Recital 33, compulsory licenses should not be requested for reasons of commercial expediency such as economy of time, effort or financial investment. Moreover, "the wholesale copying of the contents of the database with a view to commercializing a competing product, without any independent effort in the collection and verification of the material is not permitted."[41]

The second type of compulsory license is granted "if the database is made publicly available by a public body which is either established to assemble or disclose information pursuant to legislation, or is under a general duty to do so."[42] For example, this provision would apply to a database of legislative texts composed by a national administration under the following conditions: (1) if the texts were not subject to copyright, (2) if the database had been made publicly available and (3) if that public body had a specific or general duty to make such information available. In the event that a public body has

37. Ibid., Part One, ¶ 4.2.5.
38. Ibid., Part Two, ¶ 2.5.
39. European Commission, *The 1992 Proposal*, Recital 31.
40. European Commission, *The 1992 Proposal*, Art. 8.3 and European Commission, *Explanatory Memorandum to the 1992 Proposal*, Part Two, ¶ 8.3.
41. European Commission, *Explanatory Memorandum to the 1992 Proposal*, Part One, ¶ 5.3.7.
42. European Commission, *The 1992 Proposal*, Art. 8.2.

commercialized its database, then the granting of a compulsory license is subject to Article 8.1 for commercial databases.[43]

4.4 Initial Problems that Plague the Final Directive

The first draft evidences a heightened sensitivity to the importance of promoting new investments, reducing barriers and stimulating re-use within the database industry and beyond. Access is encouraged in a variety of ways. The *sui generis* provision is narrowly tailored in that it only provides against substantial commercial extraction or re-utilization of electronic databases. All noncommercial databases remain unregulated. At the same time, significant attention is paid to ensuring that re-users can employ commercial database content for productive use – either within the database industry or within other sectors of the economy. The needs of consumers to consult, freely access and share contents are also taken into account.[44]

Despite these positive components, three major problems emanate from the first draft that continue to plague the final Directive. They are the confusion caused by establishing a hybrid right, the problem of how to maintain a balance between incentives and access and the ongoing debate over whether the Directive provides a right to the content itself.

The new legal regime was intended to comply with the following prerequisites: (1) the preservation of certainty and stability, (2) the protection of acquired rights and the encouragement of further investment, (3) the extension of coherence with similar legal regimes such as copyright, (4) international reciprocity and compatibility with international law and (5) the establishment of a balance between the needs of creators and users.[45]

Policymakers considered the applicability of various legal regimes including a *sui generis* right and unfair competition law. Rejection of a *sui generis* right was explained as follows: "A sui generis regime could fulfill some of these requirements but not all. It could be adapted to the specific characteristics of databases but would provide neither certainty nor stability since a considerable period of time would elapse before any jurisprudence could

43. European Commission, *Explanatory Memorandum to the 1992 Proposal*, Part Two, ¶ 8.2.
44. One problem, however, is that contractual provisions can override the right of unfair extraction as well as its exceptions. This was corrected in Article 15 of the final version.
45. European Commission, *Explanatory Memorandum to the 1992 Proposal*, Part One, ¶ 5.1.1.

develop to give a constant interpretation of the text of new legislation in such a complex technical field."[46] This comment turned out to be prescient.

The rationale for the refusal to create a prohibition against unfair competition was less than convincing. Given that an unfair competition law did not exist at the European level, drafters commented, "It serves little point to attempt to harmonize in respect of database protection by means of a regime which manifests itself in widely differing forms throughout the Community and which is largely based on case law. Nor would it be possible through a sectoral directive on a single product, a database, to regulate unfair competition law generally in the Member States."[47]

A second reason provided was that unfair competition law regulates competitors rather than suppliers and users, but that the drafters wished to create a right to regulate unauthorized use by everyone.[48] Given the innovativeness and creativity of the final database right, it is difficult to accept this reasoning. Unfair competition laws can be designed so that the actions of private individuals can be interpreted as competitive acts if the producer's market is threatened. For example, the European Parliament in the First Reading proposed a definition of commercial as "any use – whether domestic or collective – aiming at economic activity or a remunerated transaction."[49]

Instead of adopting either of these approaches, a *sui generis provision* was introduced under the rubric of copyright law. Although it functioned like an exclusive right, the accompanying commentary indicated that it was inspired by the principles of unfair competition. Questions in the final Directive regarding how to interpret the right and how to determine infringement reflect this initial confusion. For example, is the currently operating database right an economic right like that under unfair competition law or is it an exclusive right under copyright law?

The fact that the *sui generis* provision is not a pure unfair competition right means that maintaining an adequate balance between consumers, reusers and producers is critical. This is because an exclusive right grants ownership over certain uses for which users can be charged. Any attempts to

46. Ibid., Part One, ¶ 5.1.2.
47. Ibid., Part One, ¶ 5.3.9.
48. Ibid., Part One, ¶ 5.3.10.
49. European Parliament, *Decision of the European Parliament on the 1st Reading concerning the proposal for a Council Directive on the legal protection of databases*, OJ (C) 194/144, 19/07/1993, Amendment No 7, Article 2a (hereinafter *1993 Decision on the 1st Reading*).

create access must then be carved out of the right. This is not so in a narrowly designed unfair competition right where no right of ownership is granted.

Furthermore, because it was an exclusive rights provision, it became more easily manipulated into an even stronger one. As a result, there may have been a failure to adequately discuss the larger regulatory issues behind such an expansion. In reality, an investigation should have been conducted to examine the nature of database protection throughout the Community and to ascertain its impact on production. At the very least, there should have been a determination regarding how strong a right was needed.

The original drafters were concerned that the unfair extraction right "does not imply an over-protection of the rightholder at the expense of his competitors nor of consumers as a whole."[50] Neither should it "prevent the flow of information."[51] It was reasoned that the idea-expression dichotomy avoided this problem under copyright law. This is because "the protection of the database by copyright prevents no-one from acquiring the right to publish works or materials or from creating such works or materials himself."[52] For example, "a producer or broker of information, whether it be stock exchange figures, weather data, bibliographical information is free to create, collect and sell that information to others who may wish to distribute it against payment to end users. Equally a competing producer of information may perform the same collecting operation or generate his own information which can be sold to competing brokers."[53] However, "this does not apply where the works which form the contents of the database are themselves databases containing unprotected works or materials."[54]

To avoid this danger, there was a deliberate effort to ensure that the new *sui generis* provision "is not to be considered in any way as an extension of copyright protection to mere facts or data."[55] Furthermore, Recital 30 of the first draft states that the new right "should not give rise to the creation of any independent right in the works or materials themselves." The purpose of the compulsory licenses was to avoid this problem. But because these provisions were eliminated, concern over whether a right is provided in the content itself remains a problem in the final Directive.

50. European Commission, *Explanatory Memorandum to the 1992 Proposal*, Part One, ¶ 4.2.1.
51. Ibid., Part One, ¶ 3.2.8.
52. Ibid., Part One, ¶ 4.2.3.
53. Ibid., Part One, ¶ 4.2.2.
54. Ibid., Part Two, ¶ 2.5.
55. European Commission, *The 1992 Proposal*, Recital 29.

4.5 Subsequent Revisions Produce a Strong Right

Up through the Commission's Amended Proposal, the spirit of the first draft remained largely intact. For example, while the unfair extraction right had been slightly revised, it was still only valid against commercial use. Meanwhile access for re-users, such as the compulsory licenses and the insubstantial commercial use exception, remained, as did the private use exception for consumers.

It is possible to trace a slow evolution from a narrow to a broad right. It did not happen in one sitting. The most significant changes, however, were adopted in 1995 by the Council in its Common Position.[56] These revisions were added with little explanation. The subsequent European Parliament's Second Reading and the Opinion of the Commission generally followed the Council's lead.[57]

Before discussing the ultimate legislation, it is worth exploring what amendments were made in the critical areas of the legislation over time. The following will be discussed: (1) the qualification threshold, (2) the scope of the right, (3) access for re-users and (4) access for consumers. They will be detailed in broad strokes here because the most important changes are further explored in Chapter 5.

In the first draft, a database qualified for the *sui generis* provision if it satisfied the definition of an electronic database and if there was no other form of protection over the contents, such as through the Nordic Catalogue Rule. In the Council Position, coverage was expanded to non-electronic databases and the right harmonized to include all contents whether or not protected by another right.

In addition, a new qualification threshold was created. Now a database was eligible when it "shows that there has been qualitatively and/or quantitatively a substantial investment in either the obtaining, verification or presentation of the contents."[58] The Council's reasoning was to ensure that the qualification conformed to the purpose of the right, which was to safeguard

56. Council of Europe, *The 1995 Common Position*.
57. European Parliament, *Decision of the European Parliament on the 2nd reading concerning the proposal for a Council Directive on the legal protection of databases*, OJ (C) 17/164, 22/01/1996; European Commission, *Opinion of the Commission 10.1.1996 regarding the proposal for a European Parliament and Council Directive on the legal protection of databases*, Commission COM (96) 2 final-COD 393.
58. Council of Europe, *The 1995 Common Position*, Art. 7.1.

the position of database makers against misappropriation of their investment.[59]

The Council portrayed the new threshold as a restriction. Whether it was a restriction at the time it was proposed is difficult to judge. This is because all databases, rather than merely electronic ones, could qualify. But, as it turned out, the threshold became one of the most important levers to narrow the right.

The actual right also became stronger. In the First Reading of the European Parliament, it was proposed that the name be switched from unfair extraction to unauthorized extraction which is what the right is officially called today. This was not a dramatic change. Even though it was called the right to prevent unfair extraction in Article 1.1 of the first draft, the actual description in Article 2.5 mandated the prevention of "*unauthorized extraction* or re-utilization." In its Amended Proposal, the Commission accepted this revision and reorganized the legislation into two separate rights, that of the structure and arrangement under copyright and that of the contents under the now unauthorized extraction right.[60]

It was in the Amended Proposal that the right was first dubbed a *sui generis* right rather than a *sui generis* provision. Although the reason is not specifically addressed, one explanation may be that "it is acknowledged in the report of the Legal Affairs Committee to be a sui generis right, subject to its own specific provisions as set out in the proposed Directive and not linked to any existing legal regime or international Convention."[61] What this meant was that all the problems anticipated by the drafters in the commentary to the first draft would become a reality. The priority of certainty and security of the law had been scrapped.

With the declaration of a new *sui generis* right, protection became even stronger. The grant in the Commission's Amended Proposal read, "Member States shall provide for a right for the owner of the rights in a database to prevent the unauthorized extraction or re-utilization, from that database, of its contents, in whole or in substantial part, for commercial purposes."[62]

59. Ibid., Statement of Reasons, ¶ 14.
60. European Commission, *Amended proposal for a Council Directive on the legal protection of databases* OJ (C) 308/1, 15/11/93 (hereinafter *The 1993 Amended Proposal).*
61. *European Commission, Explanatory Memorandum of the Amended proposal for a Council Directive On The Legal Protection of Databases*, COM (93) 464 final – SYN 393, 4/10/1993, p. 3 (hereinafter *Explanatory Memorandum to the 1993 Amended Proposal*).
62. European Commission, *The 1993 Amended Proposal*, Art. 10.2.

Once again, dramatic changes in the Council's Common Position transpired. The new right was as follows: "Member States shall provide for a right for the maker of a database . . . to prevent acts of extraction and/or re-utilization of the whole or of a substantial part, evaluated qualitatively and/or quantitatively, of the contents of that database."[63] An additional right was also granted against "the repeated and systematic extraction and/or re-utilization of insubstantial parts of the contents of the database."[64] The wording of both prohibitions was altered somewhat in the ultimate version, but the scope remained the same.

In the interest of clarity, the Council added the definitions of extraction and re-utilization. Moreover, protection was no longer extended for commercial purposes only. Now it applied across the board to both commercial and noncommercial uses. However, this latter change was not mentioned in the Statement of Reasons provided by the Council.

Another revision was that a substantial taking could be infringing either qualitatively or quantitatively. Under the first draft, the database right was meant "to prevent the unauthorized extraction or re-utilization, from the database, of its contents, in whole or in substantial part, for commercial purposes."[65] No definition of a "substantial part" was provided. Instead, an insubstantial part was defined as "parts of a database whose reproduction, evaluated quantitatively and qualitatively in relation to the database from which they are copied, can be considered not to prejudice the exclusive rights of the maker of that database to exploit that database."[66]

What the Council did was eliminate the definition of insubstantial uses and then take the notion of qualitative and quantitative and add it to the concept of a "substantial part." The resulting right then prevented "acts of extraction and re-utilization of the whole or of a substantial part, *evaluated qualitatively and/or quantitatively*, of the contents of that database."[67] A "substantial part" was not defined.

Once again, the Council portrayed its changes as restrictions.[68] It stated that under the original version, the taking of an insubstantial part could be infringing. This construction is difficult to accept for several reasons. First, the original draft did not protect against an insubstantial taking. In fact, it

63. Council of Europe, *The 1995 Common Position*, Art. 7.1.
64. Ibid., Art. 7.5.
65. European Commission, *The 1992 Proposal*, Art. 2.5.
66. Ibid., Art. 1.3.
67. Council of Europe, *The 1995 Common Position*, Art. 7.1.
68. Ibid., Statement of Reasons, ¶ 14.

stated directly that the right prevented a taking of the contents "in whole or substantial part."[69] Thus, it is hard to imagine how an insubstantial part could have been construed as an infringement. In addition, many of the changes not mentioned in the Council's Statement of Reasons served to broaden the right. The expansion from commercial to all uses is one example.

Yet it was these so-called restrictions that caused the Council to reduce access. The result was that while the right got stronger, access got weaker. One big change that nearly escaped notice was the fact that the database right came to include noncommercial acts. This meant that noncommercial re-users who make valuable contributions to society could risk legal action by conducting their normal activities if they required substantial use. Consumers were also deprived of making substantial use of such databases.

Two complementary exceptions had been provided for the re-user and consumer in the first draft. The re-user was granted a right to use insubstantial portions for commercial purposes with attribution under Article 8.4. The private use exception under Article 8.5 allowed a consumer to employ insubstantial parts of a commercial database without attribution.

The Council deleted both. Instead, it added a right to the lawful user which allowed insubstantial use for any purpose whatsoever. No attribution was required. This new user right was redundant, however, because it was implied in the right to prevent unfair extraction. Under new Article 15, the right to use insubstantial parts could not be overridden by contract. This was a major concession. Lastly, three narrow exceptions were added under new Article 9.

The Council also deleted the compulsory license provisions. It claimed that the restriction of the right plus the addition of the Article 9 exceptions meant that compulsory licenses were no longer necessary. Instead it included Recital 47, which stated that the right should not result in abuses of a dominant position. In addition, it required regular evaluations of the issue in Article 16.

Even if the revisions narrowed the right, the fact is that it did not resolve the problem of sole-source databases. The compulsory license provision was originally implemented because the idea-expression dichotomy does not apply when unoriginal contents are protected. No matter how broad or narrow the right, or whether or not a few exceptions are incorporated, the problem of sole-source databases remains. In this context, then, it could be argued that data can be protected.

69. European Commission, *The 1992 Proposal*, Art. 2.5.

The term of protection also was revised during the course of the preparatory phrase of the legislation. It started out as a 10 year period. More importantly, it was arguably finite. The European Parliament proposed an extension of the period to 15 years and provided a definition of insubstantial as well as substantial changes for renewal.[70] These revisions were accepted by the Commission, which stated that that the longer period corresponds better to the need of the industry to recover investments and is more proportionate to the copyright term of 70 years.[71]

The Council explained that it, too, accepted the proposal to extend the term. Moreover, in order to establish a link between the *sui generis* right and the term extension, changes amounting to a substantial new investment were required.[72] The result is that perpetual protection is allowed, in stark contrast to the idea of a limited term of protection.

4.6 The 1996 Database Directive is a Strong Property Right

For the final Database Directive, a strong property rights model was selected. The first draft was narrowly tailored to protect databases in electronic format against commercial competitors. In the final Directive, however, all databases are protected regardless of format and all users can potentially infringe.

According to Article 1.2, a database is "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 includes: "collections, sometimes called 'compilations' ... which are arranged, stored and accessed by means which include electronic ... processes" and extends to nonelectronic databases.[73] Compilations and collections of literary, artistic or musical works are examples of databases, as are collections of materials with texts, sound, images, numbers, facts and/or data.[74]

The second component of the definition emphasizes accessibility. A database must include a method of retrieving its contents. It may comprise the materials necessary for operation or consultation, such as a thesaurus or in-

70. European Parliament, *1993 Decision on the 1st Reading*, Amendment 24, Art. 9(3).
71. European Commission, *Explanatory Memorandum to the 1993 Amended Proposal*, Art. 12.
72. The Council of Europe, *The 1995 Common Position*, Statement of Reasons, ¶ 18.
73. *The 1996 Database Directive*, Recitals 13, 14.
74. Ibid., Recital 17.

dexation system.[75] It also embraces electronic databases which are not physically stored in an organized manner.[76] Presumably a search engine could provide the access function. However, computer programs are not protected.[77]

The most stunning contribution of the Database Directive is the creation of the new *sui generis* right. The database maker is granted rights to prevent: (1) the "extraction and/or re-utilization of the whole or of a substantial part, evaluated qualitatively and/or quantitatively, of the contents of that database" and (2) "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."[78]

Two definitions are provided. Extraction is "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."[79] Re-utilization means "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."[80]

Infringement can attach "not only to the manufacture of a parasitical competing product but also to any user who, through his acts, causes significant detriment, evaluated qualitatively or quantitatively, to the investment."[81] Permission is also required when an online display of a database necessitates extraction which is the permanent or temporary transfer of all or a substantial part of the contents to another medium.[82] However, the database right "does not in any way constitute an extension of copyright protection to mere facts or data."[83] Nor does it "give rise to the creation of a new right in the works, data, or materials themselves."[84]

Only certain databases qualify for the *sui generis* right. To be eligible, the database maker must show "that there has been qualitatively and/or quantitatively a substantial investment in either the obtaining, verification or presen-

75. Ibid., Recital 20.
76. Ibid., Recital 21.
77. Ibid., Recital 23 and Art. 1.3.
78. Ibid., Articles 7.1 and 7.5.
79. Ibid., Art. 7.2.
80. Id.
81. Ibid., Recital 42.
82. Ibid., Recital 44.
83. Ibid., Recital 45.
84. Ibid., Recital 46.

tation of the contents."[85] Investment can be both financial and professional and can include "the deployment of financial resources and/or the expending of time, effort and energy."[86] According to Recital 19, the compilation of musical recordings on a CD does not meet the substantial investment criterion.

If protection is granted, the term lasts for 15 years.[87] It is renewable under the following conditions: "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."[88] A substantial verification can trigger an additional term.[89] The database maker has the burden of proving when a database is completed and when a substantial modification should be considered a substantial new investment.[90]

A small amount of information access is granted. The only mandatory right allows the lawful user to freely take insubstantial parts of database contents "for any purposes whatsoever" as long as it does not "conflict with normal exploitation of the database or unreasonably prejudice the legitimate interests of the maker of the database."[91] Any contractual provisions contrary to this limitation are void.[92]

Under Recital 52, Member States that protected their database contents under previous regimes such as the Nordic Catalogue Rule, can choose to retain their traditional exceptions. In addition, the three optional exceptions of Article 9 allow the lawful user to employ substantial parts: "(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" of a noncommercial nature and (c) "in the case of extraction and/or re-utilization for the purposes of public security or an administrative or judicial procedure."[93] According to Recital 36, scientific research comprises both the natural and human sciences. However, Member States

85. Ibid., Art. 7.1.
86. Ibid., Recitals 39 and 40
87. Ibid., Articles 10(1) and 10(2).
88. Ibid., Art. 10(3).
89. Ibid., Recital 55.
90. Ibid., Recitals 53 and 55.
91. Ibid., Art. 8.
92. Ibid., Art. 15.
93. Ibid., Art. 9.

may further limit the teaching and research exception to specific categories. Furthermore, there are no provisions against using contractual provisions to override the Article 9 exceptions.

4.7 Testing the Database Right at the ECJ

The new Directive did not define key concepts necessary for the implementation of the *sui generis* right. Questions included: (1) what is the definition of a database?, (2) what types of investment count towards obtaining, verification and presentation of the contents?, (3) what is a substantial investment qualitatively and/or quantitatively?, (4) what is the scope of infringement of both a substantial and an insubstantial part of a database? and (5) can extraction and re-utilization be both direct and indirect? These and other definitional gaps led to litigation in England, Finland, Greece and Sweden.[94]

The lawsuits also reflected ongoing debate in Europe about the balance between production incentives and information access within the Directive. Advocates of the spin-off theory contended that databases generated as mere by-products of the primary activity of a business, for example, a database of TV listings produced by a broadcaster, should not qualify for protection and thus remain in the public domain.[95] Others supported a lower criterion more akin to that required in the United Kingdom for sweat-of-the-brow copyright so that most database contents would receive protection.[96]

94. See *British Horseracing Board v. William Hill Organization* ECJ, C-203/02, 9 Nov. 2004, *Fixtures Marketing LTD v. Oy Veikkaus Ab* ECJ, C-45/02, 9 Nov. 2004, *Fixtures Marketing Limited v Organismos Prognostikon Agonon Podosphairou AE*, ECJ, C-444/02, 9 Nov. 2004, and Fixtures Marketing Ltd. V. AB Svenska Spel, ECJ, C-338/02, 9 Nov. 2004.
95. See P. Bernt Hugenholtz, "Program Schedules, Event Data and Telephone Subscriber Listings under the Database Directive – The 'Spin-Off' Doctrine in the Netherlands and elsewhere in Europe," paper presented at Eleventh Annual Conference on International IP Law & Policy, Fordham University School of Law, New York, April 2003, 14-25.
96. See Jens Gaster, "The Legal Protection of Chronological Lists of Football Matches and Compilations of Data Related to Horseracing under the Database Right – Or How Your Judge Might Get it Right or Wrong," *Computer und Recht International* 2 (2001-3), pp. 74-78. For a contrary opinion, see Gunnar W.G. Karnell, "The European Sui Generis Protection of Databases: Nordic and U.K. Law Approaching The Court of the European Communities – Some Comparative Reflections," 49 *Journal of the Copyright Society of the U.S.A.* 983, Summer 2002.

In retrospect, this debate was critical because it helped to determine what was protected by the *sui generis* right and what remained free in the public domain. In lieu of compulsory licenses and other mechanisms granting access, the ECJ's ultimate resolution has been referred to as the idea-expression dichotomy of the database right.[97]

The spin-off doctrine probably emerged during debates within the Dutch parliament prior to the implementation of the Directive.[98] Parliamentary Members and the Minister of Justice agreed that databases such as a list of 10 Michelin-star restaurants, a radio or TV listing, or a compilation of stars in a newly discovered galaxy would not meet the substantial investment criteria.

The logic behind the spin-off theory is that since the purpose of the *sui generis* right is to promote investment in databases, only those in which a direct link can be established between the investment and the making of the database should be protected. Otherwise consumers would end up paying twice: once for the primary activity of the business and a second time for the spin-off activity of generating a database. Other examples of databases that should not qualify include sport fixtures, rail and airline schedules, telephone directory listings, events schedules, examination scores, stock exchange data and scientific research data.

While Dutch national courts were divided on the issue,[99] defendants in the Finnish and Swedish cases that were heard by the ECJ adhered to the spin-off theory. While the plaintiffs argued that their football fixture lists were protected as databases, the defendants asserted that the investment made was to organize football matches and not to make databases. Because the databases were a mere by-product of the principal activity of organizing games, they did not fulfill the substantial investment requirement.

A preliminary question on the validity of the spin-off argument was present in all four cases which went up to the European Court of Justice. In Sweden, the lower court ruled that the fixture list was a protected database but that there was no infringement. The Swedish appeals court did not rule on the issue of qualification but stated there was no infringement. A similar

97. Estelle Derclaye, "Database Sui Generis Right: What is Substantial Investment? A Tentative Definition," *International Review of Intellectual Property and Competition Law* 36, no. 1 (2005), p. 24.

98 *See* Hugenholtz, "Program Schedules, Event Data and Telephone Subscriber Listings under the Database Directive – The 'Spin-Off' Doctrine in the Netherlands and elsewhere in Europe."

99. Estelle Derclaye, "Databases Sui Generis Right: Should We Adopt The Spin Off Theory," *European Intellectual Property Review* 26, no. 9 (2004), p. 403.

result was found by the courts in Finland. In contrast, the parties in *British Horseracing Board* agreed that the database qualified for protection. Still, the lower British court provided its opinion on the issue.

Because the bulk of the ECJ's ruling is contained in the British case, discussion is focused on its details and consequences. All three opinions will be discussed beginning with the lower British court to the Advocate General to the final determination of the ECJ. The reason for detailing these decisions is to understand the trend in some courts to lower the threshold and strengthen the right. Because such a strengthening could jeopardize re-use and decrease database production, suggestions are made in Chapter 5 on how to suppress this tendency in judicial efforts to determine both the qualification threshold and infringing activities.

4.8 The Facts of *British Horseracing Board*

The case of *British Horseracing Board v. William Hill* challenged the balance between information access and production incentives. British Horseracing Board (BHB) is the governing authority of the British horseracing industry. It creates the yearly fixture list that determines horse races. The list normally takes five months to compile and costs over 5.89 million euros per year to produce. It contains the venues, dates, times, race conditions, entries and competing horses for each race. The fixture list forms a part of a larger BHB database which holds 214 tables with more than 20 million records.

William Hill is a leading off-track bookmaking service in the United Kingdom which earned over 116 million euros in 1999. It provides betting services through a national network of 1,526 trading locations and through the telephone. The company pays a monthly license fee for racing information used for its telephone betting service and a substantial fee for permission to display it at each trading unit. In 2000, William Hill started both domestic and international Internet betting sites. By the time racing data is displayed on the Internet sites, it has already been made public through newspapers and teletexts since the day before the actual race.

In the first case involving the interpretation of the Database Directive in England, the BHB alleged that its database qualified for protection under the *sui generis* right and that William Hill's activities violated both Article 7(1) on extraction and re-utilization of a substantial part of a database and Article 7(5) on repeated and systematic extraction and re-utilization of an insubstantial part.

William Hill put forth various arguments including that the data is already in the public domain by the time it is published on its website and is therefore free to all. It also claimed that the company does not take a substantial part or even a repeated and systematic insubstantial part of the contents of the database but only a small part that is non-infringing.

4.9 Thresholds are Lowered in the First Instance

In February 2001, the High Court of Justice Chancery Division of London considered the case.[100] Neither party disputed that the Board's database qualified for the *sui generis* right. Nevertheless, the court attempted to flesh out the prerequisites. After analyzing the objectives of the Directive, the court set the following threshold: (1) investment must be substantial enough to justify protection but (2) the qualifying level of investment is fairly low.

The court's definition of "obtaining" qualified the BHB database for protection. "Obtaining," it said, referred to the gathering of existing data into a database but did not include the actual creation of that data. The court noted, however, that it may be difficult to distinguish between these two activities. If a company creates information that is directly entered into its database, then both obtaining and creating occur simultaneously and can be counted. In opining on the criteria for qualification under the *sui generis* right, it concluded that "whatever the level, it is not suggested that the investment in the BHB Database falls below it."[101]

The heart of the case was whether or not William Hill had breached the database right. Under Article 7.1, infringement consists of "extraction and/or re-utilization of the whole or of a substantial part, evaluated qualitatively and/or quantitatively, of the contents of the database." The court pointed out that the significance of the data to the alleged infringer may shed light on whether it is an important part. Since the ultimate purpose of the database is to facilitate racing, the crucial part is the data relating to races. The court concluded, "William Hill is relying on and taking advantage of the completeness and accuracy of the information taken . . . in other words the product of BHB's investment in obtaining and verifying that data. This is a substantial part of the contents."[102]

100. *British Horseracing Board v. William Hill Organization*, High Court of Justice Chancery Division, Case No. HC-2000 1335, London, 9 February 2001.
101. Ibid., ¶ 32.
102. Ibid., ¶ 53.

A successful lawsuit requires proof of extraction and re-utilization. The claimant defined extraction as copying and re-utilization as making the material available in any form to the public. But William Hill argued that extraction and re-utilization are limited to the first removal of data. Once material is available to the public, through a newspaper for example, no one can infringe. The court disagreed. It held that extraction and utilization can be direct or indirect and that William Hill had engaged in both.

The court also considered whether or not Article 7(5) had been violated. This article prohibits "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."

The British Horseracing Board argued that even if what William Hill took during a given day was not substantial, its repeated and systematic taking was infringing. Such extraction prejudiced the Board's legitimate interests because a significant part of its income is derived from selling racecard information to bookmakers and to newspapers in order to facilitate betting. The court agreed, stating that all bookmakers in the country pay for the information. Therefore, to allow the defendant to maintain an Internet betting site without paying undermined the value of the licenses.

4.10 The Advocate General Generally Confirms

The British Court of Appeal stated that it would likely agree with the lower court's ruling, but referred the case to the ECJ.[103] The Advocate General submitted an opinion in June 2004 which provided guidelines for evaluation.[104] The opinion generally supported the British decision.

The Advocate General began by specifying how a database qualifies for protection. She emphasized a clear distinction between resources used to create data, which do not count towards qualification, and resources used to obtain, verify and present existing materials, which do. Similar to the British decision, however, the Advocate General mentioned that obtaining could include the creation of data if it took place at the same time as its processing and was inseparable from it.

103. *British Horseracing Board v. William Hill Organization*, Court of Appeal, London, 31 July 2001.
104. *British Horseracing Board v. William Hill Organization*, Opinion of Advocate General Stix-Hackl, 8 June 2004.

In defining substantial and insubstantial, the Advocate General set low thresholds. She explained that the purpose of *sui generis* protection was not to harmonize the law but to create a new right. Previous drafts of the Directive contained definitions for substantial and insubstantial but they had been removed. According to the Advocate General, this signified that the legislature wanted courts to develop their own interpretations.

In evaluating whether a substantial part of a database has been taken, she stated that there is no minimum level in terms of quantity. It could be measured as an absolute comparison against the whole of the database or as a portion of the relative part taken. Quantitative and qualitative valuations also could be combined. Relevant economic factors in the evaluation of a qualitative part of a database could include the importance of the data to the infringer and the investment made by the maker, particularly the cost of obtaining the data.

The Advocate General stated that the prohibition against use of insubstantial parts of a database functions as a protection clause to avoid circumvention of the right to prevent substantial uses. Thus, what is considered a substantial part of a database forms the upper limit of what can be regarded as insubstantial. The lower limit is defined by the general principle that the Directive does not cover individual data.

In interpreting infringement of an insubstantial part, the Advocate General said the objective of this particular right is to protect the return on investment. Repeated and systematic is a cumulative concept so that there is a kind of sliding scale of infringement, "If the interval is less and the affected part small, the act will have to be carried out more frequently for the part affected overall to fulfill one of the two requirements."[105]

The requirement of normal exploitation was given a broad definition and low threshold. The prohibition kicks in even in the case of negative effects on a limited scale. It covers all acts which conflict with the exploitation of the database by the maker and can include, but is not limited to, potential markets. The Advocate General attempted to distinguish unreasonable prejudice by stating that it extends beyond legal interests. One starting point for assessment is the actual or anticipated income of the maker.

105. Ibid., ¶ 124.

4.11 The ECJ Raises the Qualification Threshold

In November 2004, the ECJ issued a judgment that shocked supporters of strong database rights. The key to its decision was in raising the threshold to qualify for protection. The ECJ agreed with William Hill's interpretation that the purpose of the Directive was "to promote and protect investment in data "'storage' and 'processing' systems." Similar to the Advocate General's analysis the Court stated that, "the expression 'investment in ... the obtaining, verification or presentation of the contents' of a database must be understood, generally, to refer to investment in the creation of that database as such."[106]

Just as the lower British court and the Advocate General urged, the ECJ determined that investment in obtaining the contents of a database refers to investment in finding and collecting existing data to put into a database. It does not refer to the creation of the actual data. Instead of pointing to Recital 19 to advocate for a low qualification threshold, however, the ECJ explained that a music CD does not qualify because there is not sufficient investment in collecting the music.

The ECJ held that the BHB database similarly lacked sufficient investment to qualify. The part taken consisted primarily of a list of horses scheduled to race. The Board's investment in that part included: "selection, for the purpose of organising horse racing, of the horses admitted to run in the race" and "prior checks as to the identity of the person making the entry, the characteristics of the horse and the classification of the horse, its owner and the jockey."[107] This investment comprised resources used to create the list of horses and not resources used to collect the data. The Court concluded, "It follows that the resources used to draw up a list of horses in a race and to carry out checks in that connection do not represent investment in the obtaining and verification of the contents of the database in which that list appears."[108]

Similar to the two other opinions, the Court declared that creators of data can receive protection for their databases. However, in stark contrast to the previous opinions, the ECJ stated that producers must show that there has been substantial investment independent of any resources used to create the data itself. This could consist of "the collection of those data, their systematic or methodical arrangement in the database, the organization of their individ-

106. *British Horseracing Board Ltd and Others v. William Hill Organization Ltd*, European Court of Justice, C-203/02, 9 Nov. 2004, ¶ 30.
107. Ibid., ¶¶ 38-39.
108. Ibid., ¶ 41.

ual accessibility and the verification of their accuracy throughout the operation of the database."[109]

The Court then turned to the definitions of substantial and insubstantial parts of a database which are needed to prove infringement. First, it examined the objectives of the *sui generis* right. According to Recital 42, the right is intended to prevent a situation in which a user "through his acts, causes significant detriment, evaluated qualitatively or quantitatively, to the investment." The implication, stated the ECJ, is that the assessment of both substantial and insubstantial parts refers to "the investment in the creation of the database and the prejudice caused to that investment by the act of extracting or re-utilizing."[110] In a complete departure from previous opinions, it stated that the intrinsic value of the materials affected does not constitute a relevant criterion. Its conclusion was based on the principle that individual data is never protected.

The definition of a substantial part evaluated quantitatively concerns the volume of data extracted, stated the Court. It must be accessed in relation to the whole contents and not just a part. A quantitatively significant part has been taken if that part required the deployment of substantial resources. The definition of "substantial part, evaluated qualitatively," on the other hand, concerns the scale of the investment, regardless of quantity. Under this criterion, a small part of the contents could comprise substantial human, technical or financial investment. Any part which does not fulfill the definition of substantial falls within the definition of an insubstantial part.

The Court then evaluated whether William Hill took a substantial part of the contents. The company used "the names of all the horses running in the race concerned, the date, the time and/or the name of the race and the name of the racecourse."[111] The issue was whether the human, technical and financial efforts in obtaining, verifying and presenting that data constituted a substantial investment. The British Horseracing Board argued that the data was of crucial importance because, without the lists of runners, the races would not take place. But the ECJ noted that the fact that the data is vital to the organization of horse races is irrelevant. It concluded that the Board did not put in a substantial investment independent of the resources required for the creation of the data. Thus, William Hill did not take a substantial part of the BHB database.

109. Ibid., ¶ 36.
110. Ibid., ¶ 69.
111. Ibid., ¶ 19.

The Court next analyzed whether or not the *sui generis* right protects against direct and indirect extraction and/or re-utilization. To answer this question, it returned to the objectives of the right. Examining Recitals 42 and 48, it determined that protection is aimed to prevent "acts by the user which go beyond [the] legitimate rights and thereby harm the investment of the maker" and that its economic justification was to guarantee a return on the database maker's investment.[112] An important implication, stated the Court, is that the act protects against direct as well as indirect use. Otherwise the maker would not be protected from unauthorized use of a copy of a database.

Extraction was defined as the transfer of the contents of the database to another medium and re-utilization as the making available to the public of the contents of a database. In analyzing the case at bar, the Court held that the defendant carried out both acts.

In the process of formulating the definitions of extraction and re-utilization, the Court created a new right of consultation by the lawful user. A database maker can control who has access to his database. But once a database is made available to the public, either by the database maker himself or by an authorized third party, the right of consultation is triggered and a lawful user cannot be prevented from consulting a database. A lawful user was defined as "a user whose access to the contents of a database for the purpose of consultation results from the direct or indirect consent of the maker of the database."[113] The Court said that the cost of re-utilization can reflect any anticipated consultation by lawful users.

Finally, the Court turned to infringement by repeated and systematic takings of insubstantial parts of a database. Agreeing with the Advocate General, the ECJ stated that this protection was designed to prevent circumvention of the right against use of a substantial part. Thus, it "prohibits acts of extraction made by users which, because of their repeated and systematic character, would lead to the reconstitution of the database as a whole or, at the very least, of a substantial part of it, without the authorization of the maker," regardless of what kind of activity the contents will be used.[114] It also prohibits acts of re-utilization by making insubstantial parts of the contents of the database available to the public in a systematic and repeated manner.

The Court stated that the acts of extraction and re-utilization carried out by William Hill concerned insubstantial parts of the database. But because such acts were not intended to circumvent the prohibition against use of a substan-

112. Ibid., ¶ 45-46.
113. Ibid., ¶ 58.
114. Ibid., ¶ 87.

tial part of the database, "there is no possibility that, through the cumulative effect of its acts, William Hill might reconstitute and make available to the public the whole or a substantial part of the contents of the BHB database and thereby seriously prejudice the investment made by BHB in the creation of that database."[115]

In sum, although William Hill had engaged in extraction and re-utilization, the fact was that the part it took did not represent a substantial or insubstantial part of the BHB database. More critical to the outcome of the case, the claimant's database did not qualify for *sui generis* protection. Therefore, William Hill could continue its use without authorization.

4.12 Conclusion

The legislative history of the Database Directive followed a hazardous course in which the balance between production incentives and information access swung from side to side throughout the process. It began as an attempt to seize the opportunity presented by the information revolution and ended as an attempt to guard against its dangers. Although the stated objectives changed little during the eight years of its formulation, the final version clearly shifted focus from a narrowly tailored right against unfair extraction to a strong property right in database contents.

The first draft was designed to fill in the existing legal gaps in electronic database protection. The right to prevent unfair extraction was aimed toward commercial competitors. It applied to databases whose contents were not already protected through existing national law. By providing such narrowly tailored rights, the drafters intended to stimulate continued investment. Since only direct misappropriation by competing businesses was prohibited, reusers could be encouraged to enter the industry and be guaranteed access to database contents. Other noncommercial database sectors, such as the research and educational communities and public entities, would remain largely unaffected. Moreover, the traditional privileges granted to private users, such as copying for personal use, also remained.

In contrast, the final Directive provides broad rights in database content combined with a few narrow exceptions. For example, the right extends beyond the manufacture of a parasitical competing product to "any user who, through his acts, causes significant detriment, evaluated qualitatively or quan-

115. Ibid., ¶ 94.

titatively, to the investment."[116] Whereas the first draft aimed only at safeguarding electronic databases, the final Directive covers all types of databases in which there has been a substantial investment. Furthermore, since databases require constant updating and checking, it is conceivable that the term of protection could last forever.

Like the first draft, the overarching goal of the Database Directive is to stimulate the growth of a strong database industry. By creating the *sui generis* right, lawmakers may have achieved greater harmonization. But the very strength and predictability of the new right reveals a weakness. It may be so broad that the balance between production incentives and information access is threatened.

Under the Directive, information access is limited. Substantial uses without authorization are only allowed in three very specific circumstances involving teaching or scientific research, public security or administrative/judicial procedures. Meanwhile, the rights and obligations of lawful users are redundant and are authorized only if the use does not hurt the database maker's interests.

This imbalance between overbroad production incentives and a lack of information access could be counterproductive. Granting exclusive rights without creating avenues of information access may discourage re-users who wish to add value to a database or to create a new resource for an entirely different market. Overprotection could cause original database makers to charge a high license price that only the well-funded can afford. Fewer producers would mean less competition and innovation. This could lead to even fewer databases at still higher prices. Competition and innovation would be further stymied by the tendency over time to expand exclusive rights as illustrated by the opinions of the Lower British court and the Advocate General and by the general trend toward the expansion of copyright.

In recognition of these dangers, the ECJ judgment significantly narrowed the type of database that qualifies for protection by completely separating the calculation of investment in the creation of data from that of the obtaining, verifying and presenting of data. This narrowed interpretation contributes to a significant amount of information access that could allow re-users to develop other database products that do not mimic the original database, but merely make use of some of the information in it. The result could allow for the development of a strong database industry.

116. *The 1996 Database Directive*, Recital 42.

One problem posed by raising the qualification threshold is what would happen to those who do not qualify. Some may cease to rely on the Database Directive as the primary method of protection. Instead, they may turn to contract law and technical measures. Special consideration should be given to protect information access in the wake of such efforts. On the other hand, some database makers may switch to a model, such as advertising with free content, in which content protection is not needed. If this becomes the case, then the regime of no protection can be beneficial. Further explanation is provided in Chapter 6. Here, it is only important to mention that careful monitoring is needed to ensure a positive future.

A balance between production incentives and information access can be maintained by narrowing the right of protection and its interpretation, introducing further user rights and limiting the term of protection. The goal of the next chapter, then, is to explore what can be done in order to readjust the balance.

CHAPTER 5

Revising the Database Right

5.1 Introduction: The Commission's Evaluation

Article 16.3 of the Database Directive mandates the Commission, "on the basis of specific information supplied by the Member States," to submit a report in which "it shall examine in particular the application of the sui generis right, including Articles 8 [on rights and obligations of lawful users] and 9 [on exceptions to the *sui generis* right], and shall verify especially whether the application of this right has led to abuse of a dominant position or other interference with free competition which would justify appropriate measures being taken."

In its first report submitted on 12 December 2005, the Commission concludes: (1) "The economic impact of the 'sui generis' right is unproven," (2) "'Sui generis' protection comes close to protecting data as property" and (3) "The 'sui generis' right is difficult to understand."[1]

According to a 2005 Commission survey of 101 stakeholders, the *sui generis* right helped Europe catch up in terms of investment but it did not result in greater production. Increased investment occurred primarily in the areas of additional information technology and staff. Since 1996, the annual increase of 49% of respondents was more than 20%. The increase in investment was 0-20% for 37% of the respondents and 15% reported that it stayed the same or decreased.[2]

However, the Commission states that "there is thus no conclusive data available as to whether European database production has been significantly influenced by the Directive."[3] Citing statistics compiled by the Gale Directory of Databases, it notes that the European Union's share in global database

1. European Commission, "First Evaluation of Directive 96/9/EC on the legal protection of databases," (Brussels, 12 December 2005), §§ 5.1-5.3, (hereinafter *The 2005 Evaluation*).
2. Ibid., § 4.2.2.
3. Ibid., § 4.2.3.

production increased from 22% in 1996 to 24% in 2004. Meanwhile, the US share rose from 62% to 72%. The Commission cautions that the figures compiled in the Gale Directory may be inaccurate and suggests that further empirical research is necessary to definitively conclude whether or not the right has had any effect.

Still, the Commission relays that producers wish to retain the right. Of the 75% of respondents of the 2005 survey who are aware of the *sui generis* right, 80% feel protected or well-protected, 90% feel that EU-level protection is important and 65% believe legal protection is higher now than before the Directive.[4] The Commission asserts that, "while this endorsement of the 'sui generis' right is somewhat at odds with the continued success of US publishing and database production that thrives without 'sui generis' type protection, the attachment to the new right is a political reality that seems very true for Europe."[5]

While the Commission states several times that the empirical analysis from the Gale Directory is subject to uncertainty, it fails to acknowledge that its 2005 survey involving 101 respondents may not be conclusive.[6] Thus, any efforts to use the survey results in order to forward a particular policy solution must be viewed critically. Furthermore, it is entirely obvious that some producers would prefer to keep the right because it is they who profit from it. Clearly, an independent evaluation which thoroughly analyzes the economic impact on all stakeholders, including re-users, is needed.

In its analysis of access, the Commission mentions fears that information may be locked up to the detriment of users. It also pledges to analyze "whether the objectives of the Directive have been achieved effectively and

4. Ibid., § 4.1.3.
5. Ibid., § 5.3.
6. At times, the Commission provides arguably misleading interpretations of the information from the survey. Its comments on the creation of business opportunities is a case in point. In the introductory summary, the Commission states that "most respondents to the on-line survey believe that the 'sui generis' right …created more business opportunities." § 1.4. In the fourth section on the impact of the Directive, the Commission reiterates that stakeholders believe more business opportunities have been created. Two sentences later, the Commission states that some believe that the negative consequences of the right include "fewer business opportunities." § 4.1.3. In the section which evaluates investment in production, the Commission reveals "30% of the respondents think that the 'sui generis' right created more business opportunities." § 4.2.2. In assessing whether database production has increased as compared to the US, the Commission further affirms, "very few respondents believe that the 'sui generis' right has created more business opportunities." § 4.4. The Commission then concludes in its analysis section that the right has created more business opportunities. § 5.3.

efficiently, that is without triggering unnecessary costs for the academic community or industries that depend on the availability of data and information."[7] But although concluding that "*sui generis* protection comes close to protecting data as property," the Commission fails to evaluate the unnecessary costs that may have been imposed. Instead, it tackles user interests by citing the results of an independent study from 2002.[8]

According to the study, libraries, academic organizations, re-users and consumers were concerned that the scope of the right may be too broad. Members of the academic and scientific community argued that the exceptions were too restrictive and that this can reduce public benefit from research and innovation. Re-users sought for the application of traditional copyright exceptions, such as for commentary or quotation. Consumers wished to engage in private use. Yet, rather than separately addressing these access issues, the Commission refers to the ECJ judgments as allaying "the fear of those who believed that the Directive would lock up information otherwise publicly available, at least with respect to those databases which contain data 'created' by the database maker himself."[9]

Such a conclusion does not allay all fears. Even though the ECJ decisions may prevent abuse by some sole-source databases makers, they do not address other possible restrictions to information access. These include the broad scope of the right, the fuzzy definition of a lawful user, the lack of traditional copyright exceptions and the possibility of unlimited term renewals.

The Commission asserts that, "the ECJ in November 2004 significantly curtailed the scope of 'sui generis' protection, thereby pre-empting concerns that the right negatively affects competition."[10] But this is not necessarily the case, either. As mentioned by the Commission, producers will try to bypass the qualification threshold.[11] For those whose databases qualify, overprotection can result in a restriction of competition through mechanisms such as higher prices that are not generally resolved by competition law.

In its discussion of the difficulty of understanding the database right, the Commission summarizes developments in national case law. For example,

7. Ibid., § 1.2.
8. See "The implementation and application of Directive 96/9/EC on the legal protection of databases" at http://europa.eu.int/comm/internal_market/copyright/docs/studies/etd2001b53001e72_en.pdf (last visited 9 August 2007).
9. European Commission, *The 2005 Evaluation*, § 4.3.
10. Ibid., § 1.5.
11. Ibid., § 5.1.

differences exist on what is a substantial investment and on the extent to which re-use is infringing. Concludes the Commission, "Divergences of interpretations seem to arise especially in jurisdictions that did not have any right comparable to 'sweat of the brow' copyright. On the other hand, the English courts appear to have interpreted the Directive in a manner consistent with its intention."[12]

The Commission also explores whether the "ECJ's interpretation of the scope of the 'sui generis' right devalued the uniform levels of protection achieved for 'non-original' databases."[13] Although noting that producers such as British Horseracing Board will lose 142 million euros a year as a result of the decisions, the Commission states that 43% of the stakeholders in the 2005 survey believe that their legal protection will be the same or even reinforced after the rulings.[14] The Commission observes, "while going against the Commission's original intention of protecting 'non-original' databases in a wide sense, the judgements have the merit of pointing to the serious difficulties raised by attempting to harmonise national laws by recourse to untested and ambiguous legal concepts."[15]

Though the Commission should be commended for its candor,[16] it fails to provide an explanation of why the database right may not be fulfilling its objectives. One reason may be that the productive potential of re-users is being undervalued. This is contrary to the nature of the subject matter, which, as shown in Chapter 2, requires access. It is also against the economic theory discussed in Chapter 3, which further substantiates that the priority should be placed on access.

The unexpected conclusions of this legislative initiative have spawned efforts to revise the database right. The Commission has forwarded the following policy options: (1) repeal the entire Directive, (2) withdraw the *sui generis* right, (3) amend the *sui generis* right or (4) maintain the status quo.

12. Ibid., § 4.1.2.
13. Ibid., § 4.1.4.
14. Id.
15. Ibid., § 4.1.4.
16. Some academics have praised the Commission's honesty but gently chastised policy-makers for not thoroughly doing their homework before passing the Directive. See Annette Kur, Reto M. Hilty, Christophe Geigerand and Matthias Leistner, "First evaluation of the directive 96/9/EC on the legal protection of databases – Comment by the Max Planck Institute for Intellectual Property, Competition and Tax Law, Munich," *International Review of Intellectual Property and Competition Law* 37 no. 5 (2006), pp. 551-558.

The purpose of this chapter is to provide a more nuanced evaluation of the relevant law and to provide suggestions for change. An important assumption is that amending the database right is the correct policy choice. This is because repeal of the right or of the entire Directive would defeat efforts at harmonization. Such a path may be short-sighted due to the importance of facilitating economies of scale and of encouraging the development of a European-wide database industry. On the other hand, returning to the drawing board and designing a completely new right may also be unwise. This is because of the lack of certainty and stability inherent in introducing entirely new and untested concepts.

The chapter will proceed as follows. First, a legal analysis of the general purpose of the Directive and the function of a database will be conducted. This exploration adds further fuel to the argument that a database operates as a generic infrastructure input. The implication is that access ought to receive high priority. Following this explanation, a section-by-section evaluation of the Directive will be conducted from the perspective of adequately balancing incentives and access. In order to conduct this analysis, an interpretation of the relevant law will be provided. It is based on the plain meaning of the statute, the legislative history, the insight of academic experts and on practical issues of policy.

Because suggestions of what the law ought to be are so intertwined with its interpretation, a discussion of possible amendments is submitted simultaneously in each section. This exploration focuses on both substantive changes that should be made to the Directive itself and suggestions for legal interpretations by a court. The chapter will end with a series of recommendations to encourage a more satisfactory balance.

5.2 The General Purpose

The general purpose of the Directive balances production incentives with information access.[17] The emphasis on incentives begins with recognition of the need for investment due to "the exponential growth, in the Community and worldwide, in the amount of information generated and processed annu-

17. The legal justification for the Directive is the need to promote the freedom of movement of goods and services through harmonization of the database protection regime. *Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases* OJ (L) 77/20, 27/03/1996, Recitals 1-4 (hereinafter *The 1996 Database Directive*).

ally in all sectors of commerce and industry."[18] According to Recital 11, "there is at present a very great imbalance in the level of investment in the database sector both as between the Member States and between the Community and the world's largest database producing countries."[19] The argument concludes 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."[20]

The need for a production incentive is balanced against the need for access. A database is identified as "a vital tool in the development of the information market."[21] Furthermore, it is stated that "this tool will also be of use in many other fields."[22] Although it is not expressly written in the Recitals, the implication is that databases are important in all sectors of the economy so that the "exponential growth" in the "amount of information generated and processed annually" can be accessed and used in "all sectors of commerce and industry."[23]

Clearly, however, the creation of a database right represents a rejection of the idea-expression dichotomy as one of the major mechanisms through which unoriginal content is freely available and remains in the public domain. Instead, policymakers seem to be looking toward the United Kingdom, where sweat-of-the-brow protection yielded the most databases in all of Europe. Embracing such a policy at the Community level requires the provision of enough access to unoriginal material in lieu of the idea-expression dichotomy.

Toward this end, various Recitals in the Directive are written to ensure that access is promoted in the implementation of the database right. Recital 45 states that the database right "does not in any way constitute an extension of copyright protection to mere facts or data." Under Recital 46, it is declared that the right "should not give rise to the creation of a new right in the works, data or materials themselves." Lastly, it is noted in Recital 47 that the right

18. Ibid., Recital 10.
19. This seems to indicate that the lack of investment is viewed to be of paramount importance due to its effect on European competitiveness and economic dependency both within the Community and at the global level. It is well known that the United States was one of the large database producing countries to which legislators were referring.
20. *The 1996 Database Directive*, Recital 12.
21. Ibid., Recital 9.
22. Id.
23. Ibid., Recital 10.

"must not be afforded in such a way as to facilitate abuses of a dominant position."

5.3 The Function of a Database

The legal definition of a database correctly parallels its technical nature. As discussed in Chapter 2, the three components of a database are: (1) the contents, (2) the logical schema and (3) the data management system. In Article 1.2 of the Directive, a database is defined as: (1) "a collection of independent works, data or other materials" (the contents), (2) "arranged in a systematic or methodical way" (the logical schema) and (3) individually accessible by electronic or other means" (the data management system).[24]

The ECJ further clarifies this definition in the Greek fixture list case.[25] First, a database must be a collection of independent materials "which are separable from one another without their informative, literary, artistic, musical or other value being affected."[26] Second, the independent materials must be "systematically or methodically arranged and individually accessible."[27] This implies that the collection should be contained in a fixed base and should include means that "allow the retrieval of any independent material contained within it."[28]

A distinction between databases and traditional copyrighted materials is noted by the Court. A recording of an audiovisual, cinematographic, literary or musical work is different from a database because the components that comprise the recording cannot be separated without losing the value of the

24. The first draft seems to have slightly jumbled the technical components. In Article 1.1, a database is defined as 1. "a collection of works or materials" (the contents), 2. "arranged, stored and accessed by electronic means" (the logical schema and the database management system) and 3. "the electronic materials necessary for the operation of the database such as its thesaurus, index or system for obtaining or presenting information" (the logical schema and the database management system). The European Commission, *Proposal for a Council Directive on the legal protection of databases*," OJ (C)156/4 23/6/92. (hereinafter *The 1992 Proposal*).
25. *Fixtures Marketing Ltd v. Organismos prognostikon agonon podosfairou AE*, ECJ case C-444/02, 09 Nov. 2004.
26. Ibid., ¶ 29
27. Ibid., ¶ 30.
28. Id.

work.[29] In contrast, the function of a database stems from its ability to store an unlimited number of independently valuable items.

The Court stresses this functional nature: "various aspects of the directive demonstrate that the term database within the meaning thereof is more specifically defined in terms of its function."[30] As evidence, the Court quotes Recitals 10 and 12 which state that given the "exponential growth, in the Community and worldwide, and in the amount of information generated and processed annually in all sectors of commerce and industry," the Directive is intended to encourage the development of systems performing a function of "storage" and "processing" of information.[31] Other corroboratory factors not mentioned by the Court are that databases are recognized in Recital 9 of the Directive as "a vital tool in the development of an information market within the Community; whereas this tool will also be of use in many other fields." Moreover, Recital 13 lists the function of a database as including arranging, storing and accessing by means which include electronic processes.

This functional distinction signals a difference in the value of databases to society. In Chapter 2, it was argued that a database resembles the Internet more than it does a book. Both are tools that aid in facilitating the understanding, analysis and transformation of information. In Chapter 3, it was suggested that databases may qualify as generic infrastructural inputs. The fact that the legal definition and the ECJ's interpretation both recognize this functional nature makes the argument for access even stronger.

5.4 Should Non-electronic Databases be Protected?

Ideally, the definition of the object of protection should advance the purpose of the legislation. According to the ECJ, the definition of a database is intended to be broad without any formal, technical or material considerations such as originality or a large number of materials.[32] Evidence includes that under Article 1.1, protection encompasses databases "in any form."

29. Ibid., ¶ 29 and *The 1996 Database Directive*, Recital 17.
30. *Fixtures Marketing Ltd v. Organismos prognostikon agonon podosfairou AE*, 09 Nov. 2004, ¶ 27.
31. Ibid., ¶ 28.
32. Ibid., ¶20. In the first reading, the European Parliament proposed adding "a large number of data to the definition." European Parliament, *Decision of the European Parliament on the 1st Reading concerning the proposal for a Council Directive on the legal protection of databases*, OJ (C) 194/144, 19/07/1993, Amendment 3 and Art. 1.1.

In fact, the definition was extended from the first draft to cover non-electronic databases.[33] But the original version restricted protection to electronic databases in order to address the altered nature of the digital context. It was in the production of electronic databases that the Commission wished to maintain a competitive edge. Knowing this historical intent, can we say that the extension to non-electronic databases is justified?

The Economic and Social Committee was the first to suggest the inclusion of non-electronic databases.[34] At that time, the database right did not apply to contents which were already protected by copyright. The Committee hinted that only covering electronic databases could result in some deserving subject matter remaining unprotected. The example cited was a telephone directory in hardcopy that was protected under sweat-of-the-brow copyright and converted into digital form. According to the Committee, the electronic version could not be considered an original copyrighted work because there was no intellectual creation involved in the act of conversion. But neither would it receive protection under the database right because the underlying work was copyrighted.

This analysis is incorrect. A telephone book converted into electronic form does not lose its protection. Once something is copyrighted, the right extends to all reproductions no matter the medium. As one British scholar commented, "If the reasoning in the Committee's Opinion were correct, it would apply equally to the second and subsequent hardcopies of the directory."[35]

The Committee was also concerned that restricting protection to electronic databases would result in different regulations applying to the same database in different forms. This unease was later repeated in the Council's decision to include non-electronic databases. Three grounds for the extension were provided. First, the Council said that this solution was simpler because all mediums were treated in the same manner. In addition, the extension was compatible with international treaties and conventions which do not distinguish

The Commission rejected this suggestion by stating that "it would give rise to problems of interpretation" and is inconsistent with international conventions and ongoing discussion about database protection at the international level. European Commission, *Explanatory Memorandum of the Amended proposal for a Council Directive On The Legal Protection of Databases*, COM (93) 464 final – SYN 393, 4/10/1993, p. 3.

33. *Fixtures Marketing Ltd v. Organismos prognostikon agonon podosfairou AE*, 09 Nov. 2004, ¶ 22, and *The 1996 Database Directive*, Recitals 14 and 22.
34. Economic and Social Committee, *Opinion on the proposal for a Council Directive on the Legal Protection of Databases*, 93/C 19/02, 24/11/1992, §§ 1.1.3-1.1.5 and 3.3.2.
35. Mark J. Davison, *The Legal Protection of Databases* (Cambridge: Cambridge University Press, 2003), p. 63.

between mediums. Lastly, it would be inappropriate if two different forms of a database did not enjoy the same protection.[36]

The inclusion of non-electronic databases is understandable. If they are not protected by any legal right, competitors could escape infringement by scanning and converting them into electronic form. The rationale for protection, then, is that unauthorized copying is just as likely to occur with hard-copy versions as with electronic ones.

On the other hand, restricting the protection of the database right to electronic databases, *including their paper and any other form*, may be a missed opportunity to encourage digitalization and enhance access. Such a requirement would quickly stimulate the production of electronic databases. It was precisely the desire to remain competitive in the electronic world that prompted this legislation in the first place. Since electronic databases are accessible to more people than hard copy forms, digitalization would also advance the policy goal of information access.

The database right could be amended so that it is restricted to "an electronic database and all its other forms" in Article 7 of the Directive.[37] Such a

36. Council of Europe, *Common Position (EC) No. 20/95 adopted by the Council 10 July 1995 with a view to adopting Directive 95/ /EC of the European Parliament and of the Council of ... on the legal protection of databases*, OJ(C) 288/14, 30/10/1995, Statement of Reasons, ¶ 8 (hereinafter *The 1995 Common Position)*.

37. Some academics argue that the current definition extends to museum collections, gene banks and libraries. Although this does not advance the purpose of the legislation, this interpretation may be technically correct. For example, a real library clearly has materials – books, music and films – and each individual work possesses its own independent value. The works are systematically or methodically arranged through a classification system such as the Dewey Decimal System. They are contained within the fixed base of the library's physical boundaries. Lastly, retrieval of any item is possible through technical means which is the classification system combined with shelf markings.

    Yet, tangible items should not be protected for several reasons. From a theoretical point of view, it sends a signal that real property and intellectual property should be regulated similarly. This opens the door for arguments for even stronger intellectual property rights and it encourages rent-seeking.

    Empirically, tangible collections do not need this production incentive. Application of the right could have unintended consequences. This is because in the tangible world, protection would include the system used to operate or consult the database. In a store, it would be the aisle signs. Since the variety of such signs used in a drug store, for example, is limited, such protection could be used to force out the competition.

    The goal of such protection is to prevent an unauthorized party from making a catalog or list of a tangible collection. There is a much cheaper and simpler solution according to Derclaye. The risk is easily thwarted by the museum collector or shop

change could be justified by Article 1.1, which states that protection is available in any form. Moreover, this change would be compatible with other intellectual property rights. Once a work is protected, the right is extended to all mediums.

Contrary to the Council's reasoning, restricting the database right to "an electronic database and all its other forms," would not result in a more complex legal regime or provide for different types of protection of the same database. Neither would it contravene international law. This is because the copyright in the structure and arrangement of the Database Directive need not be amended and, hence, will continue to apply to non-electronic databases.

What an amendment for application of the database right to electronic databases could do, however, is generate a rush to digitize. In the event that certain producers can prove that they lack funds, efforts could be made to provide public support for such endeavors. This may be money well spent.

5.5 Re-interpreting the Qualification Threshold

The qualification threshold is one of the most critical components of the database right. It functions as a gauge that can be raised or lowered in order to determine what is protected and what is in the public domain. Yet even after the ECJ decisions, it is not entirely clear which databases are protected, what types of investments count and whether there is a floor threshold.

The first question to consider is whether the concept of substantial investment is an appropriate criterion. In copyright law, qualification is determined by looking at the work itself. Although it may be unclear what part or aspect is actually protected, there is at least a direct connection to the work in making a determination. Not so with the database right. Does this present a problem?

owner themselves. They can simply make a catalog or list of their wares. If it fulfills the requirements of a database, that catalog or list will be protected. The fact is the explanatory memorandum of the first draft restricted the definition of a database to not include three-dimensional objects. This restriction should be reinstated. European Commission, *Explanatory Memorandum to the Proposal on the legal protection of databases, Com (92) 24 final (13 May 1992), Part Two, ¶ 1.1 (hereinafter Explanatory Memorandum to the 1992 Proposal*). For further discussion, see Estelle Derclaye, "What is a Database? A Critical Analysis of the Definition of a Database in the European Database Directive and Suggestions for an International Definition" *Journal of World Intellectual Property* 5, no. 6 (Nov. 2002), pp. 981-1011.

To answer this question, it may be worth referring to the purpose of the right. It articulates the incentive theory in which protection is needed to prevent unauthorized copying so that the producer can recoup his investment. Since the purpose is purely economic, one could argue that a copyright criterion is not appropriate because it involves a level of originality. This is a measurement that is decidedly not economic. In contrast, the protection of the database maker's investment is eminently suitable because it is geared toward the cost of making the database. It is a right with an economic purpose and an economic qualification.

Clearly, there are some practical costs to an economic criterion. For the database maker whose burden it is to prove qualification, it spells increased administration.[38] According to one association representing 80 UK directory and database publishers, for example, "The investment in database information technology has been included in company wide IT budgets not specific content, editorial or production cost centres."[39] Obviously, administrative practices must be altered.

An economic criterion also contributes to legal uncertainty about what is protected and what is not. Since the qualification threshold is so fluid, a database maker may not be sure if his product is protected. A user will have no idea simply because they do not have knowledge of the maker's financial investments. Qualification could become an issue to be predicted by lawyers and financial experts in the midst of a legal dispute. One solution is to establish a registration system and a date-stamping requirement, as will be discussed in Section 5.14. It is also suggested that the ECJ provide more guidance on the issue.

Although it is unclear which databases are protected, it is evident that the following databases do *not* qualify: (1) the football fixture lists of the English and Scottish league football, (2) the British Horseracing Board's database and (3) under Recital 19 of the Directive, "a compilation of several recordings of musical performances on a CD."[40] This does not automatically rule out simi-

38. *The 1996 Database Directive*, Recitals 53.
39. Data Publishers Association, "Submission from the DPA to the European Commission DG Markt [sic] in response to the Working Paper 'First Evaluation of Directive 96/9 on the legal protection of databases,'" Brussels, 10 March 1996, pt. 6.a.
40. See *British Horseracing Board Ltd and Others v. William Hill Organization Ltd*, ECJ case C-203/02, 9 Nov. 2004 (from England); *Fixtures Marketing Ltd v. Oy Veikkaus Ab*, ECJ case C-45/02, 09 Nov. 2004 (from Finland); *Fixtures Marketing Ltd v. Organismos prognostikon agonon podosfairou AE*, ECJ case C-444/02, 09 Nov. 2004 (from Greece); and *Fixtures Marketing Ltd. v. Svenska Spel AB*, ECJ case C-338/02, 09 Nov. 2004 (from Sweden).

lar databases. Proof of a substantial investment in obtaining, verification or presentation of the contents qualifies any database.[41]

A variety of commentators have strived to determine which databases will be protected and which will not.[42] According to the Commission, likely candidates comprise publishers of directories and listings or maps as long as their data is obtained and not created. Those that may not be protected include databases constructed by sports bodies, broadcasting organizations, soccer fixture lists and real estate or employment agencies.[43] Those adhering to the spin-off theory would expand the list to include rail and airline schedules, telephone directory listings, events schedules, examination scores, stock exchange data and scientific research data.[44]

It is well-recognized that there is no bright line in these demarcations. This means that the spin-off theory does not apply automatically. Rather, the focus is on whether a particular database maker has substantially invested in obtaining, verifying and presenting the data. As a result, those who create data can still be protected. For example, a fixture list that has been sold to another company which subsequently invests in making the database user-friendly could possibly qualify. On the other hand, a public agency that is required to produce a directory in which the businesses themselves make the corrections is likely not to.[45]

It is submitted, on the other hand, that the threshold is neatly structured to enable a case-by-case evaluation by any court. When applied correctly, this flexibility can be a bonus. For example, an individual court can apply the incentive theory to the facts of a particular case by asking the following questions: (1) Does the producer depend on database content protection to recoup

41. Estelle Derclaye, "Database Sui Generis Right: What is Substantial Investment? A Tentative Definition," *International Review of Intellectual Property and Competition Law* 36, no 1 (2005), p. 6.
42. See Andreas Wiebe, "Database Protection in Europe in the Aftermath of *William Hill* and *Fixtures*," *Medien und Recht International: The Magazine of European Multimedia Law and Policy* 1 (2004), pp. 38-44; Mark J. Davison and P. Bernt Hugenholtz, "Football Fixtures, Horseraces and Spin-offs: The ECJ Domesticates the Database Right," *European Review of Intellectual Property* no. 3 (2005), pp. 113-118, European Commission, *The 1995 Evaluation*, § 4.1.4.
43. European Commission, *The 1995 Evaluation*, § 4.1.4.
44. See P. Bernt Hugenholtz, "Program Schedules, Event Data and Telephone Subscriber Listings under the Database Directive – The 'Spin-Off' Doctrine in the Netherlands and elsewhere in Europe," paper presented at Eleventh Annual Conference on International IP Law & Policy, Fordham University School of Law, New York, April 2003, 14-25.
45. Wiebe, "Database Protection in Europe," *Medien und Recht International*, p. 41.

his investment? and (2) If not, would the granting of a right facilitate access by adding additional value to the information so that it can be understood, analyzed and transformed? As will be seen, the answers to these questions fit neatly into the requirements outlined in the Directive and further detailed by the ECJ.

It is acknowledged that economic interpretations are not generally accepted within the European legal framework. However, as argued in the introductory chapter, the database right is an economic right with an economic purpose and an economic qualification. Therefore, it only makes sense to interpret it in economic terms. As previously noted, national courts are already applying economic analysis to construe this right. Moreover, it is argued that the use of economic analysis can aid in forwarding a more balanced policy.

The first question in applying incentive theory can be answered by looking at the football fixture lists involved in the litigation at the ECJ. Were the producers dependent on content protection to recoup their investment? From the evidence provided, the answer is no. This can be verified by taking a deeper look into whether investment went into creating, verifying and presenting the data to coordinate games or whether it went into compiling a database. As stated by the Court, the majority of the investment went into organizing the games. Any investment in making the database itself was insubstantial. As a result, it can be argued that no incentive is required. Instead, the investment can be recouped by selling game tickets.[46] A judge could move on to question two.

The first question could be affirmatively answered in a hypothetical example of a start-up firm. The firm sells a specialized business directory database offered on a subscription basis. It receives the bulk of its income from these sales. The primary investment goes towards collecting, verifying, updating and ensuring that the information is comprehensive. Other features, such as the structure, arrangement and search mechanism, must be conventional because that is what customers expect and will buy. In this case, it could be argued that the producer put a substantial part of his investment in the database. Depending on his business model, it can be argued that he is dependent on protection of the contents to recoup his income.

A court could use the following methodology in determining whether or not there has been a substantial investment, qualitatively and/or quantita-

46. This, of course, sounds like an application of the spin-off theory. As described further on in this section, however, if the answer to the second question is yes, then this database could be protected.

tively. First, it could look at the costs of making the database. It could be argued that the majority of the investment was allocated toward obtaining and enriching the data. For example, a researcher could have gone to the library, looked at the business directories available and picked out those companies that best fit the directory profile. Another researcher could have called or visited the businesses, verified their data and asked for information about other companies. The cost of research could be calculated to determine the quantitative component of the investment.

It could be that the compilation of such a specialized business database requires inside knowledge and savvy about a particular industry. Maybe it is not something that can be put together by anyone but would rather require a person with a Ph.D. in business or 10 years of working on the market. This would be difficult to quantify and would be better categorized as the energy and effort measured through a qualitative investment.

But what if a substantial part of the company's investment, both qualitatively and quantitatively, went into the making of the database, and that total amount is calculated to be a mere 500 euros? Does such a database deserve protection? It could be argued that small databases are not worth protecting because the money could be better spent elsewhere. But it is precisely this type of database maker that needs an incentive in order to grow, flourish and create more databases. Such a conclusion would be reinforced by positively answering the first question. According to the facts provided, this type of producer appears to depend on content protection to recoup his investment.

This brings us to the issue of whether or not there is an absolute or relative floor to the threshold. When measured in absolute terms, it is worth exploring if some producers or re-users who need an incentive do not receive it. An obvious example would be the above-mentioned hypothetical of the database produced by a start-up company for 500 euros. This is the type of compiler who may be most in need of protection simply because he is just starting out and may not have as many options to generate an income. Because protection might not be granted under an absolute criterion, the better answer is that the threshold should be measured in relative terms. In our hypothetical example then, protection would result. No further questions need to be answered.

Tackling the first question also aids in resolving the sticky issue of what can be considered obtaining and what can be considered creating. Is scientific data created or obtained? In its commentary accompanying the original draft, the Commission explored whether or not scientific information should be subject to a compulsory license. This discussion is relevant for the qualification threshold because one of the issues both the compulsory license and the

heightened threshold are intended to address is the locking-up of information contained in sole-source databases.

At the time, the Commission implied that scientific information should qualify as obtained information and thus be eligible for the *sui generis* right. According to Recital 33 of the first draft, compulsory licenses should not be requested for reasons of commercial expediency such as economy of time, effort or financial investment. The operation of this requirement is further detailed in the Explanatory Memorandum: "So if, for example, the contents of a database are data obtained by the use of an earth observation satellite, it will be necessary for the second database maker to collect his own observation data or to buy them from others who are willing to obtain them on his behalf."[47] In other words, such information would not be subject to a compulsory license because another database maker could gather the same information and create his own database.

Some scholars support this position.[48] Those who adhere to the spin-off theory, on the other hand, would retort that scientific research does not qualify because making a database is not the primary activity; conducting scientific research is.

In fact, there are a variety of arguments beyond the spin-off theory for why scientific discovery should not qualify as obtaining. One can begin by answering the first question of whether or not a database maker needs this protection to recoup his investment. It seems clear that even if the outcome of the research is a database, protection is not needed for the continuation of this endeavor. Quite clearly, the purpose of conducting science is not to create databases in order to sell them. The purpose of science includes discovering things and proposing theories about the world around us.

There is also a practical argument against granting protection for scientific information. Even if theoretically the data can be re-collected by a second database maker, the fact is that such activities are prohibitively expensive. In the real world, the expense would stop others from "discovering" the information themselves. This means that these scientific databases operate, in effect, as sole-source databases. The result is higher prices and less access.

A good example of the prohibitive expense involves the selling of Landsat satellite photos in the United States which were used to perform basic science

47. European Commission, *Explanatory Memorandum to the 1992 Proposal*, Part Two, ¶ 8.1

48. See, for example, Estelle Derclaye, "Databases Sui Generis Right: Should We Adopt The Spin Off Theory," *European Intellectual Property Review* 26, no. 9 (2004), p. 411-2.

in geography, agriculture and the environment. At first, the satellite was publicly owned and the photos provided at the cost of distribution. But it was sold to a company who became a virtual monopolist because there were no competitors. The photo price rose from approximately US $400 per image to US $4,400 per image. The impact on basic research was disastrous enough that Congress passed legislation to return the satellite to public ownership. Although this example does not involve databases, it shows how ownership can create access problems.[49] An overprotective right within the Database Directive could have a similar impact.

It is also important to explore what policy is being promoted. It is not that we want more people putting up satellites to collect information to make databases. What we want is more databases in which value has been added to the content so that it can be better understood, analyzed and transformed. Since scientific information is so critical for the advancement of society, access should be prioritized. Thus, what we want is for potential producers to add value to that scientific information by making user-friendly databases out of it. If those producers make a substantial investment in the obtaining, presenting and verifying of that information, then they deserve protection. That would be achieving the goal of the Directive.

The purpose of the second question, then, is to ensure that those database makers who do not need an incentive to recoup their initial costs will nonetheless further invest in adding value to their databases. The heightened qualification threshold grants protection to businesses which spend substantial money on databases. This is valuable if it results in greater accessibility of the information through better organization, more accuracy and heightened user-friendliness. It is in this manner that a database in which a substantial investment has been made in obtaining, verifying and presenting can promote access.

It could be possible that a data creator simply sells their information to a subsidiary which then is granted a database right as a result of a substantial

49. Committee on Issues in the Transborder Flow of Scientific Data, USA National Committee for CODATA, Commission on Physical Sciences, Mathematics and Applications and the National Research Council, "Bits of Power, Issues in Global Access to Scientific Data," (Washington D.C.: National Academy Press, 1997), chapter 4, box 4.3. Available at http://www.nap.edu/readingroom/books/BitsOfPower/ (last visited 9August 2007) (hereinafter *Bits of Power)*.

investment in obtaining the data.[50] Such a possibility has been already mentioned. Yet this type of activity is not dependent on a production incentive and protection would not result in a more valuable database for society. Instead, attempts to bypass the law can be viewed as a form of rent-seeking in order to obtain protection. The investment used to obtain the right does not result in promoting the greater social welfare. From an economic perspective, then, it is wasteful and should be eliminated.

One step toward preventing such an outcome might be to require that the qualifying threshold include a substantial investment in at least two of the three categories of presentation, verification and obtainment. This principle should apply to all database owners seeking protection or renewal. The function of such a requirement would be to prevent rent-seeking and to encourage the production of and investment in databases that promote greater accessibility.

This brings us back to the football league which clearly did not need an additional incentive to produce. If, for example, the league decides to substantially invest in creating a database, it could devise a presentation that is not based on organizing the football games but is rather meant to create a user-friendly database. It could also obtain additional information about the football league not required to arrange games but rather to attract database users. In this case, the answer to the second question of whether or not the granting of such a right facilitates access would be yes.

5.6 Restricting the Scope of the Right

The purpose of the database right resolves the classic "free rider" problem identified by incentive theory. According to Recital 7, "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." The gap in protection that allows unauthorized copying is then identified, "technology exposes the database maker to the risk that the contents of his database may be copied and rearranged electronically, without his authorization, to produce a database of identical content which, however, does not infringe any copyright in the ar-

50. Or it could be that a sports organizer claims that it has obtained information by creating an official stamped list. See *British Horseracing Board, Ltd v. William Hill Organization Ltd*, Court of Appeal, Case No. A3/2001/0632, London, 13 July 2005.

rangement of his database."[51] Next the gravity of the problem is described, "The unauthorized extraction and/or re-utilization of the contents of a database constitute acts which can have serious economic and technical consequences."[52]

To plug this gap a new right is established, "In the absence of a harmonized system of unfair-competition legislation or of case-law, other measures are required in addition to prevent the unauthorized extraction and/or re-utilization of the contents of a database."[53] Therefore, the purpose of the *sui generis* right is to "safeguard the position of makers of databases against misappropriation of the results of financial and professional investment."[54]

If a database qualifies for protection, the producer can prevent: (1) the extraction and/or re-utilization of the whole or of a substantial part of the contents of the database and (2) the repeated and systematic extraction and/or re-utilization of insubstantial parts of the contents of the database.[55]

From its inception, the database right was intended to be interpreted narrowly. For example, infringement was to be evaluated through the prism of unfair competition. In addition, it only extended to commercial acts.

Article 7.5 was proposed later in the game by the Council in its Common Position. Although it can be construed in either a broad or narrow fashion, the Council favored a narrow interpretation, "the Council has chosen to restrict the extent of the protection afforded by the sui generis right . . . on the grounds that the extraction and/or re-utilization of insubstantial parts of those contents was unlikely adversely to affect the maker's investment."[56] It stated that the purpose of the prohibition was to introduce "a safeguard clause."[57]

Bearing this intent in mind, the ECJ provided further clarification. The nature of the right is to prevent the repeated and systematic insubstantial use, "the cumulative effect of which is to reconstitute and/or make available to the public . . . the whole or a substantial part of the contents of that database and thereby seriously prejudice the investment by the maker."[58] It is these acts

51. *The 1996 Database Directive*, Recital 38.
52. Ibid., Recital 8. It is unclear what legislators meant by technical consequences.
53. Ibid., Recital 6.
54. Ibid., Recital 39.
55. Ibid., Art. 7.1 and 7.5.
56. Council of Europe, *The 1995 Common Position*, Statement of Reasons, ¶ 14.
57. Id.
58. *British Horseracing Board*, ECJ case C-203/02, 9 November 2004, ¶ 95.

and these acts alone which "conflict with a normal exploitation of [a] database or which unreasonably prejudice the legitimate interests of the maker."[59]

According to the ECJ interpretation, then, the phrases "normal exploitation" and "unreasonably prejudice" do not provide additional leeway to broaden the scope. Any broadening of the right is unnecessary and could affect access.

This narrow interpretation should be consistent throughout. Although the Council views all its revisions to the database right as restrictions, some of them in fact have a broadening effect. This includes the shift from an unfair competition interpretation to a broader exclusive rights approach, and the extension of protection to all acts, whether noncommercial or commercial. These changes will be evaluated in turn.

The first issue is whether or not the database right should be interpreted in the spirit of an unfair competition right or whether it should be more broadly interpreted, as is typical under copyright law. From the beginning, it was clearly an exclusive right. But the interpretation provided in the first draft reflected the spirit of unfair competition. It is acknowledged that proof of legislative intent is not necessarily found in the original. However, because that first draft strove to adequately balance the interests of producers, re-users and consumers, it provides a convincing model for possible amendments. It is submitted that it may actually be more useful to look at the first draft than to rely on something totally new, simply because language from that first version is by now familiar.

The commentary on the original version is rife with observations that the database right resembles an unfair competition right. For example, it was initially called an unfair extraction right. It was also described as "a special sui generis provision" derived from regimes such as unfair competition law or the law repressing parasitic behavior.[60] Moreover, the only example of infringement put forth an unfair competition analysis: "substituting as a source in its own right for the work or materials in question." In discussing implementation by the Member States, the Commission stated, "It is unlikely however that existing copyright or neighbouring rights legislation would be an appropriate vehicle since the right in question is clearly not either of these, but is something more similar to unfair competition or parasitic behaviour legislation."[61]

59. Ibid., ¶ 89.
60. European Commission, *Explanatory Memorandum to the 1992 Proposal*, Part One, ¶ 5.3.6.
61. Ibid., Part Two, ¶ 10.

By the time the Council came out with the Common Position, the right had broadened so that its unfair competition spirit was largely suppressed. This evolution occurred with no commentary. The result is a kind of hybrid right – with an economic motivation, qualification threshold couched in economic terms, but with the interpretation of the right as possibly broader and more similar to copyright.

There is ample reason to continue interpreting the scope of the right in unfair competition terms. By sticking to such an analysis, the needs of producers, re-users and consumers can be more fairly balanced. For example, infringement can occur if unauthorized uses affect demand. As will be shown in the following sections, such an interpretation would adequately protect the producer and at the same time adequately address access needs. Moreover, this type of analysis is not strange or unknown. It is precisely the type of reasoning used by Landes and Posner in their evaluation of US copyright law.[62]

In the spirit of forwarding an unfair competition approach, the first question to tackle is whether or not the right should be returned to commercial uses only. In answering, it may be worthwhile to explore why the right was restricted like that in the first place.

The encouragement of commercial production provided a strong impetus in the decision to create the Database Directive. In its 1987 action plan on the information services market, the Commission wrote, "Almost 70% of European databases are still being produced by the public sector or by non-profit-making organizations, whereas in the United States 75% belong to the private sector."[63] When it first proposed database protection, the Commission continued to focus on commercial databases: "'Information broking,' that is, the buying and selling of data bases containing factual information is indeed a growth industry, which requires a clear legal framework within which to develop."[64]

62. William M. Landes and Richard A. Posner, *The Economic Structure of Intellectual Property Law* (Cambridge: Harvard University Press, 2003), p. 89.
63. European Commission, *Communication from the Commission together with a draft decision concerning The Establishment at Community Level of a Policy and a Plan of Priority Actions for the Development of an Information Services Market*, COM (87) 360 final/2, (Brussels: 2 September 1987), § I.3.
64. European Commission, *Green Paper on Copyright and the Challenge of Technology – Copyright Issues Requiring Immediate Action*, COM (88) 172 final, (Brussels: 7 June 1988), ¶ 6.4.7, (hereinafter *The 1988 Green Paper)*.

Upon justifying the database right granted in the first draft, the Commission stated, "This protection against parasitic behaviour by competitors, which would already be available under unfair competition law in some Member States but not in others, is intended to create a climate in which investment in data processing can be stimulated and protected against misappropriation."[65] The focus on a right to protect databases against unauthorized commercial use continued up until the Council Common Position when it was removed without explanation.

In fact, there was never any discussion about the term "for commercial purposes" in relation to infringement throughout the legislative process. One argument for why the right was extended could be that it was believed that commercial use could not encompass the activities of private individuals. This could have serious repercussions in the digital world where unauthorized copying by consumers is easy and widespread.

Such an argument could be justified by the Council's account for its decision to restrict the private use exception to non-electronic databases only. This discussion may be applicable simply because the exceptions help to determine the right's scope. According to the Council, "no exception should be allowed for reproduction for private purposes of electronic databases, in particular in view of the ease with which they can be reproduced."[66] Yet without clear evidence, this theory on why the phrase was dropped is mere speculation.

In fact, various definitions of noncommercial and commercial were introduced in the preparatory documents. The Parliament in its first reading defined commercial use as "any use – whether domestic or collective – aiming at economic activity or a remunerated transaction."[67] Clearly, private activities can be encompassed in the definition of commercial purposes.

Another possibility as to why protection was extended may be that there was a desire to encourage the commercialization of databases. In making such a decision, it must be determined whether the benefits are greater than the costs. Given the analysis of the production and access needs of database re-users and consumers, this may not be the case. As discussed in Chapter 2,

65. European Commission, *Explanatory Memorandum to the 1992 Proposal*, Part Two, ¶ 3.2.8
66. The Council of Europe, *1995 Common Position*, Statement of Reasons, ¶ 13.
67. European Parliament, *Decision of the European Parliament on the 1st Reading concerning the proposal for a Council Directive on the legal protection of databases*, OJ (C) 194/144, 19/07/1993, Amendment No 7, Art. 1(2a) and (2b) (new). (hereinafter *1993 Decision on the 1st Reading)*.

re-users such as scientists, academics and libraries are not focused on making a profit. Rather they are interested in promoting the public interest through science, education and research. Such positive externalities should be encouraged rather than thwarted.

One of the fears of these communities is being priced out of using database contents such that re-users cannot continue their activities.[68] Indeed, increasing the value of noncommercial databases by granting exclusive rights is potentially harmful. Some noncommercial or public producers could decide to charge for their data at a level that is prohibitive to other cash-strapped noncommercial users. Depending on the type of information and the industry, this could threaten innovation in science, technology and other research areas that are dependent on information sharing.

Indeed, not every type of scientific information should be commercialized. Two examples of failed commercialization are the Landsat satellite and Celera's attempt to sell human genetic information. Thus, extreme care must be taken to determine whether or not such commercialization should occur.

What these communities need is to be able to fully extract and re-utilize databases in order to achieve their goals. With the database right covering noncommercial uses, this means risking legal action. According to one library group, "Europe has succeeded in working with the extraordinarily wide scope of the Database Directive by almost totally ignoring it."[69] The activities of these groups contribute so much to society that it seems extremely shortsighted to force them into such a position.

The costs of denying access to these noncommercial groups should be weighed against the benefits of protection. As discussed in Chapter 2, the type of protection needed depends on the business model used. For example, producers who rely on pay-per-use may not need database content protection simply because they have other means at their disposal, including technical measures. Other commercial producers who gain their income from advertising offer their content for free. Therefore, the type of protection they need is against competitors who copy their model and take away their customers. Still others rely primarily on the investment in the contents of their databases to produce an income. It is these producers who may need a stronger form of protection that extends to consumers who gain access to but do not pay for their databases.

68. *Bits of Power,* Chap. 4.
69. European Bureau of Library, Information and Documentation Associations, "EBLIDA Response to the Commission on the evaluation of EU rules on databases," The Hague, 9 March 2006, p. 2. Refer to Chapter 2, footnote 6 for availability online.

Rather than having to make a choice between this segment of database producers and the noncommercial world of scientists, academics and libraries, there is an easy solution. The database right could be restricted to commercial use to allow the noncommercial sector to continue engaging in their activities without risking infringement. But the definition of commercial could be tailored in such a manner to include the activities of private users that threaten demand for the database producer's product. The best definition that fits this purpose is the one suggested by the European Parliament, "any use – whether domestic or collective – aiming at economic activity or a remunerated transaction." While non-commercial activities can continue unabated, private activities that have a commercial impact would be prohibited.

5.7 Interpreting Extraction and Re-utilization

The main question that comes to mind when thinking about the nature of "extraction" and "re-utilization" is what exactly these terms mean. Are they different than the definitions of "copying" and "making available to the public" in copyright law? If not, it is understandable that the language of copyright may have come into use because it is already familiar.

Indeed, the ECJ does state that re-utilization is similar to making available to the public in copyright law.[70] This concept, thus, seems fairly self-explanatory and familiar. Is there also a relationship between copying and extraction? Copying is duplication. Extraction is defined as "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."[71] Whereas copying does not affect the integrity of the original, extraction is arguably a more active process. These differences in meaning, however, can simply exist because the word extraction was adapted to the online context in which one typically cuts and pastes. This, of course, entails transferring from one medium to another, which is precisely the meaning of extraction.[72]

70. *British Horseracing Board*, ECJ case C-203/02, 9 November 2004, ¶ 51.

71 *The 1996 Database Directive,* Art. 7(2).

72. The ECJ refers to extraction as appropriating. See *British Horseracing Board*, ECJ case C-203/02, 9 November 2004, ¶ 51. Webster's Collegiate Dictionary defines this as "to take exclusive possession of" or "to take or make use of without authority or right." But this means that misappropriation and appropriation are the same and, therefore, seems more confusing than helpful.

The term "extraction" is still problematic, however, because transferring can be temporary or permanent. Currently, the database right offers no provision to allow substantial extraction by lawful users, if necessary, in their normal course of using a database. Recital 34 contains a normal use provision, "once the rightholder has chosen to make available a copy of the database to a user, whether by an on-line service or by other means of distribution, that lawful user must be able to access and use the database for the purposes and in a way set out in the agreement with the rightholder, even if such access and use necessitate performance of otherwise restricted acts." Even though this Recital is located in the section concerning copyright, it could be argued that the normal use provision applies to the database right.

The problem is that in the section concerning the database right, a contradictory statement is contained in Recital 44, "when on-screen display of the contents of a database necessitates the permanent or temporary transfer of all or a substantial part of such contents to another medium, that act should be subject to the rightholder." Since Recital 44 is placed in the section on database rights, and it contradicts Recital 34, it is evident that the normal use provision does not apply. This argument is even more convincing when one examines the definition of extraction, which includes temporary or permanent extraction.

The absence of a normal use provision is contrary to Article 6.1 of the Database Directive in regards to copyright in a database, to Article 5.1 of the Computer Software Directive and to Article 5.1 of the InfoSoc Directive.[73] It also goes against the intention of the preparatory documents. From the first draft to the Commission's Amended Proposal, there was no distinction made between temporary or permanent extraction. At that time, two Recitals provided for the right of the lawful user to perform any of the restricted acts necessary for access to and use of the database whether or not an agreement was in place.[74]

In most other contexts, this problem has been resolved in favor of the user. If not a mere oversight, the absence of a normal use provision in the database right leads one to question the motivations of the legislators. Luckily, the ECJ was equally concerned. It tackled this and other issues through the creation of a consultation right which is discussed in Section 5.12.

73. See Art. 6.1 of *The 1996 Database Directive* in regards to copyright in a database, Art. 5.1 of *The InfoSoc Directive* and Art. 5.1 of the European Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs Art. 1(2), OJ (L) 122, 17/95/1991.
74. European Commission, *The 1992 Proposal*, Recitals 24 and 25.

5.8 Evaluating Infringement of a Substantial Part

Anyone can infringe the database right if their taking amounts to "the whole or of a substantial part, evaluated qualitatively and/or quantitatively, of the contents of that database."[75] This is a complicated concept because it can either be determined according to the amount of the content or the amount of the investment. Although the ECJ has provided clarification, it is worth discussing if only to ensure that it is applied correctly.

The concept of a qualitatively and/or quantitatively substantial part has its origins in the first draft where the right to take an insubstantial part was an exception. An insubstantial part was defined as "parts of a database whose reproduction, evaluated quantitatively and qualitatively in relation to the database from which they are copied, can be considered not to prejudice the exclusive rights of the maker."[76] The term "a qualitatively and/or quantitatively insubstantial part" was not explained in any of the other the preparatory documents. It was the Council that first included the term "a qualitatively and/or quantitatively substantial part" in its detailing of the database right. No explanation was given as to its meaning, either.

The ECJ later defined these concepts. A substantial part evaluated quantitatively "refers to the volume of data extracted." A substantial part, evaluated qualitatively, on the other hand, "refers to "the scale of the investment," regardless of quantity.[77]

During the initial evolution of the Directive, the language of the right centered on how much of the content was taken. This focus is natural because it is the method used to find infringement under copyright law. It was only later that the Council first pinpointed investment as the primary criterion. Still, it is easy to employ the wrong test simply because one must compare the part taken with the entire database no matter what. So which is it?

The ECJ attempts to reconcile these two methods by connecting them, "It must be borne in mind that protection by the *sui generis* right covers databases whose creation required a substantial investment. Against that background, Article 7(1) of the directive prohibits extraction and/or re-utilisation not only of the whole of a database protected by the *sui generis* right but also of a substantial part, evaluated qualitatively or quantitatively, of its contents. According to the 42nd recital of the preamble to the directive, that provision is intended to prevent a situation in which a user 'through his acts, causes significant detri-

75. *The 1996 Database Directive*, Art. 7.1.
76. European Commission, *The 1992 Proposal*, Art. 1.3
77. *British Horseracing Board*, ECJ case C-203/02, 9 November 2004, ¶ 82.

ment, evaluated qualitatively or quantitatively, to the investment.' It appears from that recital that the assessment, in qualitative terms, of whether the part at issue is substantial, must, like the assessment in quantitative terms, refer to the investment in the creation of the database and the prejudice caused to that investment by the act of extracting or re-utilising that part."[78]

Since the definition of an infringing act is the crux of the right, it behooves us to elaborate on its interpretation. Questions include whether the right is a flexible criterion, whether it should be applied in relative or absolute terms and how infringement should be determined.

In terms of the right as a whole, it seems clear that, similar to the qualification threshold, a case-by-case evaluation should be encouraged. This allows for the flexibility required to take the specific facts of each case into account. Given that there are many different types of databases, it provides a welcome opportunity since crafting a one-size-fits-all solution is difficult. On the other hand, a flexible criterion translates into a lack of certainty. From this perspective, more guidance from the ECJ is necessary.

One issue to consider is whether a substantial part is an absolute or a relative term. An absolute measurement would require that anything over a certain quantity is infringing, and anything under is not. The fact is that databases range in size from one-page tables to thousands of pages. It is therefore unrealistic, if not impossible, to have an absolute criterion.

If "substantial part" is a relative term, then a tailored analysis could be conducted of the specific database in question. One academic argues an individual could take more from a larger database than a smaller one before infringing.[79] But this assumes that we are comparing what is taken to the database contents. In fact, there is nothing wrong with a relative comparison. Copyright law employs the same type of analysis.

How can infringement be determined? It has already been stated that one of the general purposes of the Directive is to provide a production incentive so that more databases are created. This is a vocalization of the incentive theory. Moreover, the purpose of the database right is to prevent the misappropriation of the database maker's investment. The right thus allows a perfect implementation of the incentive theory. Given this trend, it makes sense to push the incentive theory further into action. The correct question to ask when judging a particular act is whether or not the unauthorized extraction

78. Ibid., ¶69.

79. Perttu Virtanen, *Database Rights in Safe European Home: The Path to More Rigorous Protection of Information* (Ph.D., Lappeenranta University of Technology, 2005), p. 266.

and/or re-utilization results in a loss of demand for the original database by operating as a close substitute.

There are several rationales for this interpretation. First, it puts the infringement decision in harmony with other aspects of the Directive, all of which depend upon the incentive theory.[80] In addition, it successfully incorporates the economic determination of infringement as suggested by Landes and Posner. Their test is that if an unauthorized copy is a close substitute and therefore affects demand for the original, it is infringing. The practical effect is to insure that the database owner is able to recoup his initial or value-added investment but no more. This allows the kind of access necessary for a resource tool such as a database so that re-use is adequately encouraged.

How would one identify a qualitatively and/or quantitatively substantial part? It would depend on the type of database. The same is true in copyright law. Depending on the type of work protected, infringement varies from thin to thick. In evaluating whether a quantitatively substantial part has been taken, the threshold could be fairly high for a producer who depends on advertising for an income and who offers free content. In this business model, the more people who use the data, the better, because advertising statistics go up. What would be considered deadly is a situation in which a business or an individual takes the same information and sets up a competing website. If the activity affects demand for the original product, it would result in infringement because it would mean that the producer cannot recoup his investment.

A classified directory publisher who directs his energy toward adding value to the data itself may suffer income loss in a different way. If companies begin systematically taking his information without paying in a manner that is proven to affect the demand for the product, then this too would be a quantitatively substantial part.

The criterion of a qualitative infringement is trickier. When substantial energy is used to obtain a single piece of data and that piece is taken, it could be argued that infringement has occurred. But such a determination would come too close to violating the prohibition of Recital 46 of the Directive, which states that protection does not extend to the data itself. The Court has

80. In addition, it incorporates the spirit of the original proposal in which the Commission provided an example of a substantial part: "It will be the task of the database maker to demonstrate that the amount of material so reproduced prejudiced his normal exploitation of his database, for example, by substituting as a source in its own right for the work or materials in question." European Commission, *Explanatory Memorandum to the 1992 Proposal*, Part Two, ¶ 8.4.

also explicitly rejected this possibility.[81] In using the qualitatively substantial criterion then, extreme care must be taken to avoid lowering the infringement level to less than substantial. One way to achieve this is by making the judgment according to whether demand for the product has been affected.

5.9 Who is a Lawful User?

Unfortunately, the Directive does not define what is meant by lawful user. This concept is key because it helps to determine the scope of access. Two different approaches have been promulgated.[82] In the commentary on the first draft, the following definition was provided, "a person having acquired a right to use the database."[83] However, within the context of its discussion of the consultation right, the ECJ proposed a narrower definition, "a user whose access to the contents of a database for the purpose of consultation results from the direct or indirect consent of the maker of the database."[84]

The definition accompanying the first draft offers the possibility that a lawful user could include one who gains a right of use by operation of law. This is because the term "acquire a right to use" could be broadly defined to comprise not only direct or indirect permission but also implied permission.

Copyright law offers a good analogy. Lawful users encompass those who carry out an act which falls under a copyright exception. Thus, by operation of law, a user can bypass a technological measure in order to exploit part of a work, say, for illustration in teaching. By engaging in an activity that falls under an exception, that person has acquired a right to exploit the work and is therefore a lawful user. Such a definition grants the rights and exceptions of the lawful user to anyone who falls within the exception as well as to anyone who possesses direct or indirect permission from the database maker.

A second interpretation is that the lawful user may only be construed as a person who gains access to a database through the database maker or one authorized by the maker. This approach conforms to the ECJ's interpretation

81. *British Horseracing Board*, ECJ case C-203/02, 9 November 2004, ¶ 71-72.
82. Vincaine Vanovermeire, "The Concept of the Lawful User in the Database Directive," *International Review of Industrial Property and Copyright Law* 31, no.1 (Feb 2000), pp. 63-81. The author pinpoints a third definition of the lawful user. But this definition seems to be ruled out because of the reference to indirect.
83. European Commission, *Explanatory Memorandum to the 1992 Proposal*, Part Two, ¶ 8.4.
84. *British Horseracing Board*, ECJ case C-203/02, 9 November 2004, ¶ 58.

of lawful user in the new consultation right. A lawful user achieves access through direct or indirect consent. This definition is narrower than the first because it excludes implied consent through operation of law.

The ECJ's interpretation conforms to that of the Software Directive.[85] What it means is that an individual must have legitimate access – whether by direct or indirect permission from the maker – before one can avail oneself of the exceptions. Such an interpretation substantially narrows the scope of the exceptions. The implication is that there can be no use, insubstantial or otherwise, without access.

While this may be an easy formula to implement regarding software in an online context, it is not so easy when it comes to databases. Whether or not online software is provided free or sold, there is always an accompanying clickwrap license which must be accepted before downloading of the program can proceed. Although the legal validity of clickwraps and the provisions they contain vary by Member State, one mouse click may arguably confirm that a person is a lawful user.

The situation is not as clear when it comes to databases. Only a small percentage of databases require payment for access and acceptance of a clickwrap license before every use. Many more merely allow one to view, search and record parts without express permission. While it could be argued that the fact that there is no clickwrap license means everyone is a lawful user, it is quite easy to assert the contrary.

Although the ECJ may have envisioned a situation similar to that in the Software Directive, that situation simply does not exist when it comes to databases. The interpretation of the lawful user as the lawful acquirer is impossible to implement in reality. The consequence is a lack of clarity that will confuse and chill users, including those who want to make productive re-use of a database.

It is unlikely that this is the practical consequence that the Court had in mind. Since the online reality of databases is more like that of copyrighted works in that clickwrap licenses are not ubiquitously available, an expansion of the definition to include lawful use through operation of law may be more viable. It would certainly ease the worry of the consumer and the re-user and would allow everyone to make noninfringing uses of a database in the manner that people, in reality, already do today.

85. Art. 5 of the European Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs Art. 1(2), OJ (L) 122, 17/95/1991.

5.10 Transforming User Rights

Outlining the rights and obligations of the lawful user in Article 8 is a positive development within the Directive.[86] The decision to put forth a list of user rights signals the importance of access for re-users and consumers. The addition of Article 15 to the Directive, which makes any contractual provision against these rights null and void, is also praiseworthy. The combination of detailing user rights in black and white and making them binding wards off any erosion.

The problem is that the rights contained in this section of the Directive are the wrong ones. Traditionally, intellectual property rights are granted to the producer in the form of prohibitions against use without permission. Then exceptions are added which determine the circumstances under which these prohibitions can be legally bypassed. But the landscape of what can be done or not done outside those prohibitions is not laid out because it would be redundant.

The rights and obligations detailed in Article 8 are precisely these redundant ones. The fact is that one can do anything that is not prohibited. The equivalent would be to write a law against going through a red light on a bicycle in Denmark which includes the following section: "A bicyclist cannot be prevented from going through a green light. But in going through a green light, the bicyclist must not hinder others from going through the light. Nor can the cyclist hinder those who are waiting for the red light." Such a law would be slightly absurd.

There are also dangers. The first is that these redundant rights could evolve into substitutes for real exceptions which allow a user to legally engage in acts *prohibited* by a legislation under certain circumstances. Another danger is that access can develop into a kind of two-tiered system of rich users and poor users, particularly if the concept of lawful user is restrictive. Those who have legally acquired a database could exploit the work while those who cannot afford it would have no possibility of access whatsoever. A third danger is that the description of these redundant rights and their legal interpretation may actually result in narrowing them.

For these reasons, it is submitted that the exceptions, as amended in Section 5.11 of this chapter, be transferred to Article 8 on the rights and obligations of lawful users and that the redundant rights be deleted. Article 15

86. Thomas Riis and Jens Schovsbo, "Users' Rights: Reconstructing Copyright Policy on Utilitarian Grounds," *European Intellectual Property Review* 29 no. 1 (2007), pp. 1-5.

should remain. This would prevent producers from attempting to erode these new user rights through contract. Describing the exceptions as rights would also allow the user to know what he or she can do. In an area as confusing as intellectual property law, such a listing could form an important precedent.

5.11 Harmonizing the Exceptions

It is a misconception that the higher qualification threshold solves all problems of access. Once the database right is granted, attention still needs to be paid to ensure free use can be made of those contents that are protected. A strong right could negatively affect the re-user and thus dampen production. It could also deprive the ordinary consumer of private use.

Indeed, there is no logical explanation as to why all the copyright exceptions should not be imported over to databases. Since there is arguably less need for protection of unoriginal database content than for, say, a copyrighted work, it is difficult to understand why there are fewer exceptions than there are for copyright. Indeed, due to a database's function in providing access and the concern that facts and data should not be protected, there is an argument for even more access. Such an amendment would have the added benefit of further harmonizing the law so that the user can more accurately determine what he can or cannot do. It also makes sense from an economic perspective because many of the exceptions, such as that on news reporting, save on transaction costs and thus are economically efficient.

Many stakeholders have voiced a similar opinion. Here, the views expressed in the Commission's 2002 study still have validity because the exceptions have not changed. Both re-users, including libraries and academic organizations, and consumers were concerned that the scope of protection was too broad. Libraries feared information monopolization by electronic journals. This would, of course, increase prices. Some called for a broadening of the private use exception. Those in the academic and scientific community stated that the exceptions were too restrictive. Consumers advocated for continued replenishment of public domain information.

Even worse, the stakeholder opinions from 2005 stated that they simply are forced to risk violating the law when conducting normal activities. Examples mentioned in Chapter 2 were libraries, which engage in substantial re-utilization, and the British Broadcasting Corporation, which includes information from databases in its news reporting. Given the importance of the work of many of these re-users and of consumers, it seems contrary to everyone's interest to restrict their normal activities.

The best solution is to import the copyright exceptions into the Directive and to transform them into user rights. Many of the complaints of re-users would be assuaged with this revision. In addition, private users could exploit materials for research and private study, which is exactly what they expect to do.

5.12 What is the Right of Consultation?

The ECJ was not asked to clarify any exceptions. However, in the process of defining extraction and re-utilization, the Court created a new right of consultation for the lawful user. According to the Court, a database maker can control who has access to his database. But once it is made accessible to the public, either by the database maker himself or by an authorized third party, the right is triggered and a lawful user cannot be prevented from consulting a database. This permission does not exhaust the database right and a lawful user can still be accused of unauthorized extraction or re-utilization of a substantial part of a database. The right of consultation does not deprive the database maker of income, the Court noted, since the cost of consultation can be incorporated into the price of re-utilization.

What precisely is this new right? The only mention of consultation in the Directive is Recital 20, which states, "Whereas 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." This seems to imply that consultation amounts to more than just reading, as it involves the use of a logical system. At that same time, it must not mean extraction, which is defined as "the permanent or temporary transfer of all or a substantial part of the contents of a database."[87]

A careful reading of the ECJ decision in *British Horseracing Board* provides the answer. The right of consultation is first mentioned after the Court has said that infringement of extraction and re-utilization can be both direct and indirect. States the Court, "However, it must be stressed that the protection of the *sui generis* right concerns only acts of extraction and re-utilization as defined in Article 7(2) of the directive. That protection does not, on the other hand, cover consultation of a database."[88] Furthermore, at the end of the discussion on consultation, the Court declares that having this right does not

87. *The 1996 Database Directive*, Art. 7.2.
88. *British Horseracing Board*, ECJ case C-203/02, 9 November 2004, ¶ 54.

exhaust the *sui generis* right and that a maker can still prevent the extraction and re-utilization of a substantial part of the database.

The Court says that Recital 44 and Recital 43 confirm this proposition. According to Recital 44, "when on-screen display of the contents of a database necessitates the permanent or temporary transfer of all or a substantial part of such contents to another medium, that act should be subject to authorisation by the rightholder."

What seems clear is that consultation is not merely viewing. It involves use of some kind of search mechanism. On the other hand, it is not extraction or re-utilization, that is, the temporary or permanent extraction or re-utilization of a substantial part of a database. What consultation is, then, is the temporary transfer of substantial parts of the database by the lawful user. It is the missing normal use provision and should be codified into the law.

5.13 Are the Contents Protected?

From the beginning, the database right represented a conscious decision to abrogate the idea-expression dichotomy in copyright law. However, in making this choice, the Commission took pains not to lock up information. The first draft posited a very narrow right with many avenues of access. One critical mechanism was a compulsory license to ensure the availability of sole-source database contents. But the Council deleted the compulsory license provision on the pretext of having narrowed the right.

In fact, the right had expanded. Without a compulsory license provision and with narrow exceptions, the database right had the potential to actually protect facts and data. This could occur if a database maker, who was the sole-source of the information, refused to license or raised prices so that many could not afford to pay.

The ECJ was very aware of this and its heightened qualification became a new mechanism to manage the idea-expression dichotomy. When pre-existing data was used to make a database, it could be protected without worry. Collecting such data became known as obtainment. But when the data was not available from any other source, its collection did not qualify as obtainment but was rather called creating. This is an ingenious device. But it all hinges on the definition of obtaining.

As previously discussed in Section 5.5 on the qualification threshold, there are some activities such as the discovery of pre-existing data in science that should not be categorized as obtaining. This includes scientific discovery that is so costly that the effect of its protection results in a sole-source database,

even though hypothetically, the data could be collected by someone else. If obtaining were only to consist of the activity of gathering pre-existing material then one could argue that efforts were being made to preserve the idea-expression dichotomy.

Competition law could provide an alternative. But its scope is significantly narrower. In order to be applicable, the database producer must have market power. Once this is proven, the following four factors of abusive behavior must be satisfied under *IMS Health*: (1) the information must be indispensable, (2) the refusal threatens to exclude all competition on the market, (3) the refusal prevents the emergence of a new product for which there is potential consumer demand and (4) the refusal lacks objective justification.[89]

A lack of clarity aggravates the difficulty in relying on competition law. For example, it is not apparent that the decision applies to the database right. Even if it does, the definition of a new product is not clarified at the European level. Furthermore, this decision concerns refusals to license. It does not prevent charging high prices or reducing output. Yet these are activities which can result from overprotection and can operate to reduce access.

In short, competition law does not begin to deal with the everyday, run-of-the-mill access issues that plague re-users and consumers. It is geared toward extreme behavior. While competition law has an important role to play, the less extreme concerns can only addressed within the legislation itself. Competition law may resolve issues such as refusals to license by database makers that have market power. But the consequences of overprotection, such as higher prices, can be influenced by building a narrow right with plenty of avenues of access.

The danger of protecting the contents instead of the investment is that individual pieces of data can be protected. This could be avoided by, for example, ensuring that the qualification threshold is high, that individual bits of data are not protected through the qualitatively substantial criterion and that protection is not perpetual.

But because the issue is not fully resolved, further reports by the Commission should evaluate whether a compulsory license provision is needed. One recommendation would be to conduct an independent, objective and scientific study of the impact of the database right on all stakeholders. Next time, a more rigorous analysis of access issues is in order.

89. See *IMS Health Gmbh & Co OHG v. NDC Health GmbH & Co KG*, ECJ (Fifth Chamber), C-418/01, 29 April 2004.

5.14 Establishing a System of Limited Renewals

How renewal of the term of protection works is just as mysterious as the rest of the Directive. Questions include: (1) does a substantial *new* investment equal a substantial investment?, (2) what specifically is protected?, (3) when is a new term triggered? and (4) is protection perpetual?

The language of the Directive indicates that a substantial new investment is equivalent to the substantial investment of the qualification threshold. In Recital 54, a substantial new investment is referred to as a substantial modification.[90] It seems to entail substantial verification.[91] According to Article 10(3), it can include successive additions, deletions or alterations.

This conclusion is reinforced by the Council's Common Position. Previously, substantial modification was necessary for renewal but this was replaced by the need to establish a substantial new investment. In the Statement of Reasons, the Council said that it had intended to make a link between the substantial investment needed to qualify and that needed for renewal.[92]

Despite clear indications that substantial new investment and substantial investment are equivalent, the lower British court in *British Horseracing Board* seemed to advocate a lower renewal threshold. It defined verification as "ensuring the accuracy of a collection of data" and combined it with Recital 55 in which a substantial verification can result in a new term.[93] From this analysis, the court concluded that "even if the contents of a database do not change substantially, if sufficient investment is put into ensuring that it is up to date and accurate, it is protected by the new right."[94]

Addressing a preliminary question on how a new term is triggered, the Advocate General in *British Horseracing Board* stated that insubstantial changes in sufficient number are to be classified as substantial changes. However, she stressed that the evaluation of whether the changes are substantial must be based on the requirements of the database right. That is, it must be shown that "that there has been qualitatively and/or quantitatively a sub-

90. This may be a leftover from older versions in which a substantial change was defined as a substantial modification.
91. *The 1996 Database Directive,* Recital 55.
92. European Council, Statement of Reasons of the Common Position of the Council (EC) No. 20/95 with a view to adopting a Directive 95/ /EC of the European Parliament and the Council on the legal protection of databases, OJ(C) 288/14 (30 Oct. 1995), point 18.
93. *British Horseracing Board v. William Hill Organization*, High Court of Justice Chancery Division, Case No. HC-2000 1335, London, 9 February 2001, ¶ 35.
94. Ibid., ¶ 36.

stantial investment in either the obtaining, verification or presentation of the contents."[95]

From a policy perspective, there should not be an easier qualification threshold for a term of renewal than for starting up a new database. The criteria should remain the same. The plain meaning of the statute and the legislative intent point toward this interpretation. Moreover, all the examples of a substantial change mentioned in the Directive are examples of verification, which in this thesis can trigger qualification or renewal if coupled with obtaining or presentation.

Still another question is what is protected if a substantial new investment is proven. Article 10(3) says that a substantial new investment "shall qualify the database resulting from that investment for its own term of protection." It is thus arguable whether the database resulting from that new investment comprises only the new additions or the entire database, both old and new. This question is especially important when it comes to dynamic databases, which can be defined as databases that are constantly updated.[96]

The Advocate General's opinion is unhelpful. She misleadingly claims that old information is automatically discarded in dynamic databases. She also states that the Directive anticipated a "rolling *sui generis* right" in which each substantial change conveys a new term of protection for a new database and all its contents.[97] When a substantial new investment occurs, then, what should be protected is the resulting new database.

This analysis is unrealistic simply because there are dynamic databases which change constantly but in which the old information is not discarded. An example would be a legal database. Common law litigation attorneys would rise up in arms if the old cases were discarded. Moreover, if it turned out that one could have rights over all the material that remains in the database, then discarding would stop.

The lower court judge in the *British Horseracing Board* case is also unhelpful. He suggests that a database is constantly being updated and as those updates occur, a new term of protection begins. Protection here extends to the old database, which has been revamped. The judge says, in summary, "In my

95 *The 1996 Database Directive*, Art. 7(1).

96. *British Horseracing Board v. William Hill Organization*, Opinion of Advocate General Stix-Hackl, 8 June 2004, ¶ 147.

97. Id., ¶ 151.

view the BHB Database is a single database which is in a constant state of refinement."[98]

Both theories lead to perpetual protection for the original content that is not discarded. The problem is that unlimited protection arguably gives rise to a right over the facts and data contained therein. This is contrary to Recitals 45 and 46 of the Directive. Given the importance of information and the need to promote access, any regime that provides perpetual protection should be justified. In this case, however, it is difficult to find any reason for continued protection, whereas the cost in terms of access is high. The best policy, then, is to ensure that a substantial new investment leads to the protection of the revised section of the database. Date-stamping can be used to inform others about when a particular part of a database will expire.

Another troublesome question is when precisely a new term is triggered. Is it triggered every time a substantial update occurs? In fact, there is nothing in the legislation itself, the preparatory documents or the academic writings which suggests anything different. So if one creates a database, and after six weeks makes a substantial new investment, then a new term has started. What this means is even if perpetual protection does not adhere to old sections of the database that are not updated, it can still arise for any part of the database that is continuously updated.

Once again, any regime that provides perpetual protection should be justified. The most convincing argument is that if protection is unlimited, a producer will continue to invest in the product. But, it has been argued in the theoretical chapter that whether continued investment occurs depends on many factors, including competition within the particular industry. Moreover, the benefits of investment must be greater than the costs. In this instance, the costs in terms of access may be higher.

This conclusion is reinforced by legal argumentation. Within the Directive, there has been a consistent emphasis on not protecting facts or data and on not creating a new right in the materials. However, perpetual protection does just that. In fact, a careful reading of the first draft seems to reveal that the term was finite with no possibility of renewal. This principle was later changed due to concerns about dynamic databases.

It is also backed by a strategic issue. The granting of perpetual protection marks a new expansion in the area of intellectual property rights. Such an expansion goes against traditions in intellectual property law and is a great

98. *British Horseracing Board*, High Court of Justice Chancery Division, 9 February 2001, ¶ 72.

cause of concern for access. This type of precedent should not begin in an area that is one of the least deserving of protection. Nor should it begin in the absence of a very careful analysis of the legal, economic and practical implications of such an initiative.

One could return to the first draft in which there was arguably only one term. After that, databases would have to use other mechanisms or business strategies to attract their income. Some may state, however, that their investment will discontinue once their right dries up or they may not even produce in the first place.

A good alternative may be to register a database for a fee every 15 years so that there is some form of intent to use the protection. There are administrative costs both to the registrant and to the administrators of the system. However, it is likely that the benefits in increased certainty and access would be worth it.

Registration is beneficial for several other reasons. First, with a registration and date-stamping process, there would be more clarity about what is protected and what is not. Given that qualification for protection is dependent on substantial investment, something that a user can simply never independently know, such date-stamping would result in more confident use. Furthermore, as noted by Landes and Posner, it may result in a larger public domain because only those who will benefit from the right will obtain it.[99] Lastly, registration fees can actually be employed to regulate the size of the public domain. Naturally, the higher the fees, the fewer databases that will be registered.

When it comes to database content protection, it is submitted that the costs of infinite renewal are greater than the benefits. This is because unoriginal content requires thinner protection than copyrighted works. Due to the fact that these contents function as generic infrastructural inputs, access assumes a heightened priority. Therefore, renewal should be limited to three times maximum. This would allow for 45 years of protection and should be more than sufficient.

5.15 Conclusion: The Future

A regulation of the database industry involves a delicate task of providing sufficient production incentives and of safeguarding information access. An

99. Landes and Posner, *The Economic Structure of Intellectual Property Law*, p. 212.

analysis of legal developments in the EC reveals that it is difficult to strike a perfect balance. The fate of this balance is unclear due to the questions that still exist regarding interpretation of the Directive and the conclusions of the Commission's evaluation report.

When it was first implemented, the 1996 Database Directive was overprotective. The newly created right was extremely broad, its term of protection was likely perpetual and it applied against all users, whether noncommercial, commercial, public or private. This resulted in limited access by consumers and may have stymied database production by re-users.

The ECJ judgments of November 2004 may have restored some balance. The Court imposed a high qualification threshold by holding that investment in a database can only refer to the finding and collecting of *existing* data. It can never refer to data creation. As a result, the database right has the potential to more precisely help those who need it. Meanwhile, the contents of databases of those producers who do not need incentives are open for use.

But for those databases that are protected, the right is likely too strong. This could result in a situation in which protection leads to less production, not more. Given the critical importance of access to the information contained in databases, it is urged that the right be further clarified and revised.

In this spirit, the following recommendations are put forth:

1. Restrict the database right to electronic databases and all its other forms,
2. Clarify the qualification threshold so that scientific discovery does not count as obtaining,
3. Determine qualification according to economic criteria,
4. Narrow the scope of the database right to commercial uses defined as "any use – whether domestic or collective – aiming at economic activity or a remunerated transaction,"
5. Determine infringement according to economic criteria,
6. Define lawful user to include those who become legal users by operation of law,
7. Harmonize the exceptions with those in the InfoSoc Directive and rename them the rights and obligations of lawful users. Delete the redundant rights found in Article 8,
8. Codify the consultation right and insert it into the section on the rights and obligations of lawful users,
9. Establish a registration system with the possibility of three renewals, and
10. Conduct an independent, objective and scientific study of the impact of the database right on all stakeholders.

CHAPTER 6

The Effect of No Protection in the United States

6.1 Introduction: The Copyright Balance

The traditional copyright regime of the United States strikes a balance between granting authors incentives to create new works and ensuring a free flow of information to stimulate further creativity and the development of knowledge.[1] The Constitution mandates this balance by directing Congress, "To promote the … useful Arts, by securing for limited Times to Authors … the exclusive Right to their respective Writings."[2]

The Supreme Court explains this rationale, "The limited scope of the copyright holder's statutory monopoly, like the limited copyright duration required by the Constitution, reflects a balance of competing claims upon the public interest: Creative work is to be encouraged and rewarded, but private motivation must ultimately serve the cause of promoting broad public availability of literature, music, and the other arts."[3]

Under the 1976 Copyright Act, protection is extended to authors who create original works, ranging from literature to computer programs, that are fixed in a tangible medium of expression.[4] Databases qualify for protection as

1. Parts of this chapter have been published in: (1) "Will the Internet Turn into a Digital McWorld? The Possible Consequences of the Expansion of the Copyright Monopoly on E-Commerce," in *EU Electronic Commerce Law* (Copenhagen: Djøf Publishing, 2004) and (2) "Who Should Decide? An Evaluation of the Decision Making Process to Protect Factual Database Contents in the US and EU," *Julebog 2005* (Copenhagen: Jurist-og Økonomforbundets Forlag, 2005).
2. *The Constitution of the United States*, Art. I, § 8, cl. 8.
3. *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975).
4. 17 U.S.C. § 101.

compilations under the category of literary works.[5] A compilation is defined as "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."[6]

The statute grants copyright owners the following six exclusive rights: (1) to reproduce their work, (2) to prepare derivative works, (3) to distribute copies by sale, transfer, rental, lease, or lending, (4) to perform publicly, (5) to display the work publicly and (6) to perform sound recordings publicly.[7]

Information flows into the public domain in a variety of ways. The fair use doctrine authorizes certain uses without permission for purposes such as criticism, commentary, news reporting, teaching, scholarship or research.[8] Because the duration of copyright is limited to the life of the author plus 70 years, all material is eventually available for free.[9]

From the moment of creation, the idea-expression dichotomy ensures that certain parts of a work, such as ideas or facts, are not protected and automatically are part of the public domain. It was first elaborated by the Supreme Court in 1879, "The very object of publishing a book on science or the useful arts is to communicate to the world the useful knowledge which it contains. But this object would be frustrated if the knowledge could not be used without incurring the guilt of piracy of the book."[10]

Despite this clear principle, the balance between protection and no protection has swung back and forth when it comes to unoriginal contents. Before

5. § 103(a) of the Copyright Act expressly states, "The subject matter of copyright as specified by section 102 includes compilations." § 102 (a) includes an illustrative and non-exhaustive list of works of authorship that may be protected by copyright if the requisite criteria are met. The Congressional report that explains and accompanies the Copyright Act notes: "The term 'literary works' does not connote any criterion of literary merit or qualitative value: it includes catalogs, directories, and similar factual, reference, or instructional works and compilations of data."
6. Databases that assemble previously copyrighted works fall under a subset of compilations termed collective works. 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." 17 U.S.C. § 101. The copyright in a collective work only extends to the material contributed by that author and not to any copyright in the materials used. Id. § 103(a).
7. 17 U.S.C. § 106. There are no general moral rights. However, § 106(a) provides for the rights of paternity and integrity to creators of visual art. But these rights only last for the author's lifetime and there are many limitations, including for commercial use.
8. Id., § 107.
9. *Id.*, § 302(a).
10. *Baker v. Selden*, 101 U.S. 99, 103 (1879).

1991, some federal circuits recognized rights to the entire database, including its contents, under a sweat-of-the-brow theory that rewarded labor, time and expense. Other circuits adhered to the idea-expression dichotomy by granting copyright to the selection and arrangement of a database but allowing the unoriginal material to remain in the public domain.[11]

The Supreme Court resolved the circuit split by restoring the balance in the 1991 case of *Feist Publications v. Rural Telephone Services*.[12] It held that under the idea-expression dichotomy unoriginal contents are not copyrightable, but that the selection and arrangement of a database is, if original.

The result is a private ordering regime in which the producer who wishes to secure his unoriginal contents must decide upon and pay for the protection desired and for enforcement of it. He has the ability to choose from a variety of methods including technical measures and contractual provisions to prevent copying. Some methods are backed by clear legal precedent. For example, strong enforcement is guaranteed against efforts to circumvent technical measures. However, contractual provisions are only valid in a few jurisdictions.

As a result of these self-help efforts, the balance between production incentives and information access remains tenuous. If these trends become widespread, the danger is that unoriginal material will be even more locked-up than under the database right in Europe.

Yet after 16 years, this fear does not comport with reality. According to statistics from the Gale Directory of Databases, 65% of all databases in 2003 were made in North America, while 29% were generated in Europe.[13] In 1991, North America produced 71% of all databases. The percentage has consistently been at 60% or more since then.

One explanation may be the impact of free access on re-use. A report prepared for the European Commission comparing the open access model of distributing public sector information in the United States with the cost recovery method used in some European Member States reveals that the economic value generated from open access is more productive. The Commission concluded that, "estimates indicate that the US market based on public

11. There are 13 federal court circuits. They comprise the US Court of Appeals for the Federal Circuit and 12 regional circuits each composed of a number of states.
12. *Feist Publications, Inc. v. Rural Telephone Service Co., Inc.*, 499 U.S. 340 (1991).
13. Martha E. Williams, "The State of Databases Today: 2004," *Gale Directory of Databases 2004* Vol. 1, Part 1 (Detroit: Gale Research, 2005).

sector information resources may be several (possibly five) times the size of the comparable European market."[14]

If open access has a similar effect on the re-use of unoriginal content, then it may help explain why the database industry is thriving. It also further strengthens the argument that re-use is critical to greater production within the database industry. However, careful empirical analysis is necessary to determine the validity of these claims.

A lack of protection could result in less production. But it could just as easily result in the generation of more databases that are not dependent on content protection. One possibility is free content supported by advertising. If more producers employ this model, the implications for re-users could be enormous. Only time will tell which of these trends is stronger, if either.

The goal of this chapter is to describe the US regime and explore what lessons it may have for Europe. It begins with a description of the state of the law before 1991 followed by an analysis of the *Feist* decision and its implications. Next, the failed efforts to pass database content legislation will be explored. Interestingly, 10 years of congressional battles reveal that it is the re-users who have defeated passage.

The reaction of database makers dependent on protection of their unoriginal content is then explored. For purposes of this thesis, the analysis concentrates on the validity of contract provisions to prohibit copying and on the strength of the legal protection of technical measures.[15] The chapter will conclude by discussing whether or not similar trends could occur in Europe. In fact, it is difficult to predict how database makers who do not qualify for the database right will react. The lesson is that the situation should be carefully monitored and efforts made to ensure that unprotected contents do not get locked up through other protection mechanisms.

6.2 The Circuits Split on Unoriginal Contents

Prior to 1991, the balancing mechanisms of copyright law were not always applied to databases containing uncopyrightable materials. All courts agreed that unoriginal contents were in the public domain and that compilations were

14. European Commission, Directorate General for the Information Society, "Exploiting the Potential of Europe's Public Sector Information," (Luxembourg: Unit information market E4, May 2004), p. 3.
15. As mentioned in Chapter 1, other legal mechanisms such as trespass to chattels and "hot news" misappropriation are not discussed.

copyrightable. As one court explained, "'a man's name, his occupation, his place of business, and his residence are none of them subjects of copyright.' But, if a man compiles a book containing such information about the residents of a particular place, he may, as we shall see, copyright it as a whole, notwithstanding the fact that the separate parts of which it is composed are not copyrightable."[16] But the courts were split over which part of such compilations were copyright protected.[17]

Some courts proclaimed that unoriginal materials were protected, "The right to copyright a book upon which one has expended labor in its preparation does not depend upon whether the materials which he has collected consist or not of matters which are *publici juris,* or whether such materials show literary skill or originality, either in thought or in language, or anything more than industrious collection."[18]

According to the theory of sweat-of-the-brow or industrious collection, time, labor and expenditure were enough to qualify an entire work as copyrightable, including the unoriginal contents within. The rationale was economic, "The compiler's contribution to knowledge normally is the collection of the information, not its arrangement. If his protection is limited solely to the form of expression, the economic incentives underlying the copyright laws are largely swept away."[19]

Under the sweat-of-the-brow theory, re-users could exploit a previous compilation to verify their own independent effort or consult a previous work to find source material. Ultimately, however, every producer had to go to the original sources and independently produce their own compilation. "Appropriation of the fruits of another's labor and skill in order to publish a rival work without the expenditure of the time and effort required for independently arrived at results is copyright infringement."[20]

16. *Jeweler's Circular Publishing Co. v. Keystone Publishing Co*., 281 Fed. 83, 87 (2nd Cir. 1922).
17. In Europe, the situation pre-*Feist* is generally portrayed as a unified sweat-of-the-brow regime. See, for example, Estelle Derclaye, "Intellectual property rights on information and market power – Comparing European and American protection of Databases," *International Review of Intellectual Property and Competition Law* 38 no. 3 (2007), pp. 275-298.
18. *Jeweler's Circular*, at 88.
19. *National Business Lists, Inc. v. Dun & Bradstreet, Inc.,* 552 F.Supp. 89, 92 (N.D.Ill. 1982).
20. *Orgel v. Clark Boardman Co.*, 301 F.2d 119, 120, cert. denied, 371, U.S. 817, 83 S.Ct. 31, 9 L.Ed. 2d 58 (1962).

In Jeweler's Circular, the court compared two compilations side-by-side and determined that the defendant exercised no independent creation, but merely copied from the plaintiff. The court viewed evidence that the defendant had copied plaintiff's work as enough to prove infringement. But it cited numerous other examples to show that there was no independent creation, including errors that were in both works as well as evidence that the defendant did not verify the materials from original sources, and if it had, did not change any information as requested.

Other courts refused to accept the sweat-of-the-brow theory, "The law of copyrights defies the laws of logic, or, as one commentator puts it, 'the dictates of algebra,' since it 'affords to the summation of one hundred or one million [individual facts and their unadorned expression] a significant measure of protection' while affording none to the facts themselves."[21] This court held that the only protectable aspect of a factual compilation was the original selection and arrangement, but not its unoriginal content. Re-users were free to take the facts, but not the part that was original to the author, namely the selection or arrangement.

By the early '90s, the federal circuits were still split over the issue of what in a compilation was copyrightable. Two of the largest and most active court systems, the 9th and 2nd Circuits, had already forsaken sweat-of-the-brow theory in favor of preserving the idea-expression dichotomy.[22] Other circuits such as the 10th and 7th continued to adhere to sweat-of-the-brow protection.[23]

It is unclear what effect this lack of uncertainty had on database production, if any. Figures from the Gale Directory of Databases portray a clear upward trend from 1979 to 1991. In 1979, North American production was roughly equal to the rest of the world. However, by 1985, the numbers shot up to a little under 2,000 and increased to 4,424 by 1991. By that time, North American production was more than twice that of the rest of the world.[24]

21. *Financial Information, Inc. v. Moody's Investor's Service, Inc.*, 751 F.2d 501,505 (2nd Cir.1984).
22. The 2nd Circuit comprises the states of New York, Connecticut and Vermont. The 9th Circuit includes Alaska, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon and Washington State.
23. The 7th Circuit consists of the states of Illinois, Indiana and Wisconsin. The 10th Circuit comprises Colorado, Kansas, New Mexico, Oklahoma, Utah and Wyoming.
24. Williams, "The State of Databases Today: 2004," (2005).

6.3 The Supreme Court Upholds Free Access

In 1991, the Supreme Court resolved the conflict in the circuits. *Feist Publications v. Rural Telephone Service* involved the most mundane of factual compilations, the white pages of a telephone book. Rural was a public utility that provided telephone service in the Kansas countryside. As part of its monopoly status, it was required by law to print a telephone book. The directory contained yellow pages as well as white pages with 7,700 listings. The company obtained the information for its white pages from its subscriber listings. While the compilation was free to telephone service subscribers, Rural made money by selling advertising space for its yellow pages.

Feist competed with Rural and other telephone services by selling advertising space for the yellow pages of its own directory, which was also free. Feist's directory covered 11 different telephone service areas and contained 46,878 white page listings as well as yellow pages. The company normally paid a licensing fee to obtain its white page listings and Rural was the only telephone service that refused to license. Without Rural's listings, Feist's directory would have been incomplete and the company would have had problems selling advertising space.

Feist used Rural's listings anyway. After discarding those not within its coverage, the company verified Rural's subscriber information and added addresses which were missing. In the end, 1,309 of Feist's white page listings were identical.

Rural sued for copyright infringement arguing that the names, telephone numbers and towns used in its directory were copyrightable. It stated that Feist ought to pound the pavement and collect the information itself. Feist countered that such a proposal was economically impractical and unnecessary because the information copied was in the public domain. The trial court and the court of appeals agreed with Rural.

The Supreme Court disagreed. It began by demystifying two main principles of database protection, that facts are not copyrightable, but compilations of facts are. The key to this paradox, it declared, is originality. The Court said that facts contained in a compilation are not protected by copyright because they are not original. Facts are not original, it explained, because they do not owe their origin to an act of authorship, "The distinction is one between creation and discovery: The first person to find and report a particular fact has not created the fact."[25] Thus, wrote the Court, "census takers, for example, do not

25. *Feist* at 347.

'create' the population figures that emerge from their efforts: in a sense, they copy these figures from the world around them."[26] It continued, "notwithstanding a valid copyright, a subsequent compiler remains free to use the facts contained in another's publication to aid in preparing a competing work, so long as the competing work does not feature the same selection and arrangement."[27]

The Court defined originality as: (1) independent creation by the author as opposed to copying from other works, plus (2) a minimal degree of creativity. It further elaborated, "the requisite level of creativity is extremely low; even a slight amount will suffice. The vast majority of works make the grade quite easily, as they possess some creative spark, 'no matter how crude, humble or obvious' it might be."[28]

Because of the low originality threshold, a compilation could meet the originality criteria and therefore could be copyright protected, "the compilation author typically chooses which facts to include, in what order to place them, and how to arrange the collected data so that they may be used effectively by readers . . . These choices as to selection and arrangement, so long as they are made independently by the compiler and entail a minimal degree of creativity, are sufficiently original that Congress may protect such compilations through the copyright laws."[29]

The Court turned to the definition contained in the 1976 Copyright Act as a test for determining whether or not a compilation qualified for protection. According to Section 101 of the act, a compilation is a work formed by (1) the collection and assembly of pre-existing material, facts or data, (2) the selection, coordination or arrangement of those materials and (3) the creation, by virtue of the particular selection, coordination or arrangement, of an original work of authorship. While the first component of the test merely describes what one does to create a compilation, the Court argued that the last component simply states that the result must be an original work of authorship. Therefore, the most important component of the test is the second element. According to the Court, "the statute dictates that the principal focus should be on whether the selection, coordination, and arrangement are sufficiently original to merit protection."[30]

26. Id.
27. *Feist* at 349.
28. Id., at 345.
29. Id., at 348.
30. Id., at 358.

In applying this originality test to the case at bar, the Court declared that there was no originality in either the selection or arrangement of the white pages of a phone book. In terms of selection, it said, "Rural's selection of listings could not be more obvious: It publishes the most basic information – name, town, and telephone number – about each person who applies to it for telephone service. This is 'selection' of a sort, but it lacks the modicum of creativity necessary to transform mere selection into copyrightable expression."[31] Nor was the arrangement sufficiently original, "there is nothing remotely creative about arranging names alphabetically in a white pages directory. It is an age-old practice, firmly rooted in tradition and so commonplace that it has come to be expected as a matter of course."[32]

In deciding that the white pages of a telephone directory could not be protected by copyright, the Court opined, "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 ... This decision should not be construed as demeaning Rural's efforts in compiling its directory, but rather as making clear that copyright rewards originality, not effort." In further justifying its decision, the Court said, "it may seem unfair that much of the fruit of the compiler's labor may be used by others without compensation ... however, this is not 'some unforeseen byproduct of a statutory scheme.' It is, rather, 'the essence of copyright'."[33]

6.4 The Repercussions

The Supreme Court decision in *Feist* was not earth-shattering from a theoretical perspective. Rather it functioned as a purification of existing case law and practice. The Court reconciled the fundamental principles of copyright law with the daily jumble of judicial decision making and confirmed the placement of the idea-expression dichotomy as a central principle of copyright law. By grounding the definition of originality in the Constitution, arguably for the first time, it heightened the importance of originality in copyrighted works.[34] The result would make it even more difficult to dilute the originality concept.

31. Id., at 362.
32. Id., at 363.
33. Id., at 371.
34. This makes it more difficult to pass a database protection law. However, it has been argued that a law can be passed through the commerce clause of the Constitution. See,

Despite the seemingly genial nature of the decision, the Register of Copyright, Ralph Oman, commented, "the Supreme Court dropped a bomb."[35] Prior to *Feist*, he claimed that the Copyright Office generally accepted registration from database owners under the sweat-of-the-brow theory. Some database producers may have thought that their unoriginal content was protected. However, any business who had their data taken in a circuit that did not adhere to sweat-of-the-brow theory would have known better.

Even if the selection or arrangement of a work was sufficiently original, the protection given to the work was thin. After *Feist*, the case law generally revealed that near identical copying of the selection or arrangement of a compilation was infringement, anything less was not. Even if it was sufficiently original, proof of copyright infringement required near exact copying. Thus, the case law generally revealed that if a re-user's selection and arrangement varied by more than a trivial degree, it would not infringe the first producer's copyright.[36]

From a producer's perspective, it could be argued that copyright protection was almost meaningless. The Supreme Court acknowledged this result, "Notwithstanding a valid copyright, a subsequent compiler remains free to use the facts contained in another's publication to aid in preparing a competing work, so long as the competing work does not feature the same selection and arrangement. As one commentator explains it: 'No matter how much original authorship the work displays, the facts and ideas it exposes are free for the taking'."[37]

Clearly, the Feist decision would have negative repercussions for those database producers dependent on protection of their unoriginal content. One reaction was to lobby for the passage of legislation similar to the 1996 Database Directive.

for example, Justin Hughes, "How Extra-Copyright Protection of Databases Can be Constitutional," 28 *University of Dayton Law Review* 159 (2002).

35. Copyright Office And Copyright Royalty Tribunal Report Status To House Panel, 41 Pat. Trademark & Copyright J. (BNA) No. 524, (April 18, 1991).
36. This was confirmed by analyzing all cases involving selection and arrangement of a compilation since 1991. They are too numerous to mention but are on file with the author.
37. *Feist* at 349.

6.5 Re-users Defeat Legislation

Efforts to introduce legislation to protect database contents began in 1996 immediately after the passage of the Database Directive in the European Community.[38] But even though bills have been introduced in almost every Congressional term ending in 2004, none have passed.[39] Over the years, two main models of protection have been forwarded.

The first is an exclusive rights model in which database makers are given a right to prevent certain uses of their database content. The "Database Investment and Intellectual Property Antipiracy Act of 1996" is an example of the strongest version of this model.[40] Databases that qualify for protection are "the result of a qualitatively or quantitatively substantial investment of human, technical, financial or other resources in the collection, assembly, verification, organization or presentation of the database contents" and are "used, reused or intended to be used or reused" in commerce.[41] This definition is very similar to that in the Database Directive except that, here, protected databases have to be of commercial interest.

The exclusive rights granted are also very similar. No person is allowed to "extract, use or reuse all or a substantial part, qualitatively or quantitatively…of the contents of a database…in a manner that conflicts with the database owner's normal exploitation of the database or adversely affects the actual or potential market for that database."[42] "The repeated or systematic extraction, use or reuse of insubstantial parts, qualitatively or quantitatively" is also prohibited.[43]

The term of protection is 25 years. Any change of commercial significance can trigger a new term. Remedies for violations include both civil and criminal. Contrary to the Database Directive, all provisions of the act can be waived through contract.

As bills were repeatedly rejected in Congress, legislative initiatives began featuring narrower rights. A second model introduced was variations of the

38. For information on bills considered, see http://thomas.loc.gov/home/c110query.html (last visited 9 August 2007). For information about congressional hearings on database protection, see the US House of Representatives Judiciary Committee Subcommittee on Courts, the Internet, and Intellectual Property at http://judiciary.house.gov/ committeestructure.aspx?committee=3 (last visited on 9 August 2007).
39. See http://judiciary.house.gov/bills.aspx
40. H.R. 3531, 104 Cong. (1996).
41. Id., § 3.
42. Id., § 4(a)(1).
43. Id., § 4(a)(2).

tort of misappropriation. One of the last bills considered on 2 March 2004, was an effort to codify the "hot news" exception.[44] The purpose of the "Consumer Access to Information Act of 2004" is "to prohibit the misappropriation of databases while ensuring consumer access to factual information."[45] The bill deems the misappropriation of a database as an unfair method of competition or an unfair or deceptive act to be enforced by the Federal Trade Commission.

A violation occurs under the following circumstances: "(1) a person generates or collects the information in the database at some cost or expense, (2) the value of the information is highly time-sensitive, (3) another person's use of the information constitutes free-riding on the first person's costly efforts to generate or collect it, (4) the other person's use of the information is in direct competition with a product or service offered by the first person and (5) the ability of other parties to free-ride on the efforts of the first person would so reduce the incentive to produce the product or service that its existence or quality would be substantially threatened."[46]

The failure to pass even the narrowest form of protection in 16 years illustrates the strength of stakeholders for whom free access is critical. From this perspective, it is instructive to understand the type of representation in both the judicial and legislative processes. During its deliberations over *Feist*, the Supreme Court accepted motions to submit *amicus curiae* briefs from third parties that proved an interest in the case.[47] Most were commercial competitors whose businesses included the production or re-use of telephone directories. Several parties had been or were involved in other lawsuits against each other that involved the copyright of unoriginal contents.

Seven third parties supported Rural Telephone Services, including associations representing 200 American publishers concerned with protecting their factual compilations and the majority of American telephone companies.

Five parties supported Feist's position that factual contents were not copyrightable. They comprised associations representing 33,000 direct mail marketers who rely on telephone books to compile their mailing lists, 11 publishers of cross reference directories which take telephone book contents and arrange them according to telephone number or address instead of name and

44. Because it is a codification of the "hot news" tort of misappropriation, it would not be considered broad enough in the European context.
45. H.R. 3872, 108 Cong. (2004).
46. Id., § 2(b).
47. All Supreme Court documents including *amicus curiae* briefs are available on westlaw.

120 publishers of independent telephone directories which do not own telephone services.

Many of the participants in the lawsuit agreed that Congress should define the copyright balance. During the history of legislative activity, a wider spectrum of stakeholders was represented. Pubic hearings were held in 1997, 1998, 1999 and 2003. The hearings featured a healthy mix of those in favor and those against protection. Those for protection comprised companies who made money selling their factual databases. They were represented by groups such as the Coalition Against Database Piracy, the Information Industry Association and the Association of Directory Publishers.

Those who favored little or no protection included a wider pool of re-users and consumers. They represented the majority of US universities, public libraries, scientists, medical researchers and engineers. For example, the library associations that gave testimony represented 80,000 nonprofit libraries of the 120,000 existing in the United States.

Opponents to protection proved very persuasive both because of the sheer numbers they represented and because of their warning that protection of unoriginal contents could bring the US research and innovation system to a halt. Their lobbying might continues to be strong enough that it is unlikely that any legislation similar to the Database Directive will pass in the foreseeable future.

Moreover, passage of such legislation could be counterproductive.[48] As the situation stands now, re-users are free to transform unoriginal contents for other creations, including more databases. Noncommercial database makers and private users can continue the level of information sharing to which they are accustomed. Because the database industry continues to grow despite the absence of a secure form of content protection, one implication could be that free access is important to a thriving database industry. Without concrete empirical evidence, however, it is impossible to make a decisive conclusion.

6.6 Copyright Pre-empts License Provisions

After *Feist*, database protection was insecure under copyright law. Even if the selection and arrangement of a database was copyrightable, infringement

48. For a contrary opinion, see Derclaye, "Intellectual property rights on information and market power – Comparing European and American protection of Databases," p. 298.

required near exact copying. If a re-user's selection and arrangement varied by more than a trivial degree, then it would not infringe the first producer's copyright. Database makers dependent on protection of their unoriginal contents sought other alternatives.

Mass market licenses offered a possible solution. Businesses typically use licenses to detail the rights and obligations of the parties. Standard provisions include those that disclaim warranties, limit liabilities and remedies and designate the legal forum for disputes.[49] Mass market licenses allow businesses to determine which provisions to include while purchasers generally accept them on a take-it-or-leave-it basis.

Licenses used on digital products come in several forms. Shrinkwrap licenses often accompany CDs, including those with electronic databases. Typically, a sheet of license terms is wrapped in transparent plastic along with the disks. Buyers allegedly signify acceptance by tearing open the plastic wrap and using the disks. Shrinkwrap licenses, or references to them, can also be printed on the outside of boxes or included in the product box or user manual.[50]

Online licenses usually appear in two forms, clickwraps or browsewraps. A product with a clickwrap license cannot be used until the purchaser actively assents to the license terms, usually by clicking on an icon or by typing "I accept." Browsewrap licenses are more problematic. A browsewrap license, or a hyperlink to it, normally appears on a website owner's homepage. Although the user is advised not to proceed further if they do not agree to the license terms, nothing prevents the user from accessing the product without first reading the license.

It was believed that license provisions could be used to prevent copying of unoriginal content. But in the US, federal copyright law superseded state contract law. Thus any license provisions affecting copyright were traditionally held invalid. According to the supremacy clause of the Constitution, "This Constitution, and the Laws of the United States which shall be made in Pursuance thereof . . . shall be the supreme Law of the Land."[51] Within the area of copyright, a state law right will be invalid if, (1) Congress expressly

49. Since this discussion is restricted to limitations that impact copyright, general contract law provisions will not be detailed.
50. See Mark A. Lemley, "Intellectual Property and Shrinkwrap licenses," 68 S. *Cal. L. Rev.* 1239, 1241 (July 1995).
51. The Constitution of the United States, Art.VI, cl. 2.

reserves a particular area of the law (express preemption) or (2) a conflict exists between state and federal law (conflict preemption).[52]

Section 301(a) of the copyright act expressly mandates preemption if the following two-pronged test is satisfied: (1) the work at issue falls within the "the subject matter of copyright" and (2) the right asserted is "equivalent to any of the exclusive rights" of the copyright holder.[53] The general subject matter of copyright is broader than what can be copyright protected. For example, facts fall under the general subject matter even though they are not copyrightable. If a work is encompassed by copyright, preemption will only occur if the state law right "is infringed by the mere act of reproduction, performance, distribution or display."[54]

Many circuits require an 'extra element' to uphold a state right. An extra element means that the state law right is qualitatively different than rights afforded under copyright law.[55] While tortuous interference of contractual relations is often preempted, privacy right violations, trade secret infringements and deceptive trade practices, such as false labeling, passing off and fraudulent representation, are generally not preempted because they contain elements that are different in kind from copyright.[56]

A state law right that survives express preemption can still be invalid under conflict preemption. The Supreme Court has determined that, "When state law touches upon the area of these federal statutes, it is 'familiar doctrine' that the federal policy 'may not be set at naught, or its benefits denied' by the state law."[57] To determine conflict preemption, courts often compare the objectives and impact of the state law right with that of copyright to see if there is a clash.[58]

The first decision to evaluate the intersection between contract and copyright was the 1988 case of *Vault Corp. v. Quaid Software Ltd.*[59] The 5th Circuit Court of Appeals employed both an express and a conflict preemption analysis to strike down a shrinkwrap license provision that prohibited reverse

52. A third type of preemption is when a court determines that Congress intended to have exclusive authority over a particular area of the law (field preemption).
53. 17 U.S.C. § 301(a).
54. *Baltimore Orioles, Inc. v. Major League Baseball Players Asso.*, 805 F.2d 663, 677 (7th Cir. 1986).
55. *National Car Rental Sys., Inc. v. Computer Assocs. Int'l, Inc.,* 991 F.2d 426, 431 (8th Cir. 1993).
56. H.R. Rep. No. 94-1476 (1976).
57. *Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225, 229 (1964).
58. See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470 (1974).
59. 847 F. 2d 255 (5th Cir. 1988).

engineering. The state had passed a law that granted software producers the right to use specific terms in their licenses. The court found conflicts between the state law, upon which the license provision was based, and federal copyright. These included the following: (1) the state law allowed a perpetual bar on copying, while the federal act provided copyright for a limited duration, (2) the state law banned all copying, while the federal act provided limitations, and (3) the state law protected all works, while the copyright act only protected original works by authors.

Since the *Vault* decision, the two critical issues have been whether licenses for digital products are valid and whether a license provision can prevent copying.[60] What occurred was that courts began to favor a contract law analysis and failed to correctly apply the preemption doctrine. This opened up an opportunity for database makers to protect their unoriginal content, but only in some federal jurisdictions.

6.7 Online Licenses and Provisions to Prevent Copying

Disputes began over the validity of shrinkwrap licenses. The question facing courts was whether a shrinkwrap license provision is part of the sales contract. The answer turned on when the contract was formed.

Courts initially deemed shrinkwrap licenses invalid. In the 1991 case of *Step-Saver Data Systems Inc. v. Wyse Technology*, a dispute arose over the

60. Policymakers are trying to solidify the erratic case law by proposing legislation that clearly legitimizes online licenses. All attempts have failed to date. The Uniform Computer Information Transactions Act was formulated in 1999 to resolve conflicting case law by clearly making clickwrap and shrinkwrap licenses enforceable. Applicable to software and digital content contracts, UCITA was severely criticized because it lacked clarity and would result in much litigation, it failed to protect the interests of licensees and it allowed licensors to expand the scope of their copyright. Its failure was made clear on 1 August 2003 when the National Conference of Commissioners on Uniform State Laws, which actually wrote the model law, withdrew its support.

    The Uniform Commercial Code (UCC) is a model law that applies to most commercial transactions. It has been enacted by every state in one form or another. As of May 2003, efforts have continued to revise Article 2 of the Uniform Commercial Code (UCC) which has been adopted in some form in all 50 states. Strenuous critiques have arisen such as: (1) information, including digital information, appears to have been removed from the definition of a good resulting in a possible void in the law for online transactions and (2) the revisions do not take a stand on delayed disclosure of standard form terms and, in fact, allow acceptance by a consumer of a delayed term, but not through express agreement as is the case under the current UCC 2-207.

faulty operating system of a computer hardware and software package.[61] The plaintiff asserted that the limitation on damages and warranty disclaimer contained in the shrinkwrap license was part of the contract.

The court disagreed. It stated that the parties' conduct had established a contract but that the nature of the terms was unclear. It then applied Uniform Commercial Code (UCC) §2-207 which is used to discover contract terms in classic battle-of-the-forms cases involving the sale of goods. According to UCC §2-207(1), "A definite and seasonable expression of acceptance or a written confirmation which is sent within a reasonable time operates as an acceptance even though it states terms additional to or different from those offered or agreed upon." In a contract between two merchants as in the case at bar, "(2) such terms become part of the contract unless, (b) they materially alter it." Since the shrinkwrap provisions materially altered the contract and the plaintiff did not expressly agree, the court invalidated the provisions.

Step-Saver was the first decision to strike down a shrinkwrap license under the UCC. In the 1993 case of *Arizona Retail Sys. v. Software Link*, a federal district court applied a different UCC provision. It held that in the initial sale of computer software involving two merchants, receipt of an evaluation diskette through the mail was an offer and opening the envelope constituted acceptance.[62] In this particular instance, the court determined that the shrinkwrap license was part of the contract.

But in all subsequent sales, the contract was formed through agreement on price and quantity over the telephone and consequent shipping or an offer to ship. The shrinkwrap license appeared after the contract was formed and represented a proposal for a modification of the contract. Under UCC §2-209, the warranty disclaimer contained in the shrinkwrap license materially altered the contract and required express assent. Because the plaintiff did not expressly agree to the additional term, the provision was held invalid.

The 7th Circuit decision of *ProCD, Inc. v. Zeidenberg* changed the debate regarding the validity of a shrinkwrap license. It was also the first dispute since *Vault* that considered the validity of a license provision to prevent copying. The defendant had purchased copies of plaintiff's software program which consisted of listings from 3,000 telephone directories and copyrighted software needed to access the data. A shrinkwrap license that accompanied the software restricted copying of the data to personal use and prohibited any

61. 939 F.2d 91 (3d Cir. 1991).

62. 831 F. Supp. 759 (D. Ariz. 1993). The court also had to decide which law to apply. If the product was a service then state contract law applied. But if the product was a good, the UCC applied. Most courts apply the UCC even for software products.

distribution. The defendant took the telephone listings and made the raw data available to Internet users for a lower price. The plaintiff sued for copyright infringement and breach of the shrinkwrap license.

Contrary to the *Vault* decision, the district court began by analyzing the contract. It agreed with the *Step-Saver* and *Arizona Retail* decisions and stated that regardless of whether it applied an analysis under UCC §2-207 or §2-209, the defendant, not a merchant, was required to expressly assent to the terms of the shrinkwrap license whether the contract was materially altered or not. Since the he did not assent, the court held, "mere reference to the terms at the time of initial contract formation does not present buyers an adequate opportunity to decide whether they are acceptable. They must be able to read and consider the terms in their entirety."[63]

Even if the shrinkwrap license was valid, the district court preempted the plaintiff's breach of contract claim. Employing the two-pronged test under §301 of the Copyright Act, the court found that, (1) the data, though not copyright protected, did fall under the subject matter of copyright and (2) the rights asserted were equivalent to the exclusive rights of reproduction and distribution. In making its decision, the court opined, "It is ironic that after plaintiff has attained the benefits of copyright law, it wants to prevent others from receiving that same protection. Unfortunately for plaintiff, the rules of the game have not changed. Just as plaintiff had public access to the telephone listings, so do defendants. Plaintiff cannot use a standard form contract to make an end run around copyright law."[64]

In 1996, the 7th Circuit Court of Appeals reversed the decision.[65] It pointed out that reference to license terms on the product box at the time of contract formation was indeed sufficient. The court further stated, "Notice on the outside, terms on the inside, and a right to return the software for a refund if the terms are unacceptable . . . may be a means of doing business valuable to buyers and sellers alike."[66]

The court employed the flexible provision of UCC § 2-204(1) on general contract formation to argue that the shrinkwrap license was part of the contract. According to § 2-204(1), "A contract for sale of goods may be made in any manner sufficient to show agreement, including conduct by both parties which recognizes the existence of such a contract." The court interpreted the provision to mean that "a vendor, as master of the offer, may invite accep-

63. *ProCD, Inc. v. Zeidenberg*, 908 F. Supp. 640, 654 (W.D.Wis. 1996).
64. Id., at 659.
65. *ProCD, Inc. v. Zeidenberg*, 86 F. 3d 1447 (7th Cir. 1996).
66. Id., at 1451.

tance by conduct, and may propose limitations on the kind of conduct that constitutes acceptance. . . . ProCD proposed a contract that a buyer would accept by *using* the software after having an opportunity to read the license at leisure."[67]

The court explained that the package of 3,000 telephone directories cost US $10 million to create. To sell its product, the plaintiff decided to price discriminate by charging a lower price to individual consumers than to businesses. The court asserted that in order to charge that lower price, the plaintiff needed to control arbitrage. Rather than provide an inferior product with, for example, data that was older, the plaintiff introduced a license to restrict the data to private use and to prohibit its distribution. Without the license, the court argued that a higher price would have to be charged to recoup investment costs. Consumers would lose as a result.

Turning to the question of preemption, the court agreed that the work fell under the subject matter of copyright. However, it held that contract rights are not equivalent to rights under copyright. Although not specifically spelling out the distinction, the court implied, through the use of prior case law and examples, that the element of promise made a contract qualitatively different. It concluded, "A copyright is a right against the world. Contracts, by contrast, generally affect only their parties; strangers may do as they please."[68]

67. Id., at 1452.

68. The ProCD decision is not the last word. Within the federal court system, only the 7th Circuit recognizes shrinkwrap licenses. See also *Hill v. Gateway*, 105 F.3d 1147 (7th Cir. 1997)(shrinkwrap license enclosed with computer upheld). Some state courts have also validated shrinkwrap licenses. See *Brower v. Gateway 2000*, 676 N.Y.S.2d 569 (N.Y. App. Div. 1998)(shrinkwrap delivered with computer valid); *M.A. Mortenson Co. v. Timberline Software Corp.*,93 Wa. App. 819 (Wash. Ct. App. 1999)(shrinkwrap license terms of software program part of the contract); *Rinaldi v. Iomega Corp.,* No. 98C-09-064 RRC, 1999 Del. Super. LEXIS 563 (Del. Super. Ct. Sept. 3, 1999) (shrinkwrap included with zip drive valid).

    Shrinkwrap licenses remain invalid in the 5th and 3rd Circuits. See *Vault Corp.,* 847 F.2d 255; *Step-Saver*, 939 F.2d 91. Although not at the court of appeal level, a 9th circuit district court has also denied the validity of a shrinkwrap license. See *Arizona Retail*, 831 F. Supp. 759. A district court in the 10th Circuit recently followed suit. *Klocek v. Gateway, Inc.*, 104 F. Supp. 2d 1332 (D. Kan. 2000)(shrinkwrap enclosed with computer invalid because: (1) UCC 2-207 applies, (2) vendor is not typically master of the offer and (3) purchaser must expressly accept terms).

6.8 Online License Validity

The *ProCD* decision smoothed the way for the enforcement of online licenses. From the beginning, clickwrap licenses were deemed clearly valid. Because the purchaser affirmatively clicks or writes "I agree" to the terms before the product is received, mutual assent is not controversial.[69] The binding nature of a clickwrap license has also been upheld.[70]

Browsewrap licenses are more problematic. The issues are whether there is sufficient notice and mutual assent. Although court decisions vary, a certain pattern based on the *ProCD* analysis may be emerging in some jurisdictions. For these courts, sufficient notice on a website's initial homepage serves to incorporate license terms imbedded further into the website, just like the reference outside the box in *ProCD*. If the notice clearly indicates that using the site binds the consumer and the consumer does in fact make use of the site, then mutual assent may be found.[71]

The clearest example of an emerging rule can be found by tracking the progress of *Ticketmaster v. Tickets.Com*. The defendant copied and deeplinked public domain information from other websites, including from Ticketmaster. Ticketmaster's homepage contained a browsewrap restricting its information to personal use. Notice was placed at the bottom of Ticketmaster's homepage in such a way that without an unusually large computer screen, the user had to scroll down to see it. The district court refused to honor the license because "many customers instead are likely to proceed to

69. *Barnett v. Network Solutions, Inc.*, 38 S.W.3d 200, 203-04 (Tex. Ct. App. 2001)(parties agree there is a contract); *Moore v. Microsoft Corp.*, 741 N.Y.S.2d 91 (N.Y. App. Div. 2002)(license valid because it was prominently displayed on screen and user was required to click "I agree" before software could be installed). *I. Lan Sys., Inc. v. Netscout Serv. Level Corp.*, 183 F. Supp. 2d 328 (D. Mass. 2002)(clickwrap valid under either UCC 2-204 or 2-207).

70. *Barnett*, 38 S.W.3d 200, 203-04 (user bound to clickwrap license because one has obligation to read what one signs and absent fraud is not excused from the consequences).

71. See *Pollstar v. Gigmania, Ltd.*, 170 F. Supp. 2d 974, 981-82 (E.D. Cal. 2000)(motion to dismiss denied because under 7th Circuit case law the license may be arguably valid and enforceable. But the court is concerned that notice appears in small, gray text on a gray background on a linked webpage); *Register.com, Inc. v. Verio, Inc.*, 126 F. Supp. 2d 238 (S.D.N.Y. 2000)(because of the warning: "by submitting to this query, you agree to abide by these terms" there is no question that the user manifested assent); But see *Specht v. Netscape Communs. Corp.*, 150 F. Supp. 2d 585 (S.D.N.Y. 2001) aff'd 306 F.3d 17 (2d Cir. 2002)(notice insufficient and downloading the software does not manifest user's assent).

the event page of interest rather than reading the 'small print.' It cannot be said that merely putting the terms and conditions in this fashion necessarily creates a contract with any one using the web site."[72]

Three years later, Ticketmaster changed its notice by prominently placing a warning on its homepage. Although the court stated that clickwrap licenses provide more legal certainty, it refused to grant summary judgment against a breach of contract claim based on the browsewrap license. Referring to *ProCD*, the court stated, "a contract can be formed by proceeding into the interior web pages after knowledge (or, in some cases, presumptive knowledge) of the conditions accepted when doing so."[73]

While the 9th Circuit may lean towards validation of browsewrap licenses, the 2nd Circuit has refused.[74] One district court has said, "The case law on software licensing has not eroded the importance of assent in contract formation. Mutual assent is the bedrock of any agreement to which the law will give force. Defendants' position, if accepted, would so expand the definition of assent as to render it meaningless."[75]

6.9 Are Copy-prevention Provisions Valid?

ProCD is the re-user's nightmare. In one stroke, the decision effectively eliminated a key mechanism for preserving the copyright balance: the preemption doctrine. Other courts have followed suit by refusing to preempt mass market license provisions that expand copyright.[76]

72. No. CV 99-7654 HLH (BQRx), 2000 U.S. Dist. LEXIS 4553, 8 (C.D. Cal. 27 March 2000).
73. *Ticketmaster v. Tickets.Com,* No. CV99-7654-HLH(VBKx), 2003 U.S. Dist. LEXIS 6483, 10 (C.D. Cal. 6 March 2003).
74. *Specht v. Netscape Communs. Corp.,* 150 F. Supp. 2d 585 (S.D.N.Y. 2001) aff'd 306 F.3d 17 (2d Cir. 2002) (notice insufficient and downloading the software does not manifest user's assent).
75. Id., at 596.
76. See *Lipsher v. LRP Publs., Inc.*, 266 F.3d 1305 (8th Cir. 2001)(subscription agreement restricting public domain jury verdicts not preempted because agreement affects only the parties); *Information Handling Servs. v. LRP Publs., Inc.,* No. 00-1859, 2000 U.S. Dist. LEXIS 14531 (E.D. Pa. Sept. 20, 2000)(shrinkwrap license provision prohibiting copying of public domain administrative decisions not preempted); *Bowers v. Baystate Techs.*, 320 F.3d 1317 (Fed. Cir. 2003)(shrinkwrap license prohibiting reverse engineering not preempted because mutual assent and consideration renders the contract claim qualitatively different).

Following the *ProCD* logic that contracts are different, the 8th Circuit Courts of Appeals, the Federal Circuit, and a 3rd circuit district court upheld similar license provisions. Just as in *Vault* and *ProCD*, these provisions: (1) protected data that is expressly non-copyrightable, (2) prohibited all copying and (3) created a perpetual copyright.[77]

Though these courts have followed its precedent, the *ProCD* decision has been severely criticized. The court's opinion in *ProCD* that contracts are different is based on three cases that are not on point because each contract in question did actually have an extra element and therefore should not have been preempted.[78] Moreover, the concrete examples the court mentions – such as if the preemption doctrine applied, the promise to return a rented videotape would not survive scrutiny, and neither would trade secret infringement – are similarly incorrect and unpersuasive.[79]

An equally faulty contract analysis compounds the problem. The court acts as if the contract in question is the product of an individual negotiation between two equal parties. But it is a mass market license in which the buyer must either accept the terms or return the product. In fact, returning an item could prove difficult or downright impossible. Stores often refuse to accept returns once a package has been opened. Although the court says that the shrinkwrap's restrictions are applied against an individual party, its mass market nature makes it effectively apply against the world. In such a context, one would expect even more protection than that given in the cases of *Step-Saver* and *Arizona Retail* which involved licenses between merchants.

The uncertain state of the law is not good news from the database producer's perspective because it offers little security. For example, it is not clear if shrinkwrap or browsewrap licenses are valid. Clickwrap licenses, such as

77. *Baltimore Orioles*, 805 F.2d 663, 677.
78. See *Taquino v. Teledyne Monarch Rubber,* 893 F.2d 1488, 1496 (5th Cir. 1990) (prohibition against using sale materials for competing business in exclusive dealer agreement not preempted); *Acorn Structures v. Swantz,* 846 F.2d 923, 926 (4th Cir. 1988)(implicit promise to pay for architectural plans or building materials not preempted); *National Car Rental Sys., Inc. v. Computer Assocs. Int'l, Inc.*, 991 F.2d 426, 433 (8th Cir. 1993)(prohibition using software program for third parties for payment not preempted).
79. The court also failed to analyze the case under the doctrine of conflict preemption. As the Supreme Court has stated, "The most fundamental axiom of copyright law is that 'no author may copyright his ideas or the facts he narrates'." *Feist Publications,* 499 U.S. 340, 344-5 (1991). Clearly any license that prohibits the copying of facts touches on an area of copyright law and conflicts with Congress' decision to make facts automatically part of the public domain.

those used in pay-per-use databases, offer more legal certainty. Yet while it is typical to include copy-prevention language in a license, such provisions have been held valid in only a few federal jurisdictions. A database maker interested in protecting his unoriginal content is therefore forced to look elsewhere.

6.10 Technical Measures Offer Secure Protection

Technical measures combined with strict laws against circumvention provide the most effective form of protection. Congress passed the Digital Millennium Copyright Act in 1988.[80] The DMCA is a powerful legal mechanism. Rather than vary in judicial interpretation as is the norm, federal courts seem to agree on how the DMCA should be enforced and readily grant preliminary or permanent injunctions to stop circumvention.

Section 1201 of the DMCA prevents the circumvention of technical measures that protect access to copyrighted works and to the copyright owners' exclusive rights. Under §1203, infringements can be addressed through injunctions, monetary damages and destruction of prohibited devices. Monetary damages can be calculated as actual damages suffered plus the violators' profits. Civil remedies can also be determined by statute. Statutory damages under §1201 range from US $200 to $2,500 per act. Each violation of §1202 varies from US $2,500 to US $25,000 per act.

Under §1204, any person who willfully violates the statute for commercial advantage or private financial gain can be indicted for a criminal offense. Criminal penalties for the first offense comprise up to 5 years imprisonment and/or a fine of not more than US $500,000. The penalty for a subsequent offense is imprisonment for up to 10 years and/or a fine of not more than US $1,000,000.

Section 1201 contains anti-circumvention and anti-trafficking provisions aimed at preventing unlawful access to a copyrighted work and unlawful violation of the copyright owner's exclusive rights. The anti-circumvention provision of §1201(a)(1)(A) targets those who gain access to a copyrighted work by breaking through a digital wall, "No person shall circumvent a technological measure that effectively controls access to a work protected under this title." According to the case law, access control measures that have been

80. 17 U.S.C.§§ 1201-1205.

circumvented include converters, encryption and scrambling programs, authentication sequences and other computer programs.[81]

The DMCA also contains two anti-trafficking provisions. While §1201(a)(2) prevents trafficking of devices that circumvent access control technologies, §1201(b) prevents trafficking of devices that circumvent protection of an exclusive right of copyright. The statute defines dealing in prohibited devices as manufacturing, importing, offering to the public, providing or trafficking. According to the case law, posting a prohibited technology on a website or linking to other websites that have the prohibited device is considered trafficking.[82]

Under the statute, prohibited circumvention tools are defined as technologies, products, services, devices, components or parts thereof. Trafficking is prohibited only if a circumvention tool: (A) is primarily designed or produced to circumvent *or* (B) "has only limited commercially significant purpose or use other than to circumvent" *or* (C) "is marketed by that person or another acting in concert ... with that person's knowledge for use in circumventing."[83] A circumvention tool need only satisfy one classification.

Courts have banned the trafficking of a console that circumvents the geographical limitation of video games, a VCR that overrides an authentication code to allow streaming of multimedia, a software program that decrypts the encryption algorithm and access keys to DVDs and a decoding device that descrambles pay-per-view TV signals.[84]

Section 1201(b) prohibits trafficking in technologies used to protect one of the six exclusive rights of the copyright owner. According to the statute, such technical measures consist of those that "in the ordinary course of operation prevent, restrict, or otherwise limit the exercise of a right of a copyright owner." Courts have banned the trafficking of circumvention tools such as a

81. See, for example, *CSC Holdings, Inc. v. Greenleaf Electronics, Inc.,* 2000 WL 715601 (N.D. Ill., 2000)(pirate TV decoding device); *RealNetworks, Inc. v Streambox, Inc.* 2000 WL 12731 (W.D. Wash. 2000) (pirate media player decoding device); *Directv, Inc. v. Ferguson,* 328 F. Supp. 2d 904 (N.D. Ind. 2004)(pirate satellite TV decoding device).

82. See, for example, *Universal City Studies, Inc. v. Reimerdes*, 111 F.Supp.2d 294 (S.D.N.Y., 2000), affirmed by *Universal City Studies, Inc. v. Corley*, 273 F.3d 429 (2nd Cir., 2001).

83. §§ 1201(a)(2) and1201(b).

84. See *Sony Computer Entertainment America, Inc. v. Gamemasters*, 87 F.Supp.2d 976 (N.D.Cal., 1999); *RealNetworks, Inc. v Streambox, Inc.,* 2000 WL 12731; *Paramount Pictures Corp. v. 321 Studios*, 2004 WL 402756 (S.D.N.Y., 2004); *CSC Holdings, Inc.,* 2000 WL 715601.

VCR that allows downloading of streamed multimedia from the Internet, a software program that allows downloading, copying and distribution of DVDs and a cable pirating device.[85]

The use of technical measures backed by strong legal protection seems like good news for the database maker who wishes to protect his unoriginal content. The combination of technical measures backed by the law offers an ironclad form of protection that can be controlled by the producer himself. Although paid for by the owner, the cost can be passed onto consumers and re-users.

But the possibility of the increased use of technical measures is a cause of concern for re-users and consumers, particularly since the law is not on their side. Within the US, legal scholars, research institutes and libraries, and civil liberties groups have argued that technical measures upset the traditional copyright balance. Such concerns may have come to a head because locking up unoriginal and other public domain content seems even more permanent through the use of technical measures than through the expansion of copyright or the employment of restrictive license provisions. But the DMCA has survived all challenges.[86]

In 2002, a court rejected the argument that the DMCA was unconstitutional because it prevented access to free material. The court declared, "Nothing within the DMCA grants any rights to anyone in any public domain work. A public domain work remains in the public domain and no party has any intellectual property right in the expression of that work."[87]

The court further argued that the defendants wrongly assumed that the only available version of a public domain work was electronic. In reality, the publisher only controlled one version of the work, while others remained freely available. The court concluded, "Publishing a public domain work in a restricted format does not thereby remove the work from the public domain, even if it does allow the publisher to control that particular electronic copy. If this is an evil in the law, the remedy is for Congress to prohibit use or access

85. *RealNetworks, Inc. v Streambox, Inc.,* 2000 WL 12731(preliminary injunction); *Paramount Pictures Corp. v. 321 Studios*, 2004 WL 402756 (S.D.N.Y., 2004)(preliminary injunction); *CSC Holdings, Inc.,* 2000 WL 715601(permanent injunction).

86. The DMCA cannot be pre-empted. This is because the DMCA is also federal law and in fact comprises part of the 1976 Copyright Act. The federal copyright law cannot pre-empt itself. Derclaye disagrees. See Derclaye "Intellectual property rights on information and market power – Comparing European and American protection of Databases," pp. 294-6.

87. *U.S. v. Elcom,* 203 F Supp. 2d. 1111, 1131 (N.D. Cal. 2002).

restrictions from being imposed upon public domain works. Or perhaps, if left to the market, the consuming public could decline to purchase public domain works packaged with use restrictions."[88] The court did not address what should happen if the particular data had only one source and it was protected by technical measures.

In reality, widespread use of technical measures is against everyone's interest. As has been shown in the previous chapters, overprotective measures can hinder the creation of more databases. It could also result in less consumer access and re-use for other productive activities. While database production is currently thriving in the United States, in the long run it is unclear whether the trend will move towards greater use of technical measures and a permanent lock-up of information.

6.11 Using License Provisions and Technical Measures in Europe

The heightened qualification threshold of the 1996 Database Directive may provide additional incentives for use of license provisions and technical measures to protect factual database content. This is cause for concern. Yet similar to the situation in the United States, it is not clear whether shrinkwrap, clickwrap or browsewrap licenses are valid in the European Community or whether license provisions prohibiting certain actions allowed by the Directive would be upheld. Moreover, the legislation in Europe allows for an overriding of technical measures to make use of an exception and mandates Member States to aid in this process, if necessary. In order to ensure that information remains available in the long term, therefore, a careful monitoring of these developments is necessary.

The only two statutes that shed light on these problems are Directive 97/7/EC on Distance Contracts and Directive 2000/31/EC on Information Society Services.[89] The first Directive applies to suppliers of products and consumers, while the second covers suppliers of services and consumers. Both involve contracts concluded from a distance.

A goal of these Directives is to promote transparency to enable consumers to make well-informed decisions. Although they provide basic rights of in-

88. Id., at 1132.

89 Directive 97/7/EC of the European Parliament and of the Council of 20 May 1997 on the Protection of Consumers in respect of Distance Contracts; Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services.

formation to protect consumers, neither defines how a contract is formed. Such information is important in determining the validity of online licenses.

What is certain is that contract terms must be clear and downloadable. In the Directive on Distance Contracts, information must be "provided in a clear and comprehensible manner in any way appropriate to the means of distance communication used."[90] Moreover, written confirmation must be provided in a "durable medium" that is "available and accessible."[91] The Information Services Directive mandates that information provided, whether or not a contract is formed, must be "easily, directly and permanently accessible."[92] When a contract is actually made, "contract terms and general conditions provided to the recipient must be made available in a way that allows him to store and reproduce them."[93]

These rules indicate that there must be some form of sufficient notice of basic contract terms and that those terms must be downloadable. Based on the law, then, one could argue that browsewrap licenses do not meet these requirements and thus are likely invalid. Whether or not specific Members States would validate shrinkwrap licenses is subject to debate. According to one scholar, France and Germany would recognize shrinkwrap licenses under certain circumstances, while the Netherlands would not.[94] Clickwrap licenses, if their terms are clear and downloadable, are most likely to be accepted.

It is also unclear whether database producers can expand protection through licenses. Under Article 15 of the Database Directive any contractual provision contrary to Article 8 is void. Article 8 of the *sui generis* right provides that a lawful user can use insubstantial parts of a database without permission as long as it does not conflict with normal exploitation or prejudice any copyright holder of materials included in the database.

Whether or not license provisions can be used to deny database users the right to any other limitation or exception is debatable. In terms of whether exceptions and limitations of copyright can be prohibited by contract, one scholar believes that in France license provisions that expand copyright would probably be allowed, whereas in Germany they would probably not.[95]

90. Art. 4.2.
91. Art. 5.1.
92. Art. 5.1.
93. Art. 10(3).
94. Lucie Guibault, *Copyright Limitations and Contracts: An Analysis of the Contractual Overridability of Limitations on Copyright* (The Hague: Information Law Services, Kluwer Law International, 2002), p. 201.
95. Id., at 220-222.

While the status of licenses and license provisions is in doubt, the protection of technical measures, incorporated into Chapter III of the Information Society Directive 2001/29/EC, is strong, but varies from the US in several ways.[96] The statute is divided into an anti-circumvention and an anti-trafficking component. Article 6.1 mandates the provision of "adequate legal protection against the circumvention of any effective technical measures, which the person carries out in the knowledge or with reasonable grounds to know, that he or she is pursuing that objective."

The anti-circumvention provision embraces both efforts to circumvent access to copyrighted works and any efforts to circumvent technical measures that protect an exclusive right of copyright such as reproduction or dissemination. This makes the provision potentially broader than its US equivalent.

At the same time, however, the anti-circumvention provision requires proof that the action was carried out "in the knowledge or with reasonable grounds to know, that he or she is pursuing that objective."[97] It may significantly weaken the force of the provision, especially outside the EU, if it can be shown that the person performing the act did not know about the provision. In the US, the intent requirement is absent except where criminal sanctions are sought.

The anti-trafficking provision is similar to that in the US. It requires Member States to provide "adequate legal protection against the manufacture, import, distribution, sale, rental, advertisement for sale or rental, or possession for commercial purposes of devices, products or components or the provision of services which" aid in circumvention.[98]

The definition of technical measures comprises both access and copyright control technologies. Technical measures are defined as "any technology, device or component that, in the normal course of its operation, is designed to prevent or restrict acts, in respect of works or other subject-matter, which are not authorized by the rightholder of any copyright or any right related to copyright as provided for by law or the sui generis right provided for in Chapter III of Directive 96/9/EC."[99]

In stark contrast to the US, Member States are encouraged to promote voluntary agreements to achieve the objectives of the exceptions and limita-

96. Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society.
97. Id.
98. Art. 6.2.
99. Art. 6.3.

tions.[100] If voluntary agreements are impossible, Member States are mandated to take appropriate measures to ensure that users can exercise limitations and exceptions. Article 6.4 specifically states that technical measures can also be circumvented in order to achieve the exceptions and limitations outlined in the Database Directive. How effectively this provision will be implemented is open to question. Therefore, it should be carefully monitored because it is an important way to ensure that unoriginal contents are not made inaccessible through the use of technical measures.

6.12 Conclusion

The US features a private ordering regime in which the producer decides upon and pays for the type of protection desired and for enforcement of it. Producers have the ability to choose from a variety of methods including technical measures backed by strong legal enforcement. The danger is that all information can be controlled by the producer and will be inaccessible to the user in the long run. However, evidence in the last 16 years reveals that this has not occurred and that instead re-use through free access has been stimulated. Whether this positive trend will last is unclear.

What does this mean in the European context? Every compiler who does not qualify for the database right is saddled with a number of costs. The primary one is the price of protection. Additional costs include payment for legal enforcement of that protection as well as rent-seeking to broaden the applicability of less secure forms, such as contractual provisions. To the extent such costs are passed onto the re-user and consumer, it spells higher prices and reduced access.

Indeed, producers who use technical measures thrive in a regime of no content protection. For example, pay-per-use databases do not need extra incentives. They are already protected through technical measures, copyright in the structure and arrangement, if original, and contractual provisions, if valid. They also gain from knowing that enforcement against the circumvention of technical measures is backed by law, as is the protection of the structure and arrangement under copyright. The fact that other forms of protection are uncertain may not be decisive.

There are other businesses that may thrive under a regime of no content protection. These include database makers who sell advertising to capture an

100. Art. 6.4 and Recital 51.

income and allow free access to their content. In the absence of content protection, such database makers simply find other methods of recouping their investment. One example is Yahoo! Europe whose income generating activities include selling advertising space, sponsored searches and personal ads.

The last category is database makers whose primary investment is in adding value directly to their content. Such databases may feature unoriginal structure and arrangement simply because that is what customers expect. Their content is vulnerable to wholesale copying by competitors and by other users who may not wish to pay for the data.

These compilers will have to decide if they wish to use technical measures. Some may feel they cannot afford it. Just as with the advertising model, others may not be able to apply these measures simply because the industry will not accommodate them or customers are not willing to pay. They, too, will be forced to find a business model that allows them to make an income.

The bottom line is that it is impossible to tell how database makers will react. Either information could be protected even more than it is under the European database right or efforts will be made to switch to a model where protection of database contents is unnecessary. A good model is that of free content combined with advertising. While the first scenario is a cause of concern given the importance of re-use in the database industry, the second is a cause for celebration.

Luckily, the European Community has already implemented measures to ensure that a locking up of information is less likely. With continued monitoring of the situation, it is possible that database production could stay free of unhealthy trends and instead move towards a productive future.

CHAPTER 7

A Final Analysis – Comparing Two Policy Options

7.1 Introduction: Revising Policy

The goal of this thesis is to build a convincing argument that in order to best regulate databases, access should be prioritized. This hypothesis is derived from three factors: the nature of the subject matter, an economic analysis of the law and the empirical evidence offered by the EC and US protection regimes.

Each chapter provides reasons for why access is so important. In Chapter 2, it was posited that the social value of a database emanates from its ability to afford access. For example, the function of a database is to allow information to be understood, analyzed and transformed. Access is therefore necessary to utilize this resource tool.

Moreover, a sampling of the models of production and use exposes the extent to which re-use is needed to create databases and to contribute to other important sectors of society. This dynamic process calls for a re-categorization of stakeholders. While they are typically divided into producers and users, they really ought to be called producers, re-users and consumers. This shift in interests enables a better understanding of how to regulate. In order to support production incentives and to encourage other productive activities, the solution is additional access.

These observations are strengthened by the economic analyses in Chapter 3. Landes and Posner assert that the greatest productivity can only be achieved if access is permitted. Under their model, protection increases costs for both producers and copiers. Even at the optimal level, they assume that copiers will create less. But they believe this decrease will be offset by

greater output from original producers. Due to the critical role of re-use in database production, it is suggested that the optimal level may be lower than that for copyright.

Frischmann and Lemley's infrastructural theory more accurately reflects the reality within the database industry. These academics assert that when intellectual property qualifies as a generic infrastructural input, the demand-signaling function of the traditional supply-side model can be so inadequate that the only remedy is to prioritize access. This occurs in situations in which an intangible product is used as an input for many different types of goods produced in a variety of production modes. It is suggested that databases function as generic infrastructural inputs. The implication is that the encouragement of re-use is critical.

The importance of re-use is further supported by evidence from the United States, as explained in Chapter 6. The fact that the industry is thriving, despite database contents not being protected, suggests that access does not inhibit, but may actually stimulate additional production, at least in the short term. This is contrary to developments in the EC as described in Chapters 4 and 5, where the needs of re-users have been inadequately addressed until the recent ECJ decisions.

The purpose of this chapter is to synthesize the evidence in order to make a final determination on how best to regulate databases. The analysis will proceed as follows. All the evidence from the proceeding chapters will be marshaled to prove that databases function as generic infrastructural inputs. Such a conclusion provides clear guidelines for confirming and answering the policy questions.

Since access is dependant upon the state of the law, the regulatory implications of recognizing databases as generic infrastructural inputs are enormous. Without heightened access, the value of databases to society is compromised because re-use flounders. Instead of formulating a strategy of strong protection with narrow access, the policy should be turned around. The priority should be placed on flexible access with minimum incentives.

After answering the policy questions, an evaluation of the two policy options will be possible. These models are: (1) the relevant law currently operating in Europe and (2) the proposed amendments to that applicable law. The effects of these two models on the three different stakeholders – the producer, the re-user and the consumer – will be examined. Through such an exploration, it will be argued that the best way to adhere to the requirements of a generic infrastructural input and to satisfy all stakeholders' needs is to revise the Database Directive and its interpretation according to the amendments proposed in Chapter 5.

7.2 Are Databases Generic Infrastructural Inputs?

In order to qualify as a generic infrastructural input, a database must be: (1) nonrivalrous (2) an input and (3) generic. All three criteria must be satisfied. An examination of the evidence available leads to the conclusion that databases are generic infrastructural inputs.

Since a database is a form of intellectual property as explained in Chapter 2, it is by definition nonrivalrous. Thus, a person's use does not exhaust a database, and many different people can exploit it simultaneously. One goal in the regulation of such a resource is to take advantage of this simultaneous use.

To be considered an input, a database must function as a building block for other productive activities. As explained in Chapter 3, an input can be viewed as "an enabling foundation on which others can build." The social value of an input is not adequately measured by the demand and supply signals of an ordinary market transaction. This is because it fails to take into account the high social value that will be realized through re-use. Granting more access can correct this problem.

All evidence points towards a database as an input. It has been shown in Chapter 2 that the function of a database is to facilitate information use. Implicit in this function, then, is the idea that a database will be employed as an input for further production.

An investigation into the incentive and access needs of the industry reveals the extent. Databases are often exploited to create other databases. Commercial databases rely on free access to material from public ones. Online city guides harvest their information from other databases. Libraries frequently combine compilations in order to improve research opportunities. Databases are also re-used to create additional productive value for society.

The high social value of such activities is not always realized in an ordinary market transaction. For example, what would happen if the Copenhagen city guide, www.aok.dk, suddenly started charging for its product? No doubt some would willingly pay, but many would find a substitute such as one of the free newspapers available in the city. Others would simply do without. The price of using the city guide would not reflect the social value of allowing free access. That value includes the publication of books and reviews, the compilation of lists and schedules, increased traffic to linked websites, better quality tourist activities and more business for those mentioned on the website. Yet the guide may not attract enough customers. Eventually, the website may close down when in fact its social value is rather high.

As illustrated in Chapter 5, the general purpose of the Database Directive, its definition of a database and its high qualification threshold all reflect the importance of a database as an input. For example, Recital 9 recognizes a database as "a vital tool in the development of an information market" and acknowledges that "this tool will also be of use in many other fields."

The definition of a database in Article 1.2 also mirrors this function, "a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means." What separates a database from a copyrighted work, according to the ECJ, is the fact that its contents comprise independent materials that can be separated without their value being affected. Implicit in this definition is that every piece of material is capable of being retrieved and re-used.

The ECJ's decision to raise the qualification threshold provides additional evidence of the importance of a database as an input. As explained in Chapter 5, this threshold operates as a critical lever to control the size of the public domain. Due to the Court's line-drawing, manufacturers of sports fixtures and of horseracing lists cannot prevent use of their database content unless they make a substantial investment in obtaining, presenting or verifying it.

The divergent examples of the legal regimes in the United States and Europe portrayed in Chapters 4-6, further strengthen this argument. It has been suggested that one reason for the unanticipated results in Europe is that the critical role of re-users was not recognized in the applicable law until the ECJ decisions. In contrast, a policy of no protection in the United States encourages re-use. The short term result is a thriving database industry.

The critical requirement for qualification as a generic infrastructural input is that a database must be generic. This means that it can be used as a building block to produce a wide variety of goods and services, including private, public and nonmarket goods. These goods can be created through various modes of production including commercial, noncommercial and commons-based. If an input is generic, then it is assumed that the demand signals from an ordinary transaction distort to such an extent that a policy of open access is required.

As explained in Chapter 3, a cure for a disease is not considered generic because, though an important discovery, its output possibilities are limited. The Internet, on the other hand, is considered generic because it can be used for a wide variety of applications. Other inputs that qualify include basic research, operating systems, abstract ideas and peer-to-peer file sharing technology.

Since a database can comprise nearly all information, the production possibilities resulting from its use are only limited by human ingenuity and legal

access. A database is generic simply because its breadth ranges widely and it can be employed for an unlimited number of productive uses for the creation of private, public and nonmarket goods. Moreover, a database can be produced in a variety of ways ranging from commercial, such as Westlaw, to public, such as that of the Danish Meteorological Institute, to commons-based, such as Wikipedia.

A summary of all the evidence reveals that a database is a generic infrastructural input. As argued in Chapter 2, a database resembles the Internet more than a copyrighted work. Both are resource tools which require heightened access.

7.3 The Policy Questions Revisited

The policy implications of determining that a database is a generic infrastructural input are enormous. A database is socially valuable because it is used to create all types of products. The goal, then, is to encourage access to generate the greatest variety of goods, including databases. This means that the focus must shift from ensuring that the most vulnerable database producer is strongly protected to guaranteeing that the overall production needs of society are satisfied. It also implies that the aim of any regulation is not to provide an incentive but instead to balance incentives with access.

Clearly, the policy dilemma is no longer how to stimulate production. Instead, it is:

1. What is the best way to provide production incentives for those who need it?
2. What is the best way to provide legal access to materials contained within a database?

These questions are not new. A balancing of production incentives with information access is already evident in the original intent of the legislation, the general purpose of the Database Directive and the heightened qualification threshold mandated by the ECJ. Answering these two questions can provide important guidelines for evaluating the available policy choices.

As the authors of infrastructural theory acknowledge, a legal incentive may be necessary. The analysis in Chapter 2 revealed that some database producers require protection. While minimum incentives are prescribed, it is up to the policymaker to determine the precise level. Given the nature of the database industry, it is submitted that the right should be just enough to

stimulate production. Anything more would jeopardize positive externalities emanating from access.

Efforts can also be made to generate further investment. But this extra protection must be balanced against the costs of access. If additional value has been added, then such protection may be worth it.

Which type of producer requires an incentive? As was argued in Chapter 2, the motivations of those not out to make a profit are likely to come from somewhere other than the market. In fact, evidence suggests that statutory protection may hinder their activities and that widespread exchange of data is a priority.

This narrows the provision of incentives down to those who wish to make a profit. It has already been established that commercial database makers can be divided into producers for whom incentives may be required, and re-users, for whom access may be critical. But even some producers obtain their incentives elsewhere. For example, the ECJ has decided that database makers do not qualify if their investment consists of the creation of data and not its obtainment. This seems reasonable because such businesses would have manufactured databases anyway. Any legal incentives would be pure rent and thus would thwart access.

The category of stakeholders that depend on statutory incentives may be even smaller. Their protection needs will depend on the model used to generate an income. For example, entities that use technical measures may not require an extra incentive.

On the other hand, databases in which the content is available for free and which depend on advertising may need some protection. The main concern here is that competitors, including companies or private persons, are prevented from copying their data without paying and using it in a way that jeopardizes demand for the original product. Thus, protection needs are somewhat thin and may resemble prohibitions against unfair competition.

Other producers may need a stronger form. They include those whose income source emanates from adding value to the unoriginal content. Such compilers are likely to benefit not only from a prohibition on copying by competitors, but also from ordinary subscribers who may not pay for the data, if their taking threatens incentives. For these database makers, protection may be somewhat thicker.

Lastly, some producers who have decided to continue investing in their database may need a statutory incentive to maintain their product. There may be reason to provide it, but only if the benefits are greater than the costs. One method is to require that the value added to the database enhances rather than

hinders information access. If so, then there may be a valid argument to extend protection.

What, then, is the best way to provide production incentives for those who need it? Given the varying degrees of protection required by the industry, it seems clear that the best choice is one that is flexible. This would enable decisions to be made on a case-by-case basis. Similar to copyright then, protection could be thick or thin depending on the production model.

What are the important considerations regarding access for generic infrastructural inputs? According to infrastructural theory, open access should be forwarded. This does not mean that an input is free. Instead, it means that access is guaranteed to all regardless of identity or use.

A high priority should be placed on access for re-users because their activities tend to result in concrete and measurable advancements in society. Their needs vary from substantial to insubstantial use. Database makers may rely on free access to public domain materials. Some may capture their income by harvesting information. Others may actually buy their information but hope for an affordable price.

Providing access to consumers is just as critical. This is because generic infrastructural inputs are necessary for less measurable but important outcomes such as democratic development, educational advancement or social experimentation. As was discussed in Chapter 2, consumers wish to be able to consult, share and make insubstantial uses.

Given these various requirements, what is open access in the context of databases? Because the needs of re-users and consumers also vary, emphasis should be placed on flexibility. This means that everyone should be able to conduct their normal activities without taking a legal risk. Several methods can be used to ensure this possibility. Overprotection should be avoided so that prices remain affordable. Sole-source database makers should be monitored and actions taken if there are refusals to license. Re-users and consumers should continue being able to take the amounts necessary to continue their activities as long as it does not jeopardize demand for the original product.

Any regime that decides it is socially valuable to protect databases must have the goal not only to produce as many as possible but also to ensure as much access as befits a generic infrastructural input. These two goals are not mutually exclusive. On the contrary, they can be mutually reinforcing. A law that encourages database production and allows enough access for re-users to compete in the market will result in more databases. A law that further encourages productive uses that go beyond the database market, such as in research or education, will result in still more databases.

7.4 The Current Regime Skimps on Access

The relevant law grants *sui generis* protection for databases that qualify. It results in two intertwining regimes. Those unoriginal database contents that remain unprotected exist in a system similar to that of the United States. Those that do qualify are offered a flexible, strong right with inflexible, narrow access.

Since the United States has been operating for more than 16 years under a regime of no content protection, it is valid to examine what happened there and to adapt its lessons to the European context. The US features a private ordering regime in which the producer must decide whether his unoriginal contents need protection and if so, pay for it himself. The most secure mechanism is the employment of technical measures. But there are other possibilities. For example, a database maker could shift to a model in which protection of contents is unnecessary. While use of technical measures would reduce access, adoption of a model with unprotected content would enhance it.

It is difficult to predict the behavior of those who are unprotected. Within the European context, there may be some who try to bypass the qualification threshold. The discussion in Chapter 5 revealed that this may be fairly easily accomplished. For example, sole-source database makers may be able to sell their data to a subsidiary and qualify under obtainment. This is rent-seeking and may not be what the database right was meant to encourage.

In a private ordering regime, producers have to find other ways to generate incentives. The lack of certainty could result in fewer databases. But it could also result in more databases that do not need protection of their contents. One such model is free access coupled with advertising. The growth of these types of databases would stimulate re-use and consumer access, which is exactly the aim in regulating generic infrastructural inputs.

Still others may decide to make a substantial investment in the obtaining, presentation and verification of the contents in order to qualify for the right. Such an investment would be just as positive for the user provided that there is true value added to the product.

A lack of protection could also result in efforts to reduce costs. One cost cutting measure is the re-use of free information. Re-users rely on varying quantities of free content. Some may survive by regularly taking small bits of data in order to compile information about the contents of a variety of databases. Still others may require substantial amounts.

Access to unoriginal material allows noncommercial compilers such as scientists, academics and librarians to conduct their activities without worry-

ing about the law. They will be able to do as they please with content that lacks protection.

With free access, then, more types of production and more uses will be stimulated than under a regime of database content protection. Given that databases are generic infrastructural inputs, free use of data can result in a wide variety of transformative activities ranging from value-added databases to technological and scientific innovation. This is good from the perspective of the re-user and from the perspective of society as a whole.

Consumers can also benefit. They can employ unprotected information for their own personal use and for that of their friends and family. Access not only benefits a given individual, but also contributes to a more informed population and enhances other features of a liberal society such as democratic debate.

But this state of affairs could be short term. Any information that is protected by technical measures is likely to be higher priced. This is because the cost will be passed on to the buyer. The result is less re-use. The more widespread the application of technical measures, the less access there will be. For this reason, it can be said that a regime of no content protection may be good in the short run. Careful monitoring and regulating is necessary, however, to ensure that the long term consequences continue to be positive.

The result may be different for databases that qualify. There is a high degree of flexibility built into many components of the right, from the qualification threshold to its scope to its duration. This is admirable. But it also encourages rent-seeking by some who will naturally attempt to broaden its scope. To the extent they are successful, there will be even stronger protection and less access. Unless this tendency is carefully monitored, it can negatively impact the production of databases, their re-use and private use.

A producer naturally wishes to qualify for the database right. Indeed, the very point of the threshold is to ensure that all databases have a chance at protection no matter what their size or the required skill in compiling. The benefit is increased user-friendliness of the information contained. Since the threshold is rather flexible, there is a good chance for protection. For example, the investment can be qualitatively or quantitatively substantial, it can be measured in relative terms and it can consist of obtainment, verification or presentation.

If a database qualifies, the right functions as a subsidy so that the compiler does not have to pay for protection himself. He can then choose whether or not to further protect through other measures. This subsidy could induce the creation of databases in which the statutory protection of content is critical.

Because a substantial investment is required in obtaining, verifying and presenting, it could also result in more databases that are beneficial to users.

The right provided is quite strong. It allows prevention of a substantial extraction and re-utilization and of a repeated and systematic insubstantial taking. It covers all activities, whether commercial or noncommercial. Because infringement can be measured in quantitative and/or qualitative terms, there is a built-in flexibility in determining infringement. Moreover, there is the possibility of perpetual renewal by engaging in normal maintenance activities such as updating and verifying.

At the same time, there is little access. For example, only lawful acquirers can make insubstantial uses. This restricts the number who can avail themselves of free access. In addition, the exceptions are few and narrow. For example, consumers can only make substantial private use of nonelectronic databases. This allows the producer to guard against unauthorized copying and increases the value of the database.

Does the database right satisfy the needs of the producer? For some, it may be overprotective. Pay-per-use databases are given additional value which may be unnecessary. For database makers who sport a model of free content with advertising, it may also be overprotective. This is because their main threat comes from those who copy their database and take away demand for their product, not from other types of use. The consequences of overprotection could include reduced access, higher transaction costs and, in some cases, monopoly pricing.

On the other hand, the directory publisher who adds value to the data itself, and who may have little in the way of other forms of protection, may feel underprotected. He could argue that insubstantial uses can also jeopardize his investment. In truth, this would only be the case if demand for his database were negatively affected. In fact, some insubstantial uses could result in increased exploitation of the original product.

What is the effect of the right on the re-user? From the point of view of qualification, there is a good chance that a re-user's database will be protected. This is because the whole point of re-use is to invest in pre-existing material. If that investment is substantial, then protection will be granted.

However, the re-user is less lucky when it comes to access. Since the lawful acquirer is considered the lawful user, the chances for making insubstantial uses are reduced. For example, a database owner who harvests information from other databases risks legal action because they may not be considered a lawful acquirer. In the event that a sole-source database maker is protected, those who wish to lawfully exploit the database may not be able to

obtain the information barring a suit in competition law. The overall effect is increased transaction costs, increased prices and less access.

What about re-users who are not database makers? Unfortunately they are not better off. Although scientists and academics can make substantial uses under certain circumstances, this exception only applies to extraction and not to re-utilization. Given the extent of cooperation required, their activities are hampered. Moreover, in some jurisdictions, certain types of re-use are left out. One casualty is the British Broadcasting Corporation which wants to report information contained in databases. Yet, it must risk infringement in order to conduct its normal activities.

The consumer will also suffer. If they buy a database, they will be able to take insubstantial amounts, share the data with others and consult the database. The problem is that one has to be a lawful acquirer in order to take advantage of such a right. Moreover, any substantial use is only allowed for nonelectronic databases. Thus, although the purpose of this Directive is to encourage the development of the information society, the public-at-large is left without access to information on their computer. Given the strength of the database right, such a gap must be an oversight.

7.5 Providing Minimum Incentives and Flexible Access

The proposed amendments to the Directive and to its interpretation by the courts are aimed at promoting the use of database contents as generic infrastructural inputs. The implication is that the best way to regulate in a manner that advances social welfare is to create a regime of minimum incentives coupled with flexible access.

The basic problems with the current regime are as follows. The challenge for unprotected contents that do not qualify will continue. Only time and careful monitoring will reveal if the trend is to lock up information or to free it. For those that do qualify, there is a natural tendency to strengthen the right. One goal of the amendments, then, is to ensure that any protection succeeds in securing minimum incentives without unduly jeopardizing access. At the same time, access is currently narrow and inflexible. Therefore, additional suggestions are aimed at enhancing access so that the full benefits of re-use and consumption can be realized.

Flexibility is built into the qualification threshold. This is desirable if it advances a system of minimum incentives and promotes the general welfare. There are three mechanisms to ensure such an outcome. The first is to narrow the subject matter to “an electronic database and all its other forms.” The

purpose is to gently push database makers into the digital world without negatively affecting their incentives. At the same time, digitization will increase access. Producers who wish to pursue digitization but lack the money could be eligible for public funding.

Database makers can decide for themselves whether such a transformation is desirable. If not, then their unoriginal content will be unprotected but other rights could apply such as copyright of the structure and arrangement. This situation is not new. For example, significant access to unoriginal database content in paper form is already contemplated in the Directive. It contains an exception for substantial private use of nonelectronic databases.

The second mechanism is to ensure that the threshold is not easily bypassed by rent-seekers. This can be achieved by requiring that qualification include more than one of the three criteria of obtainment, verification and presentation. Compilers would be prevented from selling their product in order to gain protection. They would also be encouraged to generate databases that feature additional value added that facilitates use of the contents and so benefits society.

The last suggestion is that the qualification threshold be enforced so that only those who need protection receive it. This could be achieved by answering two questions: (1) Does the producer depend on database content protection to recoup his investment?, (2) If not, would the granting of a right advance access by adding additional value to the information so that it can be understood, analyzed and transformed?

The purpose of the first question is to ensure that only producers who are dependent on content protection receive it. If not, the aim of the second question is to encourage those who do not need an initial incentive to invest even further in their database. If that investment results in added value to the finished product, the rationale is that the benefits of protection for both the producer and the user will outweigh the costs.

What is the overall effect of the revised qualification threshold on the database maker? Those who are truly dependent on an incentive will receive it. Those who may not be dependent on an initial incentive will receive it if they add value to the database. Users will gain simply because a system of minimum incentives carefully narrows the right, thereby expanding access.

Once qualification is obtained, how does the revised right operate? There are three proposals that function to narrow the right, but at the same time provide the protection necessary. The first is to restrict it to commercial uses. The rationale behind this suggestion is that commercial database makers need to recoup their investment and make a profit, while noncommercial compilers should be able to remain in a world of information sharing and exchange.

Within the parameters of this amendment, producers can decide for themselves who their targeted user group is. It does not mean, for example, that scientific databases cannot be commercialized. A biotechnology company can sell its data so long as there is demand for the product. If there is not, then that information should remain in the public domain due to its critical value to noncommercial scientific research and to subsequent societal advancement. In balancing the costs of commercialization against the benefits of access, then, such an amendment falls on the side of access because this is better for the overall welfare of society.

The second proposal is that infringement should be determined according to the investment taken and not according to the contents. This ensures that the money put into generating a database is protected, but no more. While it may narrow the right under some circumstances, it still adequately aids the producer who can be assured that his investment is safeguarded.

In making a decision about whether infringement has occurred, the question that should be asked is whether or not the activity results in a loss of demand for the original product. There are several rationales for this proposal. First, such a requirement offers adequate, but minimum, incentives. Naturally, producers wish to obtain the most income from their product. Thus any income loss is regarded as detrimental. However, the purpose of the legislation is not to subsidize the producer so that they can capture all potential income. The purpose is to provide a base level of protection so that an incentive is granted. After that, it is up to the database maker to use his own ingenuity to generate additional income.

In fact, there are times when re-use can result in additional income for the original producer. This is the case with sports betting. Because organizations can lawfully use the contents of fixture list databases, increased betting activities can result in additional enthusiasm for the game and, hopefully, more money spent on it. Allowing re-use thus encourages positive externalities including more money for the sport.

The last proposal is the establishment of a registration system to obtain protection and of a limitation on renewal to three times for a total of 45 years of protection. The system will no doubt increase administrative costs for the producer and for public institutions. Yet it allows flexibility for all stakeholders. One advantage is that users will be able to tell if a database is protected. Such legal certainty will encourage consumption and re-use. It also allows producers to choose for themselves whether they wish protection. If not, then their unoriginal content will be in the public domain, thus increasing access.

The rationale for limiting the term is based on the idea that perpetual protection has a negative impact on access and consequently on total social welfare. What it means is that after 45 years, a database maker will have to implement a production model that is not dependent on content protection or create a new database. Such a requirement will encourage producers to be less dependent on statutory protection and will be good for the user who benefits from increased access.

How will this revised Directive affect the activities of our three business models of pay-per-use, free content with advertising and of value added directly to the unoriginal contents? As mentioned earlier, the producer who uses technical measures is likely not to need this additional protection. He can refrain from registering. However, if he does believe such protection will be beneficial, then he will be required to qualify through making a substantial investment. Once achieved, it can safely be said that both the producer and the user will benefit. The same reasoning applies to the compiler who offers free content and relies on advertising for an income.

The last type of database producer may be the one who is in most need of protection. Although his administrative costs may increase due to the need to register, it is likely that he will be able to qualify. If so, his database will be protected against infringement so that he can generate an income. However, after 45 years, this producer will be expected either to come up with a model that is not dependent on content protection or to create a whole new database.

While the producer's needs will be adequately met, the amount of access will largely increase. The restriction of protection to commercial uses of electronic databases will allow a substantial amount of re-use and consumption of databases that are not protected. Given the importance of access in regulating a generic infrastructural input, this is likely to be beneficial.

For those databases that are protected, suggestions are made to ensure flexibility in access to the contents. Several recommendations have been made in this context. The first is that the definition of the lawful user should be codified to include those who qualify by operation of law. This expands access. The second is to incorporate the consultation right into the Directive so that a re-user or consumer can actively look at a database without risking infringement. It is a simple codification of the normal use provision.

The third suggestion is to incorporate and transform the exceptions from the InfoSoc Directive into the rights and obligations of lawful users. At the same time, the redundant user rights currently existing in the Directive should be deleted. This would have the effect of guaranteeing access at a level which provides the requisite flexibility needed to promote the general social welfare.

Lastly, careful monitoring of the balance between incentives and access should occur, including whether access is being denied to sole-source database contents. An independent, objective and scientific study of the impact of the database right on all stakeholders should be conducted. If it is discovered that contents are being unreasonably restricted, then, compulsory licenses should be re-instituted.

How will these rights of access affect the producer? Many of these exceptions, now called rights, are designed to save on transaction costs or to advance the public interest. Examples include allowing use for reporting or aiding the sight-impaired. The fact is that these copyright exceptions are narrowly tailored and have been operating effectively and so have been generally accepted within the producer world.

In sum, the implementation of these amendments will provide minimum incentives to producers who wish to recoup their initial investment or to continue investing in their product. At the same time, significant access will be guaranteed so that re-users and consumers can continue to engage in their normal activities if they so choose. The result is a clear provision of the requisite level of access and incentives needed to regulate a generic infrastructural input.

7.6 Conclusion

The goal of this thesis has been to evaluate the database right and to suggest amendments that can improve its effectiveness. One conclusion is that databases should be regulated as generic infrastructural inputs. The purpose of such regulation is to ensure that re-use plays a bigger role in both encouraging the further generation of databases and in allowing other productive uses for the betterment of society. The policy implication is that access assumes a heightened priority whereas production incentives stay at a minimum.

The treatment of databases as generic infrastructural inputs transforms the policy questions. Instead of focusing on how to increase incentives, the questions become:

1. What is the best way to provide production incentives for those who need it?
2. What is the best way to provide legal access to materials contained within a database?

In reality, these questions have been latent in the Database Directive from its inception. They can be seen in the narrowness of the original proposal and in the purposes of the Directive as well as in the functional definition of a database. However, the original intention went astray. The end result is a legislative innovation that may discourage production and restrict access.

By comparing the production and access needs of three stakeholder groups – the producer, the re-user and the consumer – it has been shown that the current regime allows too much flexibility in terms of the actual right to the producer and too little in terms of access. Due to the importance of re-use within the industry, this formula should be turned around.

The proposed amendments aim to narrow the scope of the database right in order to expand the flexibility of re-users to engage in productive activities. Such an aim has been aided by the ECJ's decision to raise the qualification threshold. At the same time, the amendments seek to ensure adequate incentives for those who need it.

But even if these amendments are implemented, the long term consequences are uncertain. As a result, there needs to be more empirical research on the effect of the right and on the nature of the database industry in general. Moreover, it is difficult to predict what will happen to database makers who do not receive protection. They could adopt technical measures, charge more and further restrict access. Or they could switch to a model that embraces free content. In order to ensure a bright future, rigorous monitoring and regulatory adjustment is in order.

APPENDIX 1

Resume på Dansk

Kapitel 1: Indledning

1. Database-direktivet fra 1996 giver database-producenterne eneret til at forhindre udtræk og/eller gengivelse af hele eller væsentlige dele af en databases indhold i 15 år med mulig forlængelse af perioden.
2. I sin første evalueringsrapport, som blev lavet seks år efter implementeringen, slår Europa- kommissionen fast at: "Med hensyn til 'ikke-originale' databaser, synes formodningen om, at en højere grad af IP-beskyttelse betyder mere innovation og vækst, ikke at holde stik. Der stilles følgende spørgsmål: "Er 'sui generis'-beskyttelse således en nødvendighed for en database-industri i fremgang? Det empiriske bevismateriale sår på nuværende tidspunkt tvivl om denne nødvendighed."
3. Dette lovgivningstiltags tilsyneladende svigt har affødt bestræbelser på at revidere strategien for database-beskyttelse. Formålet for denne afhandling er at evaluere den gældende lovgivning og klarlægge, hvordan uoriginalt database-indhold reguleres bedst muligt.
4. Med udgangspunkt i en given databases specifikke funktion, økonomisk analyse af loven og empirisk bevismateriale, kan spørgsmålet, der er fremsat i database-direktivet, være forkert. Det spørgsmål omhandlede muligheden for at fremme produktionen af flere databaser.
5. De korrekte spørgsmål er: a) Hvad er den bedste metode til at skabe lovlig adgang til materiale, der ligger i en database? b) Hvad er den bedste måde, hvorpå der kan ydes tilskyndelse til dem, der har brug for det?

Kapitel 2: Databaser som emneområde

1. Databaser fungerer som referenceredskab til støtte i forståelsen, analysen og behandlingen af information. På denne måde er en database anderledes end en bog. En bog er et *eksempel* på information, viden og kultur, mens en database er et opbevarings-, proces- og søge*redskab*, der hjælper i tilgangen til bogen og andre kilder. En database er således mere lig Internettet end et kreativt værk. Begge er redskaber, der fremmer informationsbehandling.

2. Strategierne for produktion og brug afslører, at reproduktion af information er særligt vigtigt i forbindelse med database-industrien. Derfor foreslås det, at en hvilken som helst regulering af rettighederne bør omfatte interesserne hos tre interessenter i stedet for to. Disse interessenter er producenter, re-producenter og forbrugere.
3. Producenter defineres som dem, der først skaffer data og samler disse i en database. Re-producenter er sekundære brugere, der har til hensigt at omforme det oprindelige indhold til et andet produktionsformål. Det kunne være at skabe værdiforøgende databaser, eller at gå ind i anden produktion udenfor branchen I modsætning hertil benytter forbrugere blot information til egen gavn i forbindelse med aktiviteter, der ikke medfører yderligere produktion.
4. Behovet for producenter, re-producenter og forbrugere diskuteres i perspektivet af hvor megen tilgængelighed og tilskud, der er behov for i hver kategori. En databases funktion og omkategoriseringen af balancen mellem de interesser, der er involveret i databasereguleringen betyder, at der bør være fokus på øget tilgængelighed.

Kapitel 3: Økonomibaserede teorier om immaterialretlig regulering

1. Den almindelige opfattelse af, at "desto mere produktion, desto mere beskyttelse", som det fremgår af eksemplet med Goldstein's 'celestial jukebox' er måske ikke gangbar i virkeligheden.
2. I stedet viser Landes og Posner at det højeste produktionsniveau og den største velfærd kun opnås gennem tilvejebringelse af tilgængelighed, der tilskynder re-producenterne til produktion. Dette støtter således behovet for at skabe balance mellem tilskyndelse og tilgængelighed, når der skal formuleres en politik om regulering. På baggrund af vigtigheden af reproduktion, foreslås det, at det ideelle niveau for beskyttelse bør være lavere for databaser end for copyrightbeskyttede værker.
3. Frischmann og Lemley pointerer dog, at traditionelle udbudsmodeller kan være håbløst vildledende, når immaterielle aktiver fungerer som generiske bidrag til infrastrukturen. For at falde herunder må tre kriterier være opfyldt. Ressourcen skal være: a. ikke-rivaliserende, således at mange mennesker kan udnytte værket samtidig; b. en kilde, som andre kan udbygge; og c. generisk eller anvendt som byggesten til en bred vifte af varer og ydelser. I sådanne tilfælde bliver tilgængelighed så høj en prioritet, at regulering bør tilbydes på en frit tilgængelig måde, hvilket forfatterne definerer som tilgængelighed uafhængigt af identitet og brug.
4. På baggrund af databasernes funktion, og deres struktur i forhold til produktion og brug, fremsættes påstanden at uoriginalt database-indhold fun-

gerer som generiske bidrag til infrastrukturen. Dette indebærer, at der er økonomiske grunde til at fremhæve behovet for tilgængelighed, og det er dermed ikke blot et spørgsmål om offentlighedens interesse.

Kapitel 4: Udviklingen af retsbeskyttelsessystemet i EU

1. Målet med dette kapitel er at forstå lovgivningsprocessen for at skabe den nødvendige basis for en indgående forståelse og evaluering af den gældende lov.
2. Det lovgivningsmæssige tiltag begyndte som et forsøg på at afbalancere producenternes, re-producenternes og forbrugernes respektive behov.
3. Senere i kampen blev forslaget dog ændret i retning af en stærk ejendomsret, og bestemmelser, der bevilligede tilgængelighed, blev udhulet.
4. Næsten syv år efter direktivet blev indført, har EF-domstolen dog muligvis genoprettet balancen ved at hæve tærsklen for at være kvalificeret til at opnå *sui generis*-retten.

Kapitel 5: Evaluering af den gældende lov i EU

1. EF-domstolen hævede tærsklen for at kvalificere sig til *sui generis*-retten betydeligt. Som en konsekvens heraf er database-producenter, der ikke synes at have brug for tilskyndelse til produktion ubeskyttede. Dette resultat er vigtigt, fordi tilgængelighed bliver vigtigst og re-producenter frit kan bruge uoriginalt database-indhold til værdiforøgende produktion. Tiden vil vise, om stigningen i tilgængelighed vil have en positiv effekt på produktionen.
2. Men den gældende lovgivning afføder utilsigtede konsekvenser. Ironisk nok er de databaseproducenter, der faktisk er berettiget til databasebeskyttelsen muligvis overbeskyttede. Det vil sige, at re-produktion hindres. Resultatet kan blive det modsatte af, hvad der forventes. I stedet for at stimulere produktionen, kan det måske mindske den.
3. Der er et behov for at ændre den gældende lovgivning for at fremme tilgængeligheden. Det antages, at produktionspotentialet hos re-producenterne undervurderes i den europæiske model. Et større fokus på tilgængelighed vil tøjle deres økonomiske potentiale. Dette ville ikke blot tilskynde større produktion af værdiforøgende databaser, men også sætte gang i vidensproduktionen i samfundet i almindelighed.
4. Her gives en række forslag til indsnævring af database-beskyttelsen og genoprettelse af balancen. Ændringer af direktivet inkluderer: a. en afklaring i forhold til tærsklen for kvalifikation, således at kun indsamling af allerede eksisterende indhold tæller i kvalifikationsvurderingen; b. indsnævring af anvendelsesområdet for rettigheden til databasen til at gælde kom-

mercielle formål.; og c. harmonisering af undtagelserne, så de afpasses InfoSoc-direktivet om harmonisering af copyright og beslægtede rettigheder i informationssamfundet. Ydermere introduceres retningsliner, der hviler på principper vedrørende unfair konkurrence, i anvendelse af loven ved domstolene.

Kapitel 6: Den amerikanske 'nul-beskyttelsesmodel'

1. Formålet med dette kapitel er at udforske den amerikanske 'nul-beskyttelsesmodel' for uoriginalt indhold. Den indeholder et privat retshåndhævelsesmiddel, hvor database-producenten udvælger og betaler for den givne type beskyttelse samt håndhævelsen af denne.
2. De der primært benytter tekniske blokeringer har en klar fordel. Men mangel på den sikkerhed som andre former for beskyttelse yder, så som kontraktlige bestemmelser, der forhindrer kopiering, kan have en indvirkning på den samlede produktion. Denne usikkerhed i forhold til beskyttelse kan medføre mindre produktion. Usikkerheden kan få store konsekvenser i europæisk sammenhæng, hvor harmonisering anses for en central faktor i udviklingen af en levende database-industri.
3. Med fri adgang til uoriginalt materiale, vil re-produktion stimuleres i højere grad end under et system, der beskytter databaseindhold. Dette kan resultere i en bred vifte af reproducerede varer, der varierer fra værdiforøgende databaser til teknologiske og videnskabelige nyskabelser. Et sådant resultat er gavnligt set fra re-producentens perspektiv og i et samlet samfundsperspektiv.
4. Der er dog en hage. Så længe re-producenterne er afhængige af databaser, der benytter tekniske blokeringer vil denne information som regel have en højere pris. Disse databaser vil derfor blive re-produceret i mindre omfang. Hvis brugen af tekniske foranstaltninger bliver mere udbredt, vil mængden af re-produktion dernæst mindskes. Af denne grund er det rimeligt at sige, at mens et system uden indholdsbeskyttelse kan være godt på kort sigt, er det uklart, hvorvidt konsekvenserne på langt sigt vil være gavnlige for tilgængeligheden eller for produktionen. Faktisk kan mere information blive låst under denne model end under den, der bruges i EU på nuværende tidspunkt.

Kapitel 7: Konklusion

1. Kapitel 7 opsumerer afhandlingen ved at samle konklusionerne, der blev draget i tidligere kapitler for at kunne svare på spørgsmålene angående målsætning og skabe en passende model. På grund af databasers struktur og måden de er defineret på i database-direktivet, åbner kapitlet med at ar-

gumentere for, at databaser er generiske bidrag til infrastrukturen. Konsekvensen er, at der er økonomiske grunde til at fremhæve behovet for tilgængelighed, og det er dermed ikke blot et spørgsmål om offentlighedens interesse.

2. Effekten af de tre modeller på producenten, re-producenten og forbrugeren evalueres. Disse modeller er: 1. det amerikanske system uden beskyttelse af database-indhold; 2. den gældende lov, der bruges i EU; og 3. den foreslåede model fra kapitel 5, bestående af ændringer af den gældende lov. Disse modeller svarer til reguleringsforslagene fremsat i Kommissionens evaluering, der er relevante for database-retten.
3. Den komparative analyse viser, at den bedste måde at angribe målsætningsspørgsmålet og afstemme tilgængelighed med tilskyndelse er, at anvende den ændrede version af den gældende lovgivning, som det foreslås i kapitel 5. Implementeringen vil resultere i et system, der beskytter producenterne i rimeligt omfang, giver en fornuftig grad af tilgængelighed for re-producenterne og tilfredsstiller forbrugerbehovet. Vigtigst af alt, ved igen at få inkorporeret re-producenterne, kan der skabes en levende database-industri samtidig med at innovationssamfundet fremmes.

APPENDIX 2

Bibliography

Books

Benkler, Yochai. *The Wealth of Networks: How Social Production Transforms Markets and Freedom.* New Haven: Yale University Press, 2006.

Cooter, Robert, and Thomas Ulen. *Law and Economics.* 4th ed. Boston: London Pearson Addison Wesley, 2004.

The Chicago Manual of Style. 15th ed. Chicago: University of Chicago Press, 2003.

Davison, Mark. *The Legal Protection of Databases*. Cambridge: Cambridge University Press, 2003.

Goldstein, Paul. *Copyright's Highway From Gutenberg to the Celestial Jukebox*. Rev. ed. Stanford: Stanford University Press, 2003.

Guibault, Lucie. *Copyright Limitations and Contracts: An Analysis of the Contractual Overridability of Limitations on Copyright.* The Hague: Information Law Services, Kluwer Law International, 2002.

Landes, William M., and Richard A. Posner. *The Economic Structure of Intellectual Property Law.* Cambridge: Harvard University Press, 2003.

Pindyck, Robert S., and Daniel L. Rubinfeld. *Microeconomics.* 6th ed. Upper Saddle River, N.J.: Pearson Prentice Hall, 2005.

Zweigert, Konrad and Hein Kötz. *Introduction to Comparative Law.* 3rd rev. ed. Oxford: Clarendon Press, 1998, pp. 1-73.

Articles

Breyer, Stephen. "The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies and Computer Programs." 84 *Harvard Law Review* 281 (Dec. 1970), pp. 281-351.

Breyer, Stephen. "Copyright: A Rejoinder." 20 *UCLA Law Review* 75 (1973), pp. 75-83.

Coase, Ronald. "The Federal Communications Commission." 2 *Journal of Law and Economics* 1 (1959).

Coase, Ronald. "The Problem of Social Costs." 3 *Journal of Law and Economics* 1 (1960).

Cornish, W.R. "1996 European Community Directive on Database Protection." 21 *Columbia Journal of Law and the Arts* 1 (Fall 1996).

Demsetz, Harold. "Toward a Theory of Property Rights." 57 *The American Economic Review* 2, Papers and Proceedings of the Seventy-Ninth Meeting of the American Economic Association (May 1967), pp. 347-359.

Demsetz, Harold. "Toward a Theory of Property Rights II." 31 *Journal of Legal Studies* 2 (June 2002).

Denicolò, Vincenzo. "Patent Races and Optimal Patent Breadth and Length." *The Journal of Industrial Economics* 44, no. 3 (Sept. 1996), pp. 249-265.

Derclaye, Estelle. "What is a Database?" *Journal of World Intellectual Property* 5, no. 6 (Nov. 1992), pp. 981-1011.

Derclaye, Estelle. "Databases Sui Generis Right: Should We Adopt The Spin Off Theory." *European Intellectual Property Review* 26, no. 9 (2004), p. 403.

Derclaye, Estelle. "Database sui generis right: What is a substantial investment? A tentative definition." *International Review of Intellectual Property and Competition Law* 36, no.1 (2005), pp. 2-30.

Derclaye, Estelle. "Intellectual property rights on information and market power – Comparing European and American protection of Databases." *International Review of Intellectual Property and Competition Law* 38 no. 3 (2007), pp. 275-298.

Frischmann, Brett M., and Mark A. Lemley. "Spillovers." (Draft Apr. 2006), American Law and Economics Association 16th Annual Meeting, University of California at Berkeley, 4-5 May 2006.

Frischmann, Brett M. "Evaluating the Demsetzian Trend in Copyright Law." Paper 17, American Law & Economics Association Annual Meetings (2006).

Frischmann, Brett M. "An Economic Theory of Infrastructure and Commons Management." 89 *Minnesota Law Review* 917 (Apr. 2005).

Gaster, Jens L. "The New EU Directive Concerning the Legal Protection of Databases." 20 *Fordham International Law Journal 1129* (1997), p. 1144.

Gaster, Jens. "The Legal Protection of Chronological Lists of Football Matches and Compilations of Data Related to Horseracing under the Database Right – Or How Your Judge Might Get it Right or Wrong." *Computer und Recht International* 2 (2001-3), pp. 74-78.

Gordon, Wendy J. "On Owning Information: Intellectual Property and the Restitutionary Impulse." 78 *Virginia Law Review* 149, Symposium on the Law and Economics of Intellectual Property (Feb. 1992).

Hugenholtz, P. Bernt. *"Program Schedules, Event Data and Telephone Subscriber Listings under the Database Directive – The 'Spin-Off' Doctrine in the Netherlands and elsewhere in Europe."* Paper presented at Eleventh Annual Conference on International IP Law & Policy, Fordham University School of Law, New York, 14-25 Apr. 2003.

Hughes, Justin. "How Extra-Copyright Protection of Databases Can be Constitutional." 28 *University of Dayton Law Review* 159 (2002).

Hurt, Robert M., and Robert M. Schuchman. "The Economic Rationale of Copyright." *American Economic Review* 56, no. 2 (1966), pp. 421-432.

"International Consortium Completes Human Genome Project," Bethesda, Maryland, 14 April 2003, available at http://www.genome.gov/11006929 (last visited 31 Aug. 2005).

Karnell, Gunnar W.G. "The European Sui Generis Protection of Databases: Nordic and U.K. Law Approaching The Court of the European Communities – Some Comparative Reflections." 49 *Journal of the Copyright Society of the U.S.A.* 983 (Summer 2002).

Koelman, Kamiel J. "Copyright Law and Economics in the EU Copyright Directive: Is the Droit d'Auteur Passe'?" *International Review of Intellectual Property and Competition Law* 6 (2004), pp. 603-638.

Kur, Annette, Reto M. Hilty, Christophe Geigerand and Matthias Leistner, "First Evaluation of the Directive 96/9/EC on the Legal Protection of Databases – Comment by the Max Planck Institute for Intellectual Property, Competition and Tax Law, Munich." *In-*

ternational Review of Intellectual Property and Competition Law 5 (2006), pp. 551-558.

Landes, William M., and Richard A. Posner. "An Economic Analysis of Copyright Law." *Journal of Legal Studies* 18 (June 1989), pp. 325-363.

Lehman, Michael. "The European Database Directive and Its Implementation into German Law." *International Review of Industrial Property and Copyright Law* 29, no. 7 (Nov. 1998), pp. 776-793.

Leistner, Matthias. "The Legal Protection of Telephone Directories Relating to the New Database Maker's Right." *International Review of Intellectual Property and Competition Law* 7-8 (2000), pp. 950-967.

Lemley, Mark A. "Property, Intellectual Property, and Free Riding." 83 *Texas Law Review* 1077 (2005).

Lemley, Mark A. "Reply: What's Different About Intellectual Property." 83 *Texas Law Review* 1097 (2005).

Lemley, Mark A. "Intellectual Property and Shrinkwrap licenses." 68 *Southern California Law Review* 1239, 1241 (July 1995).

Merges, Robert P. "Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations." 84 *California Law Review* 1293 (Oct. 1996).

Newman, Paul, ed. "Posner, Richard Allen." *Palgrave Dictionary of Law and Economics,* vol. 3 (London: MacMillan Reference Limited, 1998), pp. 55-62.

Pattison, Michael." The European Commission's Proposal on the Protection of Computer Databases." *European Intellectual Property Review* 14, no. 4 (1992).

Plant, Arnold. "The Economic Aspects of Copyright in Books." *Economica* 1, no. 2 (May 1934), pp. 167-195.

Pollack, Andrew. "Celera to Quit Selling Genome Information." *The New York Times*, 27 Apr. 2005.

Reichman, J.H. "Legal Hybrids Between the Patent and Copyright Paradigms." 94 *Columbia Law Review* 2455-65 (1994).

Reidenberg, Joel R. "Lex Informatica: The Formulation of Information Policy Rules Through Technology." *76 Tex. Law Review 553* (Feb. 1998).

Riis, Thomas. "Economic Impact of the Protection of Unoriginal Databases in Developing Countries and Countries in Transition." LEFIC Working Paper. Copenhagen: Copenhagen Business School Center for Law, Economics and Financial Institutions, 2002-3.

Riis, Thomas and Jens Schovsbo. "Users' Rights: Reconstructing Copyright Policy on Utilitarian Grounds." *European Intellectual Property Review* 29, no. 1 (2007), pp. 1-5.

Spoor, Jaap H. "The Impact of the EU Database Directive on Catalogue Protection in the Netherlands and Sweden." in *Festskrift till G. Karnell*. Stockholm: Göta AB, 1999, pp. 731-744.

Towse, Ruth. "Copyright and Economic Incentives: An Application to Performers' Rights in the Music Industry." *Kyklos* 52, no. 3 (1999), pp. 369-390.

Tyerman, Barry W. "The Economic Rationale for Copyright Protection for Published Books: A Reply to Professor Breyer." 18 *UCLA Law Review* 1100 (1970-1), pp. 1100-1125.

University of California at Berkeley School of Information Management and Systems, Executive Summary, "How Much Information? 2003" (27 Oct. 2003).

Vanovermeire, Vincaine. "The Concept of the Lawful User in the Database Directive." *International Review of Industrial Property and Copyright Law*, 31, no. 1 (Feb 2000), pp. 63-81.

Virtanen, Perttu. "Database Rights in Safe European Home: The Path to More Rigorous Protection of Information." Ph.D., Lappeenranta University of Technology, 2005.

Wade, Nicholas. "The Genome's Combative Entrepreneur." *The New York Times*, 18 May 1999.

Westkamp, Guido. "Protecting Databases Under US and European Law – Methodological Approaches to the Protection of Investments Between Unfair Competition and Intellectual Property Concepts." *International Review of Intellectual Property and Competition Law* 7 (2003), pp. 772-803.

Williams, Martha E., "The State of Databases Today: 2004," *Gale Directory of Databases 2004* vol. 1, (Detroit: Gale Research, 2003).

International Conventions and Treaties

WIPO Copyright Treaty, Art. 2.

TRIPS, Art. 9.2,

The Berne Convention.

EU Directives

Directive 91/250/EC on the legal protection of computer program, OJ(L) 122/42, 17 May 1991.

Directive 96/9/EC of the European Parliament and of the Council of the European Union of 11 Mar. 1996 on the legal protection of databases, OJ(L) 77/20, 27 Mar. 1996.

Directive 97/7/EC of the European Parliament and of the Council of 20 May 1997 on the protection of consumers in respect of distance contracts.

Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services.

Directive 2001/29/EC of the European Parliament and of the Council on the harmonization of certain aspects of copyright and related rights in the information society, OJ(L) 167/10, 22 May 2001.

Directive 2003/98/EC of the European Parliament and of the Council of 17 November 2003 on the re-use of public sector information, OJ(L) 345, 31/12/2003, pp. 0090-0096.

European Community Case Law

British Horseracing Board v. William Hill Organization, High Court of Justice Chancery Division, Case No. HC-2000 1335, London, 9 Feb. 2001.

British Horseracing Board v. William Hill Organization, Court of Appeal, London, 31 July 2001.

British Horseracing Board v. William Hill Organization, Opinion of Advocate General Stix-Hackl, 8 June 2004.

British Horseracing Board Ltd and Others v. William Hill Organization Ltd, Judgment of the ECJ, case C-203/02, 9 Nov. 2004.

Fixtures Marketing Ltd v. Organismos prognostikon agonon podosfairou AE (OPAP), Judgment of the ECJ, case C-444/02, 9 Nov. 2004.

Fixtures Marketing Ltd v. Oy Veikkaus Ab, Judgment of the ECJ, case C-46/02, 9 Nov. 2004.

Fixtures Marketing Ltd. v. Svenska Spel AB, Judgment of the ECJ, case C-338/02, 9 Nov. 2004.

IMS Health GmbH & Co. OHG v. NDC Health GmbH & Co. KG., case C-418/07, 29 April 2004.

Other EU Documents

European Commission Communication. "Work Programme for Creating a Common Information Market." COM(85) 658 final, 29 Nov. 1985.

European Commission Communication. "The Establishment at Community Level of a Policy and a Plan of Priority Actions for the Development of an Information Services Market." COM(87) 360 final/2, 2 Sept. 1987.

European Commission. "Green Paper on Copyright and the Challenge of Technology – Copyright Issues Requiring Immediate Action." COM(88) 172 final, 7 June 1988.

"Proposal for a Council Directive on the Legal Protection of Databases." OJ(C) 156/4, 1992.

European Commission. "Explanatory Memorandum to the Proposal on the legal protection of databases." COM(92) 24 final, 13 May 1992.

Opinion of the Economic and Social Committee on the proposal for a Council Directive on the Legal Protection of Databases, 93/C19/02, 24 Nov.1992.

European Parliament First Reading. "Proposal for a Council Directive on the legal protection of databases." No. C 194/145, 19 July 1993.

European Commission. "Amended Proposal for a Council Directive on the Legal Protection of Databases." COM(93) 464 final – SYN 393, 4 Oct. 1993.

Common Position of the Council. "(EC) No. 20/95 with a view to adopting a Directive 95/ /EC of the European Parliament and the Council on the legal protection of databases." OJ(C) 288/14, 30 Oct.1995.

European Council. "Statement of Reasons of the Common Position of the Council (EC) No. 20/95 with a view to adopting a Directive 95/ /EC of the European Parliament and the Council on the legal protection of databases." OJ(C) 288/14, 30 Oct. 1995.

"Opinion of the Commission 10.1.1996 regarding the proposal for a European Parliament and Council Directive on the legal protection of databases." Commission COM (96) 2 final COD 393.

"Decision of the European Parliament on the 2nd reading concerning the proposal for a Council Directive on the legal protection of databases." OJ(C) 17/164, 22 Jan. 1996.

Pira International Ltd. "Commercial exploitation of Europe's public sector information." (Luxembourg: The European Commission Directorate-General for the Information Society, Sept. 2000), pp. 6-9.

European Commission, Directorate General for the Information Society, "Exploiting the Potential of Europe's Public Sector Information," (Luxembourg: Unit information market E4, May 2004), p 3.

European Commission. "First Evaluation of Directive 96/9/EC on the legal protection of databases." (Brussels: 12 Dec. 2005).

Stakeholder Opinions on Database Directive

Agence France-Presse. "Consultation re DG Internal Market and Services' First Evaluation of Directive 96/9/EC (Database Directive)." 20 March 2006.

British Broadcasting Corporation. "The BBC's comments on the Commission's evaluation of Directive 96/9/EC on the legal protection of databases." 10 March 1996.

Data Publishers Association. "Submission from the DPA to the European Commission DG Market in response to the Working Paper First Evaluation of Directive 96/9 on the legal protection of databases." Brussels, 10 March 1996.

Data Publishers Association. "Annual Members Survey 2006."

Electronic Information for Libraries. "First evaluation of Directive 96/9/EC on the legal protection of databases." Brussels, 12 Dec. 2005, p. 5, points 21 and 22.

European Alliance of New Agencies. "EANA Database Right: European Commission Submission." No date.

European Association of Directory and Database Publishers. "Consultation on 'DG Internal Market and Services Working Paper – First Evaluation of Directive 96/9/EC on the legal protection of databases' EADP Contribution." 12 March 2006.

European Bureau of Library, Information and Documentation Associations. "EBLIDA Response to the Commission on the evaluation of EU rules on databases." 9 March 2006.

European Federation of Magazine Publishers. "Why the *sui generis* right must be protected and the 'Database Directive' should stay." Brussels, 12 March 2006, p. 3.

Federation of European Direct and Interactive Marketing. "FEDMA input on the DG MARKET Working Paper." 9 March 2006.

The Newspaper Society. Letter to European Commission Unit Head Tilman Lueder. 12 March 2006.

The Software and Information Industry Association. "Comments Submitted by The Software and Information Industry Association on the DG Internal Market and Services Working Paper First Evaluation of Directive 96/6/EC on the Legal Protection of Databases."

UNESCO. "Observations." Presented at WIPO Information Meeting on Intellectual Property in Databases, Geneva, 17-19 September 1997.

World Meteorological Organization. "Observations." Presented at WIPO Information Meeting on Intellectual Property in Databases, Geneva, 17-19 September 1997.

Yahoo! Europe. "Comments of Yahoo! Europe on the DG Internal Market and Services Working Paper on the Database Directive." No date available.

United States Publications

Census Bureau. *2005 Service Annual Survey: Information Sector Services*. Washington D.C.: US Government Printing Office, 2005.

Committee on Issues in the Transborder Flow of Scientific Data, US National Committee for CODATA, Commission on Physical Sciences, Mathematics, and Applications, National Research Council. *Bits of Power Issues in Global Access to Scientific Data.* Washington D.C.: National Academy Press, 2007. Available at http://www.nap.edu/readingroom/books/BitsOfPower/ (last visited 31 August 2005).

Weiss, Peter. *Borders in Cyberspace: Conflicting Public Sector Information Policies and Their Economic Impacts.* Washington D.C.: US Department of Commerce National Weather Service, Feb. 2002.

US Legislation and Case Law

Arizona Retail Sys. v. Software Link, 831 F. Supp. 759 (D. Ariz. 1993).
Baker v. Seldon, 101 U.S. 99 (1879).
Brower v. Gateway 2000, 676 N.Y.S. 2d 569 (N.Y. App. Div. 1998).
CSC Holdings, Inc. v. Greenleaf Electronics, Inc., 2000 WL 715601 (N.D. Ill., 2000).
Directv, Inc. v. Ferguson, 328 F. Supp. 2d 904 (N.D. Ind. 2004).
Feist Publications v. Rural Telephone Service, 499 U.S. 340 (1991).
Hill v. Gateway, 105 F.3d 1147 (7th Cir. 1997).
International News Service v. Associated Press, 248 U.S. 215 (1918).
Klocek v. Gateway, Inc., 104 F. Supp. 2d 1332 (D. Kan. 2000)
M.A. Mortenson Co. v. Timberline Software Corp., 93 Wa. App. 819 (Wash. Ct. App. 1999).
National Basketball Ass'n v. Motorola, Inc., 105 F.3d 841 (2nd Cir. 1997).
The 1976 Copyright Act of the United States, 17 U.S.C. §102(b).
Paramount Pictures Corp. v. 321 Studios, 2004 WL 402756 (S.D.N.Y., 2004).
ProCD, Inc. v. Zeidenberg, 908 F. Supp. 640 (W.D. Wis. 1996).
RealNetworks, Inc. v Streambox, Inc. 2000 WL 12731 (W.D. Wash. 2000).
Rinaldi v. Iomega Corp., No. 98C-09-064 RRC, 1999 Del. Super. LEXIS 563 (Del. Super. Ct. Sept. 3, 1999).
Sony Computer Entertainment America, Inc. v. Gamemasters, 87 F.Supp.2d 976 (N.D.Cal., 1999).
Sony Corp. of America v. Universal City Studios, Inc., 464 U.S. 417 (1984).
Step-Saver Data Systems Inc. v. Wyse Technology, 939 F.2d 91 (3d Cir. 1991).
Universal City Studies, Inc. v. Reimerdes, 111 F.Supp.2d 294 (S.D.N.Y., 2000), affirmed by *Universal City Studies, Inc. v. Corley*, 273 F.3d 429 (2nd Cir., 2001).
Vault Corp. v. Quaid Software Ltd., 847 F.2d 255 (5th Cir. 1988).

Websites

"AOK.DK." http://www.aok.dk.
"Lexis-Nexis." http://global.lexisnexis.com/us.
"Westlaw." http://www.westlawinternational.com/.
"Wikipedia." http://en.wikipedia.org/wiki/Database.

Index

British Horseracing Board v. William Hill
– Advocate General opinion *108-109, 152-153*
– ECJ decision *87-88, 104-107,110-113, 120, 135-136, 140, 142-143, 145-146, 149-150*
– Lower British court decision *107-8, 152-154*
Consultation
– Of a database *35, 37, 41-42, 89, 101, 112*
– Right *149-150*
Contracts/licenses
– Compatibility with Database Directive *94, 100, 104, 147-148*
– Pre-emption of US copyright law *170-175, 177-179*
– Validity of online licenses *172-177, 182-183*
Copyright law
– Fair Use *57-58, 66, 67-68, 158*
– Idea-expression dichotomy *47-48, 58, 68-70, 93, 96, 100, 105, 122, 150-151, 158-159, 160-166*
– Information Society Directive *89, 141, 145-146, 148-149, 156, 184-185, 200*
– Protection of structure and arrangement *15, 30-35, 88, 90, 91, 98, 157-158, 160-166, 170, 198*
– Sweat-of-the-brow *69-70, 86, 104, 122, 125, 161-162, 166*
Database
– Definition of *28-29, 91, 97, 101-102, 104, 123-124, 124-127, 190*
– Function of *25, 29-30, 123-124, 189-190*
– Sole-source *100, 119, 131-133, 150-151, 193, 194, 196-197, 201*
– Statistics *25-28, 38, 117-119, 137, 159-160*
Database Directive
– General purpose *121-123, 143, 190, 191*
Database right/*sui generis* right
– Exceptions *92, 100, 103-104, 147-150, 195-197, 200-201*
– Infringement *90-91, 99-100, 101-102, 104-113, 140-145, 196, 197, 199, 200*
– Normal use provision *89, 141, 149-150, 200*
– Purpose *90, 97-98, 109, 110, 128, 130, 134-135, 143-144, 202*
– Qualification *97-98, 102-103, 107, 108, 110-113, 127-134, 148, 150-151, 190, 191, 194, 197-198*
– Scope *89, 97-100, 104, 119-120, 134-140, 195-196, 202*
– Term of protection *66, 91-92, 101, 103, 152-155*
– User rights *147-148*
Directives
– InfoSoc Directive *89, 141, 145-146, 148-149, 156, 184-185, 200*
– Software Directive *141, 146*
Economic Analysis of the law
– Justification *17*
– Methodology *52*
Economic Terms
– Administrative costs *128, 155,199*
– Externalities *52, 59-61, 71-76, 139, 199*
– Monopoly pricing *53, 62, 132-133, 196*
– Rent-seeking *53, 62, 66, 72, 134, 185, 194, 195, 198*
– Transaction costs *53, 56-57, 60, 64, 66, 67-68, 148, 196-7, 201*
– Unauthorized copying/free-riding/pirating *34, 37, 47-48, 56-57, 126, 134-135, 137, 138, 168*

Generic infrastructural input *71-76, 83, 123-124, 189-191, 193, 194-195, 197-201*
Harmonization *88, 97, 109, 120-121, 135, 148-149*
Legal Theorists
– Benkler, Yochai *40-41, 76-83*
– Demsetz, Harold *59-62*
– Frischmann, Brett M. and Mark A. Lemley *71-76, 188*
– Goldstein, Paul *54-63*
– Landes, William M. and Richard A. Posner *50, 63-71, 137, 144, 155, 187*
Legislative history of Database Directive
– Council's Common Position *97-101, 124-127, 134-140, 142, 150, 152*
– First draft *90-96, 97-101, 125, 132, 136, 141, 142, 145, 150, 152, 155*
Policy Questions *13-14, 191-193, 201-202*
Production Models
– Commercial *30-35, 192-193, 194-197, 197-201*
– Commons *40-41, 76-82*
– Noncommercial *35-37, 194-195, 197, 198-199*
– Public sector *37-40, 137, 159-160*
Regulatory mechanism
– Competition law *16, 151, 196*
– Compulsory Licenses *48, 50, 93-94, 100, 105*
– Exclusive rights, 48-49, 63, 77
– General Public License *79-80*
– Licenses *54-62, 172-179, 182-3*
– Open Access *37-40, 71-76, 83, 189-191, 193, 194-195, 197-201*
– Technological Measures *179-182, 184-185*
– Unfair Competition/Misappropriation *16-17, 33, 49-50, 67, 86, 90, 95-95, 136-138*
Regulatory theorie
– Incentive theory *46-51, 81, 90, 128-133, 134, 143-145*
– Infrastructural theory *71-75, 188*
– Property rights theory *54-62*
– Spin-off theory *104-106, 129, 132-133*
Stakeholder
– Definition of producer, re-user and consumer *43-44*