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PROPERTY RIGHTS AND INFORMATION MARKETS: POLICY ISSUES  
AFFECTING NEWS AGENCIES AND ONLINE DATABASES

by

Rohan Ainsley Samarajiwa

Attorney-at-Law of the Supreme Court of Sri Lanka, 1979

M.A., Simon Fraser University, 1982

THESIS SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF  
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## ABSTRACT

This thesis examines how the production of new and better information can be encouraged in a market economy while preserving a public interest in unfettered access to factual information essential to political and economic processes. The question is studied in relation to the market in news and market-information, an area of economic activity transformed by the application of advanced information/communication technology.

The market is analyzed within the broad framework of the structure-conduct-performance paradigm drawn from the industrial organization field. The news and market-information market is in the midst of a period of dynamic growth. There is no evidence of market failure or the unambiguous exercise of market power that would require immediate government intervention in the form of strengthening private property rights, regulation, or structural reform. A number of tendencies that may result in future market concentration and adverse impacts on access to public-domain information are identified.

Private property rights to news and market-information are examined in relation to historical evolution in common-law jurisdictions as well as the current Canadian copyright revision process. The common-law tradition is found to be one of interpreting the scope of statutory copyright law parsimoniously with respect to news and market-information and related factual information. The courts have attempted to devise limited forms

of property rights for these products. The copyright revision proposals under consideration by the Canadian Parliament on computer-based information storage and retrieval systems have the potential of strengthening private property rights to all factual information, including news and market-information. This form of government intervention is inappropriate for the news and market-information market and can only have negative implications for end-users, market structure and public-domain information. It is proposed that factual information be excluded from copyright protection, and that public policy be directed to the design of property rights that allow unhindered use and further processing, yet preserve sufficient incentives for the production of new and better information.

The relevance of the study and its findings to the general inquiry on the nature and implications of the information society is briefly discussed.

TABLE OF CONTENTS

Approval ..... ii

Abstract ..... iii

List of Tables ..... vii

Acknowledgements ..... viii

I. Introduction ..... 1

    Objectives ..... 4

    Reasons for Undertaking Study ..... 6

    The Research ..... 11

    Outline of Chapters ..... 15

II. The News and Market-information Market ..... 18

    Economic Analysis of Information Industries and  
        Markets ..... 20

    Theoretical Framework ..... 22

    The Market ..... 29

    Basic Conditions ..... 35

    Market Structure ..... 40

    Conduct ..... 64

    Summary ..... 71

III. Property Rights in Ephemeral-Value Information ..... 73

    Introduction ..... 73

    Development of Property Rights ..... 79

    Present Law in Canada ..... 113

    Summary ..... 118

IV. Public Policy ..... 120

    Economic Context ..... 121



Copyright Revision .....	125
Possible Effects .....	144
Policy Proposals .....	153
Summary .....	163
V. Conclusions .....	165
Appendix I: Sample Questions Submitted to Reuters Holdings PLC .....	174
Appendix II: High Ephemeral-Value Databases by Content Category .....	177
Appendix III: Major News Agencies and Online Service Firms Supplying High Ephemeral-Value Database Products .....	184
Appendix IV: Presentation at Copyright Hearings .....	188
Selected Bibliography .....	196

LIST OF TABLES

TABLE		PAGE
1	Online Databases Classified by Ephemeral Value .....	32
2	Ephemeral-Value Databases Classified by Content .....	33
3	Reuters Cost/Output Comparison .....	49
4	Reuters Cost Category/Output Comparison .....	50
5	Reuters Specific and Common Costs .....	54
6	Reuters Financial Results .....	59
7	Reuters Profits as Percentage of Revenue 1975-1984 .....	62
8	Example of Reuters Fees .....	68

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## I. Introduction

The world, or at least the portion made up of advanced market economies, is said to be in the midst of an 'information revolution' or entering an 'information age'. Countries such as Canada are said to be on the verge of becoming, or said to have already become, 'information societies'.<sup>1</sup> Whatever be the veracity of these claims,<sup>2</sup> it is difficult to deny that a tremendous expansion of activities in the information field is underway. Economic activity related to the supply, processing and transmission of information appears to have moved into a pivotal position in the economy as a whole.<sup>3</sup>

<sup>1</sup> E.g., Kimon Valaskakis, The Information Society: The Issue and the Choices: Integrating Report, Phase I GAMMA Information Society Project (Montreal: GAMMA, 1979); Shirley Serafini and Michel Andrieu, The Information Revolution and Its Implications for Canada (Ottawa: Department of Communications, 1980). For more global pronouncements, see, Daniel Bell, 'The Social Framework of the Information Society,' in The Computer Age: A Twenty-Year View, eds. Michael L. Dertouzos and Joel Moses (Cambridge MA: MIT Press, 1980), pp. 163-211; Simon Nora and Alain Minc, The Computerization of Society (Cambridge MA: MIT Press, 1980); and Marc Uri Porat, 'Global Implications of the Information Society,' Journal of Communication, 28(1) (1978): 70-80.

<sup>2</sup> For cogent critiques, see, Krishan Kumar, Prophecy and Progress: The Sociology of Industrial and Post-industrial Society (Harmondsworth: Penguin, 1978); and William Leiss, 'The Information Society: A New Name for Some Old Tricks,' unpublished paper, Simon Fraser University, 1982.

<sup>3</sup> See, for example, 'What's Bad for IBM Proves Bad for Market,' Globe and Mail 14 June 1985, p. B1--

The New York Stock Exchange suffered its biggest losses of any day in more than six months as a poor profit forecast from the world's largest computer company created fears that the US economic outlook has worsened.

Governments are committing large sums of public money to information-related activities such as videotex and the fifth-generation computer. Information technology companies have become the glamour stocks of the 1980s.

It appears that the advanced market economies, and possibly other countries too, are in the midst of a major wave of investment in information-related activities. The massive investments in the information facility sector (computers, satellites, the Integrated Services Digital Network in telecommunications, etc.) are well known. There has been a concurrent, but less visible, wave of investment in information production and dissemination activities. Leaving aside growth in 'old' information industries such as the film/video industry, entirely new industries such as data-processing and online database services have been created within the last few decades.

Concomitant with investment, more information-related activities are being brought within the sphere of commodity exchange. The most obvious examples are user-fees for library services and the granting of distribution rights to government documents such as transcripts of regulatory hearings to commercial firms.<sup>4</sup> Many companies have found it more

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<sup>3</sup>(cont'd) Canadian share prices followed the trend.

<sup>4</sup> See, for example, Marilyn Killebrew Gell, 'User Fees I' and 'User Fees II,' Library Journal, 104(1) (1 January 1979), pp. 19-23; 104(2) (15 January 1979), pp. 170-73; and Herbert I. Schiller, Who Knows: Information in the Age of the Fortune 500 (Norwood, NJ: Ablex, 1981), pp. 47-78.

cost-efficient to contract out services such as data processing.

Industries have been thrown into turmoil. Witness the transformation of the US telecommunications industry, where the world's largest company was broken up and an upstart competitor, MCI Communications, has entered into an alliance with the giant of the computer industry, IBM. Dun & Bradstreet, an established US credit information company, acquired Datastream PLC, a leading British business information online database firm, and A.C. Nielson, the leading audience research firm in the US, within the space of a few months in 1984. Dow Jones, the leading US business news company, acquired control of Telerate, one of the two leading market information firms in the world, in July 1985. This year also saw the demise of the smaller of Canada's news agencies, United Press Canada, and the filing for protection under the bankruptcy laws by United Press International, the transnational news agency. UPI is the only competitor the Associated Press has in the United States media news market.

These changes are also being reflected at the level of policy. United States international information policy rhetoric was, until very recently, based entirely on the doctrine of free flow of information, a doctrine that presupposed costless, universally available information or information as a public good. In recent policy statements, especially in relation to the nascent trade-in-services debate, the US has begun to shift toward a concept of free trade in information, which presupposes

information as a commodity, or a private good.<sup>5</sup> The United States is beginning to move from a position of castigating nations that hindered the inflow of American information products to one of exerting pressure on foreign countries to restrict those flows by enforcing private property rights to information products, as in the case of reception of satellite transmissions in the Caribbean. Here, the US went to the extent of making aid and trade facilities conditional upon government action to prevent the reception and distribution of unscrambled video signals from US satellites.<sup>6</sup>

### Objectives

This is a study of a new information market in the process of growth. The principal objective is that of contributing to an understanding of changes in institutional relationships--both economic and legal--accompanying the introduction of the new information technologies. The description and analysis of institutional relationships being established in an almost entirely new area of economic activity based upon the

-----  
<sup>5</sup> See, United States Trade Representative, US National Study on Trade in Services, December 1983; and Geza Feketekuty and Jonathan David Aronson, 'The World Information Economy,' in The World Economy (London: Trade Policy Research Centre, 1983). See also, Joan Edelman Spero, 'Information: The Policy Void,' Foreign Policy, No. 48 (Fall 1982): 139-56.

<sup>6</sup> Comments of David Markey, [US] Assistant Secretary of Commerce and Administrator of the National Telecommunications and Information Administration, in 'Proceedings of a Conference on "Policy Issues in the Canadian-American Information Sector,"' Montreal, 17-18 November 1983, p. 24.

convergence of advanced computer and telecommunications technology can serve to complement, and possibly even correct, the more global analyses of the information society. Micro studies such as the present one can also be helpful in framing useful research questions for the study of impacts of information and communication technologies both at the micro and macro levels. An attempt is made to identify a number of broad research questions flowing from the specific findings of this research.

The submarket in news and market-information of the online database market has been selected for analysis. The key distinguishing characteristic of news and market-information products is the ephemerality of their commercial value. The primary commercial value of this information is lost in a matter of minutes. This necessitates the fullest utilization of the rapid information processing and disseminating capabilities that are the hallmarks of the new computer and communication technologies. The term, 'news', is used in this thesis to denote news agency reports ('spot' news) and similar material with a high degree of ephemeral-value. News in newspapers, magazines, etc. are excluded from the definition.

An attempt is made to analyze economic relationships and tendencies in the news and market-information market within the broad framework of the structure-conduct-performance paradigm of the industrial organization field in economics. This market has not been hitherto subject to systematic analysis. The potential



of economic analysis of information industries and markets is only beginning to be explored in the communication field and it is hoped that this study will contribute to the development of this aspect of communication research.

The central question that is addressed in this study is how economic incentives to produce new and better information can be balanced against the need to ensure unfettered access to that information, especially where the information is of a factual nature and of vital importance to political and economic processes. The analysis of economic relationships and tendencies in the news and market-information market provides the context within which the public policy question of how best information production and dissemination can be encouraged through the proper design of private property rights can be discussed.

### Reasons for Undertaking Study

Interest in the social impact of the new information and communication technologies led to the undertaking of this study. Much has been written, both laudatory and critical, on the implications of the present wave of investment in these technologies at a 'global' level. Broad conceptualizations have merit, but need to be kept in contact with reality; broad generalizations and abstractions must be informed by, and tested against, studies of concrete processes on the ground. This study was conceived as a micro study of the manner in which the information society is being established, with emphasis on

institutional relationships.

It was hoped that this study could enrich the investigation of the social implications of new information technologies in the areas of public-domain information, differential access to information and effects on negotiation-type relationships, and other areas such as vulnerability. The limited scope of this study precludes the drawing of firm conclusions on these broad issues. Its contribution is in helping to sharpen the focus of the research questions.

The thesis examines the news and market-information segment of the larger online database market. The online database industry is one of the new spheres of economic activity engendered by the current wave of investment in information and communication technologies. Worldwide sales of online database products were estimated at US\$2 billion in 1983.<sup>7</sup> This figure must, however, be seen in relation to the total sales of other industries such as the data processing services industry which amounted to US\$40 billion in that year.<sup>8</sup> Another estimate places the total revenues from delivery of information in computerized form in the United States alone, at US\$3.2 billion.<sup>9</sup>

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<sup>7</sup> Georges Anderla, 'The International Data Market Revisited,' Report prepared for Second Symposium on Transborder Data Flow, OECD Committee for Information, Computer and Communications Policy, Paris, 1983, p. 5.

<sup>8</sup> Ibid., p. 7.

<sup>9</sup> A.C. Nielson Study cited in 'Publishers Go Electronic,' Business Week 11 June 1984, p. 90.

Though small, the online database industry is expanding at a faster rate than conventional publishing and, indeed, the economy as a whole. The OECD paper reports the results of several studies which, though varying widely, all anticipate annual average growth rates of over 18 per cent.<sup>10</sup> The A.C. Nielson study predicted growth rates of 25 per cent a year in the United States.<sup>11</sup> A tabulation done by the IDP Report newsletter showed a growth rate of around 40 per cent a year since 1980.<sup>12</sup> The Canadian online database market is estimated to be growing at a somewhat slower pace. The market, estimated to be worth \$41 million in 1984, was expected to reach \$45 million in 1985.<sup>13</sup>

The importance of the online database industry lies in the fact that it is an almost entirely new sphere of economic activity based upon advances in, and the convergence of, computer and telecommunications technologies, the prime source of excitement over the emergence of an information society or an information age.

The news and market-information market is new, yet old. Ephemeral-value information for the mass media ('spot' news

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<sup>10</sup> Anderla, 'The International Data Market,' p. 11.

<sup>11</sup> 'Publishers Go Electronic,' p. 90.

<sup>12</sup> Efrem Sigel et al., The Future of Videotext: Worldwide Prospects for Home/Office Electronic Information Services (White Plains, NY: Knowledge Industry Publications, 1983), p. 34.

<sup>13</sup> 'Growth in Use of Data Bases Healthy but Not Revolutionary,' Globe and Mail, 1 March 1985, p. R19.

reports) and business (such as stock and commodity market information) has been supplied for over one hundred years by news agencies. The innovation of computer-based information storage and retrieval systems in the 1960s transformed the old news agencies and also facilitated the entry of a number of online database firms primarily serving the business-user market.

The new, yet old, character of the news and market-information market was one of the main reasons for selecting it for study. It was felt that institutional relations, especially the property rights structure, that had evolved over a century or so would provide a sound basis for asking the right questions about current developments. Knowledge of news agency operations gained in the course of employment and an earlier study of the world market in general news which included extensive research on the transnational news agencies also influenced the choice.<sup>14</sup>

The news and market-information market is an important component of the basic informational infrastructure for the functioning of market and political processes. It may even be surmised that news and market-information play a role not too dissimilar to that played by money and credit. The politico-economic importance of this market and the far-ranging

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<sup>14</sup> Rohan Samarajiva, 'Access to the Worldwide Market in News: Implications for the New International Information Order Debate,' (MA (Communication) thesis, Simon Fraser University, 1982).

effects that could result from institutional changes within it provide further reasons for undertaking the study.

Much of the current activity related to information and communication technologies is heavily subsidized by governments, in one form or another.<sup>15</sup> While there are no areas of economic activity involving information and communication technologies completely free of subsidies, the news and market-information market is one that is not dependent on direct, ongoing subsidies. Though a comprehensive study of the new information technologies must take into account the effects of subsidies, there are advantages in analyzing relatively subsidy-free industries, especially with regard to the evolution of private property rights. This was another factor in the choice of the news and market-information market for study.

The study of the news and market-information market also has implications for the ongoing debate and research on transborder data flows. The market for news and market information has extended across national borders since the earliest days of news agency operations. Much of the early work on the legal aspects of transborder data flows focussed on privacy. This study, though not directly addressing questions of

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<sup>15</sup> For a study dealing with information/communication 'hardware', see, Robin Mansell, 'Industrial Strategies and the Communication/Information Sector: An Analysis of Contradictions in Canadian Policy and Performance,' (Ph.D. dissertation, Simon Fraser University, 1984). The Canadian government directly spent \$69 million between 1979 and 1985 to develop the Telidon videotex system--'The Future of Telidon Lies in its Niche Markets,' Globe and Mail, 2 August 1985, p. B12.

enforcing private property rights across borders, could contribute to a broader perspective on the legal aspects of transborder data flows.

### The Research

This thesis is transdisciplinary in that it draws from law, economics and information science to address questions in the field of communication. Institutional relations, specifically those having a bearing on property rights, are examined with the intention of addressing questions such as differential access to news and market information, possible implications for larger political and economic processes, and the concrete methods by which information is brought within the sphere of commodity exchange.

The methodological approach that is used is a form of institutional analysis--the study of economic and governmental (including judicial) institutions, their structural relationships and incentives. The focus is on the interaction of market processes and extra-market processes of creating and maintaining property rights. The institutional approach makes possible the analysis of dynamic changes in politico-economic relationships in historical context. It is concerned with the maintenance of, or changes in, asymmetric power relationships. The institutionalist tradition places a greater emphasis on the accurate description of dynamic social processes, rather than on the formulation of 'general laws'.

Power is central to the analysis. The concept includes that of market power in mainstream economics, the ability of firms to influence price, but goes beyond it in recognizing the exercise of power deriving from the interaction of political, legal, and economic processes. For example, the power of the former Bell System in the United States cannot be adequately described solely in terms of the ability to control price, but must include its immense public relations and lobbying capabilities as well as the use of regulatory and legal processes to constrain threats to its interests.<sup>16</sup>

The transdisciplinary perspective has many advantages. It enables the framing of broad and somewhat unconventional research questions. It makes possible extremely fruitful interactions such as that between the economic and legal analysis components of the thesis. However, it calls for a much greater effort on the part of the researcher to keep abreast of work in a number of disciplines and to develop the interconnections.

The research data was obtained from several sources. The legal research drew from original case law, statutes, and related documents. The historical discussion covered the three common-law jurisdictions of Canada, England, and the United States of America. The current law governing the news and

<sup>16</sup> The foregoing has been influenced, among others, by Warren J. Samuels and A. Allan Schmid, Law and Economics: An Institutional Perspective (Boston: Martinus Nijhoff, 1981); and Mansell, 'Industrial Strategies and the Communication/Information Sector.'

market-information market in Canada is discussed, with US material introduced where relevant. Discussion of the policy aspects of private property rights formulation benefitted greatly from the opportunity to participate in person at the public hearings conducted by the Sub-Committee on the Revision of Copyright in May-June 1985. Records of the proceedings including relevant briefs were obtained. Earlier studies issued in the course of the long copyright revision process were also examined.

Data for the industry study was gathered mainly from public sources such as business publications and documents of a public nature issued by the various firms. The original research plan called for extensive interviews with executives of leading news agencies to gather data for the industry study and to gain an understanding of how the innovation of new technologies and the designing of new products were dealt with by the leading firms. Correspondence, telephone calls, and personal visits to corporate offices in New York, London and Paris were unproductive in terms of interviews. The volatile situation in the industry--for example, United Press International had just changed ownership and was a year or so away from bankruptcy, and Reuters was preparing for a somewhat controversial public offering of shares--appeared to have made company executives extremely reticent. The only successful interviews were conducted with executives from firms on the margins of the market. Questions on costs and pricing met with extremely



negative responses. A list of questions submitted to Reuters, significantly toned down as a result of previous unsuccessful attempts, is given as appendix I with a verbatim report of the response of a Reuters executive, to illustrate the problems faced in this regard.

Aside from the failure to obtain interviews, the quantity and quality of the data obtained was not at all unsatisfactory for a new and volatile business. There was a significant increase in publicly available data over the 1983-1985 period. A rough indication of the tremendous increase in the press coverage of firms in this market during this period is given by the fact that the number of microfiche 'pages' of business newspaper clippings on Reuters from mid 1983 to early 1985 was more than triple that for the preceding 12 years.<sup>17</sup> In addition to the general increase in coverage by the business press which extended to all firms, the public offering of shares by Reuters, the leading firm, saw the release of a Prospectus containing a wealth of financial and other data.

Effort was concentrated on obtaining research data from the market leader, Reuters. As a consequence, the reasoning in

-----  
<sup>17</sup> 297-6950 Reuters fiches, McCarthy Information Ltd. The fact that the locus of the market was in the United Kingdom at this time made it necessary to obtain clippings from the British press. Microfiches containing clippings on several key companies were obtained from McCarthy Information Ltd., Manor House, Ash Walk, Warminster Wilts. BA12 8PY, United Kingdom. One shortcoming in this otherwise excellent source of information is that only the date and the title of the newspaper or magazine is supplied with the clipping, making later direct reference from newspaper files somewhat difficult.

chapter II is supported by illustrations drawn predominantly from Reuters. It is realized that the use of illustrations as opposed to comprehensive market-wide data, and the over-representation of data from the leading firm lessens the value of the material in chapter II as a formal industry study.<sup>18</sup> However, it is also felt that the pioneering nature of the study and the fact that public policy implications are not discussed solely on the basis of the industry study, but on the basis of combined legal and economic findings, justifies the exercise.

### Outline of Chapters

Chapter II contains the economic analysis of the news and market-information market. The literature and the theoretical framework of economic analysis of information industries are discussed. The news and market-information market is defined and described. A study of economic relationships organized within the broad framework of the structure-conduct-performance paradigm follows. Performance is discussed more fully in chapter IV.

The next chapter examines the development of rights to ephemeral-value information and related information products in England, the United States of America, and Canada. The model of

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<sup>18</sup> Dr David Y. Peyton, Director Government Relations, Information Industry Association confirmed that comprehensive industry-wide data is simply not available in this industry--verbal communication, 17 June 1985, Montreal.

private property rights development utilized in this thesis is described. The ascription of private property rights to news agency products by common law courts and the interpretation of copyright law as applied to the content of newspapers and compilations are discussed. Chapter III concludes with a section on the present law applicable to news and market-information in Canada.

Chapter IV completes the analysis of institutional relationships in the news and market-information market. Performance is evaluated with special emphasis on implications for property rights. Public policy options are discussed in terms of regulatory and structural intervention, but most particularly in relation to changes in the private property rights regime of the industry, presently under consideration by the Canadian government. The copyright revision proposals and the public hearings are discussed. The effects of the proposed changes on end-users, market structure, and public-domain information are examined. A policy proposal for excluding 'fact works' from copyright protection and for formulating a new Information Use Act based on a codification and improvement of existing common law rights to information is presented. Creation of private property rights through the public policy process is compared with judicial creation.

The concluding chapter discusses emerging institutional relationships in the news and market-information market, with special reference to creation of stronger private property

rights by government. Government intervention in the form of property rights creation, which has relevance to all information markets and industries, not only the news and market-information market, is evaluated on the basis of the findings of this study. In light of differences between information markets and the likelihood of undesirable impacts on the use and manipulation of information through new information technologies, market structure, and public-domain information, it is proposed that public policy be directed to the design of property rights appropriate for information. The need for private property rights to encourage the production and dissemination of new and better information is recognized, but these rights must be 'thin' rights in the sense that they are open to use and further processing. The contribution of this study to the development of economic analysis of information industries and markets is discussed. The manner in which the findings of this study can be utilized in research on the broad communication inquiry of the implications of new communication/information technologies is briefly examined.

## II. The News and Market-information Market

News agencies in their present form originated in the mid-nineteenth century, more or less concurrently with the commercial innovation of the telegraph.<sup>1</sup> However, they have not generally been analyzed from politico-economic or economic perspectives.<sup>2</sup> There have been some contributions in the past few years,<sup>3</sup> but the economic analysis of information industries and markets in general is yet to be accepted fully in the communication field.<sup>4</sup>

<sup>1</sup> The most comprehensive work on this period is R.W. Desmond, The Information Process: World News Reporting to the Twentieth Century (Iowa City: University of Iowa Press, 1978).

<sup>2</sup> For a brief overview of the news agency literature see, Rohan Samarajiva, 'Access to the Worldwide Market in News: Implications for the New International Information Order Debate,' (MA (Communication) thesis, Simon Fraser University, 1982), pp. 12-17.

<sup>3</sup> Oliver Boyd-Barrett, The International News Agencies (London: Constable, 1980); C. Anthony Giffard, 'Inter Press Service: News From the Third World,' Journal of Communication 34(4) (1984): 41-59; Samarajiva, 'Access to the Worldwide Market'; and Stephen Shmanske, 'The Utilization of Public Goods: Extension of Traditional Theory and Applications to the Wire Service Industry,' (PhD dissertation, University of California at Los Angeles, 1982).

<sup>4</sup> E.g., Robert E. Babe, 'Information Industries and Economic Analysis: Policy-Makers Beware,' in Proceedings of the Tenth Annual Telecommunications Policy Research Conference eds. Oscar H. Gandy Jr. et al. (Norwood, N.J.: Ablex, 1983); Juan Somavia, 'The Transnational Power Structure and International Information: Elements of a Third-World Policy for Transnational News Agencies,' Development Dialogue 2 (1976): 15-28; and Gertrude J. Robinson, 'The Changing Role of Research in Media Policy--The Ascendancy of the Economic Model,' paper presented at the 14th Conference of the International Association for Mass Communication Research, Prague, Czechoslovakia, August 1984 (mimeo.).

Considerable work has been done on the economics of online database and related industries at a fairly general level.<sup>5</sup> These efforts have failed to create a significant impact outside their particular sub-fields within the disciplines of economics and information science.

This chapter seeks to identify economic relationships and tendencies in the news and market-information market with emphasis on relevance to its property rights regime. The material is organized in the general format of an industry study within the structure-conduct-performance paradigm. The emphasis is on exchange value of information, rather than on use values; on information as a commodity, rather than as a resource.

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<sup>5</sup> E.g., Richard S. Bower, 'Market Changes in the Computer Services Industry,' Bell Journal of Economic and Management Science 4 (1973): 539-92; Lawrence Edward Berman, 'Incentives for Vertical Integration in the Information Services Industry,' (Ph.D. dissertation, Stanford, 1984); Yale M. Braunstein et al. 'Economics of Property Rights as Applied to Computer Software and Data Bases,' in Copyright, Congress, and Technology: The Public Record, vol. 4, ed. Nicholas Henry (Phoenix AZ: Oryx, 1980); Braunstein, Maximising Efficiency and Effectiveness of Information Data Banks (Neuilly sur Seine: AGARD, 1977); Roger Noll, 'Regulation and Computer Services,' in The Computer Age: A Twenty-Year View, eds. M.L. Dertouzos and J. Moses (Cambridge, MA: MIT Press, 1979); and Michael D. Cooper, 'The Economics of Information,' in Annual Review of Information Science and Technology 1973 (Washington, D.C.: American Society for Information Science, 1973), pp. 5-40.

## Economic Analysis of Information Industries and Markets

The heterogeneity of information and the resulting problem of measurability has been noted as a serious problem in the economic analysis of information.<sup>6</sup> This is a valid concern if the analysis is at a theoretical level and if markets in abstract information, unembodied in any material 'carrier', are being considered. Approximations of such markets are those for research (analyzed, assuming away the measurability problem, by Kenneth J. Arrow),<sup>7</sup> consulting expertise, and similar creative activities. But there are many other markets, such as the one under consideration here, that are unaffected by the measurability problem. What is bought and sold in these markets is not abstract information, but information embodied in various material forms and made into products. Robert E. Babe raises a further objection that there is no definite fixed relationship between the 'amounts' of information and the measurable 'amounts' of embodiments.<sup>8</sup> This is true for analysis of abstract information, but not relevant to the analysis of actual information industries that have circumvented the measurability

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<sup>6</sup> Kenneth E. Boulding, 'The Economics of Knowledge and the Knowledge of Economics,' in The Economics of Information and Knowledge, ed. D.M. Lamberton (Harmondsworth: Penguin, 1971), p. 23; Babe, 'Information Industries and Economic Analysis,' p. 125.

<sup>7</sup> Kenneth J. Arrow, 'Economic Welfare and the Allocation of Resources for Invention,' in The Economics of Information and Knowledge ed. D.M. Lamberton (Harmondsworth: Penguin, 1971), pp. 141-59.

<sup>8</sup> 'Information Industries and Economic Analysis,' pp. 127, 130.

problem in their everyday practice by dealing exclusively in embodied information and units thereof. It is true that information commodities never reach the ideal homogeneity required by the neoclassical paradigm, but that is the exception rather than the rule even with regard to conventional, 'material' commodities analyzed within that paradigm.

The less substantive objection to economic analysis of information industries and markets is that it neglects the effects of information in general, and as a vital input in all economic processes, in particular.<sup>9</sup> There can be no dispute about the necessity for analysis of effects. Significant work in this area is being done by those within mainstream economics,<sup>10</sup> as well as by those utilizing innovative interdisciplinary approaches.<sup>11</sup> Economic analyses of information industries and

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<sup>9</sup> E.g., Babe, 'Information Industries and Economic Analysis,' pp. 131-32.

<sup>10</sup> For reviews, see, Jack Hirschliefer, 'Where are We in the Theory of Information?' American Economic Review 62 (1972): 31-39; Jack Hirschliefer and J.G. Riley, 'The Analytics of Uncertainty and Information: An Expository Survey,' Journal of Economic Literature 17 (1979): 1375-1421; and Joseph E. Stiglitz, 'Information and Economic Analysis: A Perspective,' Economic Journal, Supplement, Conference Papers, 95 (1985): 21-41.

<sup>11</sup> E.g., William H. Melody, 'Information as Resource and Product,' in Proceedings of the Pacific Telecommunications Conference ed. Dan Wedemeyer (Honolulu: PTC, 1981); Rita Cruise O'Brien (ed.), Information, Economics and Power: The North South Dimension (London: Hodder and Stoughton, 1983); and Raquel Salinas Bascur, 'Let's Kill the NWICO . . . And Start All Over Again. This Time, Seriously . . .' a report of the Collaborative Project on Information Overload and Information Underuse, United Nations University Global Learning Division and The Gamma Institute, April 1985.



markets of the type undertaken here, which seek to elucidate the factors which direct and constrain the kinds of information produced and the manner in which information is produced and disseminated, are an essential complement to the analysis of effects.

### Theoretical Framework

An economic analysis of the news and market-information market can draw from two areas in the economic literature--public goods theory and the industrial organization field.<sup>12</sup> Public goods theory has been developed at a high degree of abstraction, while the industrial organization literature has been developed through case studies of actual industries and in the context of real policy issues.

#### Public Goods Theory

There is no terminological consensus on public goods. Fritz Machlup identifies four different notions.<sup>13</sup> One criterion most commonly found in the literature refers to the fact that certain goods can be consumed or used by one individual or firm, at no

<sup>12</sup> Paul A. Samuelson, 'The Pure Theory of Public Expenditures' Review of Economics and Statistics 36 (1954), 387-89, is considered widely to be the starting point of modern public goods theory. Joe S. Bain and Edward S. Mason were major figures in the formation of the industrial organization field.

<sup>13</sup> Fritz Machlup, Knowledge: Its Creation, Distribution, and Economic Significance, vol. III, The Economics of Information and Human Capital (Princeton NJ: Princeton University Press, 1984), pp. 130-31.

detriment to another's consumption or use.<sup>14</sup> The other common criterion, generally used in conjunction with the above, is that of non-excludability--exclusion of non-payers from consumption or use of a public good is impossible, impracticable, or inordinately expensive.<sup>15</sup> The discussion here will be limited to these two criteria, excluding Machlup's production-based criteria which are rarely found in the literature. The standard examples are television broadcasting, national defence, and lighthouses.

Information in the abstract (i.e., without consideration of its 'carrier' or embodiment) can be described as a public good because transfer of information, or communication, does not deprive the transferer of the communicated information. At the end of the transaction, even if it was intended to be a sale or a transfer of absolute ownership, the same information would still be available to both parties. The information can be transferred over and over again with no detriment to anyone's consumption.

However, it is not possible to assume automatically that all information products are public goods. The nature of the 'carriers' and the transfer process varies from one information product to another and each must be individually examined for public goods characteristics. With television broadcasting (both

<sup>14</sup> Ibid., p. 130; Samuelson, 'The Pure Theory,' p. 387.

<sup>15</sup> Machlup, The Economics of Information, p. 130; J.G. Head, 'Public Goods and Public Policy,' Public Finance 17 (1962): 203-06.

terrestrial and satellite) both criteria are satisfied within the range of the signal. In the case of the news and market-information market, the first criterion of 'non-rival' use is satisfied within the range of installed capacity of computer/communication equipment.

The second criterion of non-excludability is not fulfilled in the news and market-information market with respect to interactive services where buyers also contribute data and access is strictly controlled. Non-excludability does not apply generally where links between buyers and suppliers are via point-to-point telecommunications. Excludability problems exist where point-to-multipoint telecommunications such as high-frequency radio, microwave or coaxial cable broadcasts, and satellites are used. In these cases, scrambling of signals may be used to exclude those who do not pay. Paul A. Samuelson suggests that non-excludability is not the crucial test for a public good:

Being able to limit a public good's consumption does not make it a true-blue private-good. For what, after all, are the true marginal costs of having one extra family tune in to the program? They are literally zero. . . . Upon reflection, you will realize that our well-known optimum principle that goods should be priced at their marginal costs would not be realized in the case of subscription broadcasting. Why not? In the deepest sense because this is, by its nature, not a case of constant returns to scale. It is a case of general decreasing costs. So long as increasing returns prevail in the actual range of consumption, we know that perfect competition will not be self-preserving and market behavior is unlikely to be optimal.<sup>16</sup>

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<sup>16</sup> Paul A. Samuelson, 'Aspects of Public Expenditure Theories,' Review of Economics and Statistics 40 (1958): 335.

In this view, the non-rival nature of consumption or use is the true test of a public good. However, it must be noted that what is 'non-rivalness' in a static context does not necessarily translate into 'non-rivalness' under dynamic conditions. For example, adding one more user to an installed computer-based information storage and retrieval system may be non-rival, but where technology is changing and demand is expanding one cannot say that additional users do not cause costs.

Public goods theory and attempts to apply it to information production and dissemination activities,<sup>17</sup> elucidate the difficulties of moulding information into the commodity form required for provision through the market. However, its contribution to industry analysis beyond identification of decreasing average costs within static conditions is limited. The principal limitation is the static nature of the theory, which frames the basic question for the short-run period, where information, however costly, is already in existence, and the costs of the facilities required for its storage, processing, and dissemination are treated as sunk costs. Incentives to produce new information are seen as coming from extra-market sources.<sup>18</sup> While this may well be a reasonable policy option,

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<sup>17</sup> E.g., Arrow, 'Economic Welfare and the Allocation of Resources.'

<sup>18</sup> E.g., Arrow, 'Economic Welfare and the Allocation of Resources,' p. 156; William J. Baumol, Welfare Economics and the Theory of the State, second ed., (Cambridge MA: Harvard University Press, 1965), p. 21; and Samuelson, 'The Pure Theory of Public Expenditures,' p. 388.

the theory as a whole has limited utility to the analysis of instances of allocation of economic resources to the production of information through the market, which is the principal concern of economic analysis of information industries and markets in capitalist economies.

Critics of public goods theory in general, and the work of Arrow and Samuelson in particular, have pointed out its lack of utility in providing answers to basic resource allocation questions.<sup>19</sup> However, their analyses and policy prescriptions err in the other direction. The optimistic faith in the market as the only efficient mechanism for allocating resources leads these critics to propose simply that all public goods be transformed to private goods through the creation of private property rights. They seem to have no concerns whatsoever about the 'efficiency' of the use of state power to create private property rights. There is a certain irony in these most ardent opponents of non-market intervention turning to one of the oldest forms of non-market intervention as the preferred policy tool.

According to Harold Demsetz, there is nothing 'special or unique' about information other than tardiness in creating

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<sup>19</sup> Harold Demsetz, 'Information and Efficiency: Another Viewpoint,' in Economics of Information and Knowledge, ed. D.M. Lambertson (Harmondsworth: Penguin, 1971), pp. 160-186; and Jora R. Minasian, 'Television Pricing and the Theory of Public Goods,' Journal of Law and Economics 7 (1964), 71-80.

appropriate private property rights.<sup>20</sup> There is an attempt to grapple with the question of long run allocation of resources to information production but inadequate attention is paid to the problems that would arise from an across-the-board imposition of private property rights to information. At the level of information markets, serious problems would arise--differential imposition of transaction costs on parties, a general increase in transaction costs over present levels, and potential exacerbation of existing market power distortions being three of the most obvious. Serious repercussions may also be felt at the level of the economy and society as a whole, were the informational conditions changed drastically as would be the case with complete commoditization within the existing imperfect marketplace. These criticisms are further elaborated in chapter IV in relation to copyright revision proposals based on private-property-rights-as-panacea thinking.

The fact that information is both a resource and a commodity in present day society has been noted by several writers.<sup>21</sup> While the contribution of public goods theory to an analysis emphasizing the commodity aspect is limited, some of the concepts may be useful in developing analyses of information as a resource. For example, in cases such as home videotaping and downloading information from computer databases, where

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<sup>20</sup> 'Information and Efficiency,' pp. 170-71.

<sup>21</sup> E.g., Melody, 'Economics of Information'; Edward W. Ploman and L. Clark Hamilton, Copyright: Intellectual Property in the Information Age (London: Routledge Kegan Paul, 1980), p. 220.

commodity-based private property rights 'solutions' may be socially unacceptable and/or impracticable, it may become necessary to devise new schemes for funding production of new information. Concepts drawn from public goods theory could prove useful in such instances.

## Industrial Organization

The basic model of industrial organization analysis examines the interaction of conduct of firms, and structure and basic conditions of markets in relation to socially defined performance objectives.<sup>22</sup> The industrial organization field has evolved in close contact with the real-world policy issues of identifying and controlling market power posed by antitrust and related laws. Having been developed for the specific purposes of describing industries and identifying sources of market power, the basic industrial organization model is a useful device for a study such as the present one, even though the concern here is with institutional relationships and power, concepts that include, but are broader than, traditional industrial organization concepts such as vertical integration and market power.

The present work also differs from conventional industrial organization analysis in not considering static allocational

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<sup>22</sup> F.M. Scherer, Industrial Market Structure and Economic Performance, second ed., (Boston: Houghton Mifflin, 1980), pp. 3-6.

efficiency to be the prime performance criterion. The basic industrial organization model is used more as a reference point than as a rigid framework. This study draws from the industrial organization field, but does not claim to belong to it.

### The Market

The production process in news agencies and online databases may be described as follows. The inputs of the industry are events and information of events. The former are analogous to natural resource inputs in conventional manufacturing industries (e.g., extracted from the environment), and the latter to semi-processed goods (purchased from those who have already done the extraction). The inputs are processed by workers utilizing machinery. Processing includes selection of events and information; organizing and reorganizing the information; changing the form of its expression; indexing, profile-matching, or otherwise making the information more accessible to users; and transmitting the processed information to points of use.

The news and market-information market is a heterogeneous market. News and market-information products are distinguished from other information products by the ephemerality of their use and exchange values. Continuous updating of the database and high-speed delivery of information are essential elements of any news and market-information product. This segment of the larger



online database market is one where hardcopy delivery is of no importance whatsoever. Other information products, including those provided online but with the partial exception of the intermediate ephemeral-value products identified below (online database products where updating is done daily instead of continuously), are poor substitutes for news and market-information products; cross-elasticity of demand is very low. However, individual products within the news and market-information market are not close substitutes to one another. News reports for mass media use and shipping information products exemplify the heterogeneity of the market.

Using the ephemerality-of-value criterion, the focus may first be narrowed to online databases. An online database is defined by Cuadra Associates, Inc. in their authoritative Directory of Online Databases as 'computer-readable collections of data available for interactive access by users from remote computer terminals and microcomputers'.<sup>23</sup> In order to delineate the online database market, the Directory applies three criteria:

1. It must be available online (i.e., not just available in computer-readable form) for use in an interactive mode.
2. It must be available to the public, or to organizations that can establish their eligibility through subscriptions, membership, or other stated qualifications.
3. It must be accessible through an online service organization that is connected to one or more international telecommunications networks and/or to networks (including direct long-distance communication

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<sup>23</sup> 6(1) (Fall 1984), p. 6.

systems) that serve one country or a limited set of countries.<sup>24</sup>

The Cuadra Directory is the best available source of data on commercial online databases.<sup>25</sup> However, it is weak in its coverage of Canada (Canquote was not included), Japan (Quick excluded), and Europe (Telekurs omitted). There is also the lack of accuracy inherent in any compilation of data in a rapidly changing area such as this. These weaknesses are not of much significance to the use that is made of the Directory here, which is more in the nature of tracing broad patterns.

The Fall 1984 Directory describes 2,453 databases, which include distinctly named files within database families. The primary classification used by the compilers is that of reference databases, that refer users to another source for further information, and source databases. Reference databases do not satisfy the ephemeral-value criterion in that the user is required to spend more time looking up another database. From among the source databases listed, ephemeral-value databases were identified based on the frequency of database updating reported in the Directory. Continuous updating throughout the day was taken as indicative of information products with a high proportion of ephemeral exchange value. Another category of

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<sup>24</sup> Ibid., p. 8. For another, but less satisfactory, definition see, United Nations Centre on Transnational Corporations, Transborder Data Flows: Access to the International On-line Database Market (New York: UNCTC, 1983), p. 5.

<sup>25</sup> It is described as 'the leading directory of on-line data bases' and used extensively in the above cited report of the United Nations Centre on Transnational Corporations.

intermediate ephemeral-value products was also identified. Here the updating was done daily. Given the imprecision of the indicator and the language used in some descriptions, no claim is made to absolute accuracy in classification.

Table 1: Online Databases Classified by Ephemeral Value

High Ephemeral-Value	Intermediate Ephemeral-Value	Low Ephemeral-Value
83	207	2,136

Source: Cuadra Associates, Directory, 6(1) (Fall 1984).

The high ephemeral-value databases were further classified into five sub-categories according to content.

Table 2: High Ephemeral-Value Databases Classified by Content

General-Market	Specialized -Market	Weather and Related	General News	Sports
50	15	8	7	3

Source: Cuadra Associates, Directory, 6(1) (Fall 1984).



Databases containing information on securities, financial, and money markets were categorized as general-market information databases. The specialized-market information database category includes databases designed for the market-information needs of specific industries such as agriculture, defence-supply, and shipping. The general news category includes news databases that are of interest to the general public as opposed to news reports tailored to stock brokers or business executives. The weather and related information category includes information prepared for aviation. The 83 ephemeral-value databases, classified according to content and with details of producers and online services, are listed in appendix II.

Analysis of data from the Cuadra Directory shows that the 83 ephemeral-value database products are distributed by 53 online service firms. In a number of instances, the same product is distributed through several online firms. The online firms distribute intermediate ephemeral-value products as well as non-ephemeral-value products. The online firms and the major

news agencies (excluding those based in the Socialist Bloc and the Third World) are listed in appendix III.

The high ephemeral-value information products supplied by online service firms are indistinguishable from those of the news agency industry, the original high ephemeral-value information industry. The three categories of general-market, specialized-market, and weather and related information correspond to what is usually described as specialized news supplied by news agencies. The general news and sports categories correspond to the news products supplied to media firms.

Major news agencies have been using computerized information storage and retrieval systems for many years now, and users have been able to access these systems through computer terminals for quite some time. There is no technological reason to differentiate between news agencies (at least those in the developed countries) and online databases. They even satisfy the three defining criteria of the Cuadra Directory.

The market is still in the growth phase, as indicated by the high degree of experimentation in products and pricing, the rate of market expansion, and high prices and margins.<sup>26</sup> Online database services have been available commercially for just over

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<sup>26</sup> Michael E. Porter, Competitive Strategy: Techniques for Analyzing Industries and Competitors (New York: The Free Press, 1980), ch. 8.

a decade.<sup>27</sup> Despite the longer existence of the news agencies, the dramatic changes accompanying the innovation of computer based information storage and retrieval systems have placed them in the growth phase too. One difference between the two groups of suppliers is that there is a significantly higher degree of integration across production and dissemination functions among the news agencies.

### Basic Conditions

Scherer lists a number of basic conditions affecting the organization of an industry or a market. These include raw materials, technology, unionization, product durability, value/weight, business attitudes, public policies, price elasticity, substitutes, rate of growth, cyclical and seasonal character, purchase method and marketing type.<sup>28</sup> Some, such as technology and substitutes are dealt with in the course of the discussion. Others, such as unionization and value/weight are of no relevance to the present analysis. Only the most important condition, raw materials, is discussed under this heading.

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<sup>27</sup> Thomas H. Hogan, 'The Case for New-Product Planning in the Information Industry,' in Information Services: Economics, Management, and Technology, eds. Robert M. Mason and John E. Creps, Jr. (Boulder CO: Westview, 1981), p. 89.

<sup>28</sup> Industrial Market Structure, p. 4.

## Access to Raw Materials

The 'raw materials' used in the production of news and market-information are events and information of events. Usually events are free resources and information of events are purchased. Examples of the former are political events or natural disasters that are observed directly and reported on by employees of news agencies. An example of information of events is data on trading activities compiled by stock exchanges, which have been held to be private property.<sup>29</sup> Information of events may be purchased for cash, or obtained through barter arrangements. Access to raw material may be restricted, especially access to semi-processed information. It had been the practice of stock and commodity exchanges to sell exclusive rights to their information.<sup>30</sup> Present-day stock exchanges appear to have adopted non-discriminatory policies for access:

Mr George Hayter, director of technical services at the [London] Stock Exchange, says that his department has designed a tariff structure to ensure that Topic [the Stock Exchange's viewdata service] has no unfair advantage over competitors such as Reuter's UK Investment Service. . . . All commercial vendors have to pay a standard tariff (£30,000 plus £250 per terminal) for the Computer Readable Service (CRS), and, for the sake of fairness, the internal accounting of the Stock Exchange requires Topic to make the same contribution.<sup>31</sup>

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<sup>29</sup> The Exchange Telegraph Co. Ltd. v. Gregory and Co. 1 Q.B. (1896) 147, 151-53.

<sup>30</sup> E.g., Exchange Telegraph Co. v. Gregory [1896] 1 Q.B. 147; and Board of Trade of the City of Chicago v. Christie Grain & Stock Co. 198 U.S. 236 (8th Cir., 1905). Details are given in chapter III.

<sup>31</sup> Times 16 September 1983 (134-5060 Extel Group fiche, McCarthy Information Ltd.).

However, access to other kinds of information of events can be monopolized:

Reuters penetration of the market for electronic information services with respect to U.S. Treasury and federal agency securities has been limited by its inability to date to obtain contributed data from any of the five principal brokers in such securities. One of these brokers furnishes its quotations exclusively to Reuters principal competitor for such services, Telerate, Inc. . . . , of which the broker was formerly an affiliate. The others currently provide quotations to only the 'primary' dealers in government securities.<sup>32</sup>

Reuters cannot obtain the information directly or indirectly from Telerate and supply it to Reuters subscribers. Such action is precluded by common-law private property rights attached to the information, fully discussed in the following chapter.

Access to raw materials may be denied in other ways. For example, one firm serving a specialized market segment may require a 'basic' information product supplied to end-users by another firm as raw material for its production process. The specialized product may contain excerpts of the 'basic information' combined with other information, or may be made up of further processed 'basic information'. In either case, the expression of the information (i.e., its form of presentation) would be different. If the firm supplying the 'basic information' perceives the specialized firm's activities as a present or future threat to its markets, it may deny access directly, or by claiming private property rights to the

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<sup>32</sup> 'Reuters Holdings PLC. Offer for Sale by Tender by S.G. Warburg & Co. Ltd. and N.M. Rothschild & Sons Ltd.' (1984), p. 16, hereafter cited as 'Reuters Prospectus.'



information, if that is possible under the laws of the relevant jurisdiction. Direct denial, i.e., refusal to supply, or prohibition of resale by customers, is the easiest method of shutting out another firm from access, but to be effective, direct methods need to have an underlying legal basis, as was demonstrated in Exchange Telegraph Co. v. Gregory and in Board of Trade v. Christie.<sup>33</sup> The existing common-law rights in Canada, England, and the United States would preclude a firm from selling the identical information it obtained from a competitor. It may be possible to prevent further processing of one firm's information products into specialized products by other firms if extensive rights to content of computer databases were to be created as proposed in the course of the present copyright revision process in Canada.

It is also possible to lock out competitors from raw data by means of interactive systems such as the Reuters Monitor information and dealing services, where the terminal brings market information to the customer and also conveys information from the customer to the central database. It was not possible to ascertain whether there were contractual restrictions on supplying data to other firms. However, it is likely that exclusive access is the case, given the technical set-up of the systems.

Even where the original event or information of the event is a free resource accessible to all, the methods of reporting

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<sup>33</sup> [1896] 1 Q.B. 147; 198 U.S. 236 (8th Cir., 1905).

it in a manner that preserves its ephemeral value may shut out a firm or firms from its economic exploitation. Historical examples are: the exclusion of the International News Service from use of the transatlantic cable essential for the transmission of news with ephemeral value of the First World War; and the 'occupation' by employees of one news agency of the only available telephones/trunk lines necessary to report cricket scores.<sup>34</sup>

Conditions may also exist where it may be in the interest of 'owners' of 'raw' information of events to provide it free instead of attempting to sell it. Putting up information for sale implies that access will be denied if the seller's conditions are not met. However, inasmuch as the information is of other economic phenomena, the incentives to achieve the best possible dissemination may override incentives to extract economic value from the information itself. A case in point is the handling of Yugoslav economic information by the Tanjug news agency. Tanjug has made arrangements with Reuters and UPI to use entrance codes to directly contribute market information on metals, agricultural commodities, etc. to their databases. No payment is received in return. The editor-in-chief of the EKOS economic desk stated that, while this information may one day be sold, at the present time it is more important to ensure that it

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<sup>34</sup> International News Service v. Associated Press 248 U.S. 215 (2nd. Cir., 1918); and The Exchange Telegraph Co. (Ltd.) v. Howard and The London and Manchester Press Agency (Ltd.) [1906] 22 T.L.R. 375.

reaches the appropriate international markets.<sup>35</sup>

### Market Structure

Analysis of data from the Cuadra Directory shows that the 83 high ephemeral-value database products (appendix II) are distributed by 53 online service firms. In a number of cases, the same product is distributed through several online firms. The online firms and the major news agencies are listed in appendix III.

Few of the firms that deal in news and market-information limit their activities to this market. New technological capabilities have enabled even the news agencies to expand to other areas. Agence France-Presse offers the product AGORA/ADOC which is a cumulation of ephemeral-value information as a historical database product.<sup>36</sup> Reuters' first foray into the non-ephemeral-value area was with the 'Historical Database Service' announced in June 1983.<sup>37</sup> News agencies deal mostly in high ephemeral-value information, but there are other online service firms such as I.P. Sharp Associates that have more products outside the news and market-information market, than inside it.

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<sup>35</sup> Interview with Miljko Maslac, editor-in-chief, EKOS-Tanjug, in Belgrade, September 1983.

<sup>36</sup> Cuadra Associates, Inc., Directory.

<sup>37</sup> 'Multi-Million World Market for Historical Database Services,' Reuters press release, 10 June 1983.

The market definition adopted in this study, combined with the nature of the available data on the growing and volatile online database industry (actually, estimates of various idiosyncratically defined 'industries') makes it impossible to obtain data on the size distribution of firms. What is possible is a more impressionistic portrayal of the market, based on opinions of industry watchers and participants.

The market is highly segmented, both in terms of differentiated products and geographically (a form of product differentiation partly deriving from the nature of market information and news). Market structure can only be discussed in relation to the various segments. Reuters, generally recognized as the market leader,<sup>38</sup> is perhaps the only firm to have a presence in a majority of segments. An extended quotation from the Reuters Prospectus provides a 'map' of the industry, as seen by the market leader:

At present a number of firms compete with Reuters in supplying electronic information services in various geographical areas, although Reuters believes that none has a breadth of services or an integrated information gathering, marketing and technical infrastructure equal to that of Reuters.

Reuters principal competitors for the supply of services to the media are two United States news agencies, Associated Press and United Press International. . . .

Reuters principal competitors for the supply of financial and business information services outside the United States include Telerate, Associated Press and Dow Jones (operating jointly under the name 'AP-Dow Jones/Telerate') and Commodity News Services, Inc.

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<sup>38</sup> E.g., Shawn Tully, 'The Big News at Reuters is its Money Machine,' Fortune, 8 August 1983, p. 91; and 'Reuters has Good News for Fleet Street,' Business Week, 27 June 1983, p. 27.

(operating under the names 'Uniquote' and 'Unicom'). Competition for the supply of specific types of financial information service is also encountered. Quick, a Japanese information service, offers to dealers around the world quotations for Japanese domestic money market instruments. Telekurs A.G., a Swiss organisation . . . furnishes an electronic quotation service in Switzerland, Germany and France. . . . Topic, a service of the The Stock Exchange in London, primarily provides quotations and related information . . . to the London financial community. Manifest is a comparable service for commodities traded on The London Commodities Exchange.

Competition with Reuters for the supply of services to the financial and business communities within the United States is encountered primarily from ADP Comtrend, Commodity News Service Inc., Dow Jones and Telerate. Other principal suppliers of real time information services in the United States, principally domestic securities services, are Quotron Systems Inc. and the Bunker-Ramo division of Allied Corporation. There are also numerous smaller competitors in North America.

Telerate, within the United States, and AP-Dow Jones/Telerate, outside the United States, are the only organisations providing . . . electronic delivery of specialised financial information services approximating in type and format to certain of the services furnished by Reuters. . . . Within the United States, Telerate's contributed data services covering U.S. government securities and domestic money market instruments have achieved greater penetration than those offered by Reuters. . . . Reuters believes that Telerate's data base of foreign exchange and non-U.S. money market quotations is substantially less comprehensive than that of Reuters and that Telerate has achieved less penetration of the markets for this information within the United States. Reuters believes that the penetration by AP-Dow Jones/Telerate of all sectors of the electronic information services market outside the United States is substantially less than that of Reuters.

Other companies and joint ventures, which may include existing subscribers or competitors and which may have technical and financial resources equal to or substantially greater than those of Reuters, may also begin to compete with Reuters. . . . In March 1984 Merrill Lynch & Co., Inc. . . . and International Business Machines Corporation ('IBM'), announced the formation of a joint venture that will offer to the financial services industry and other institutions an electronic information delivery and office automation

system.<sup>39</sup>

The media news market has two levels: the domestic and the international. Domestic markets are almost uniformly served by monopolies, the demise of United Press Canada in January 1985 and the likelihood that its erstwhile parent UPI will soon follow,<sup>40</sup> merely bringing Canada and the United States into line with the rest of the world. There is competition between the five transnational news agencies (those with independent world wide news production and distribution capabilities) in the sale of international news reports. Each transnational news agency has a geographic market segment which it dominates (e.g., Britain and the Commonwealth countries for Reuters, the Socialist Bloc for TASS) as the preferred supplier even at significantly higher prices. Outside its segment, each news agency attempts to either sell at low prices, or in a very few cases, adopt a premium product strategy, aiming to become the supplementary provider.<sup>41</sup> Size comparisons are not of much relevance because of differences between the transnational news agencies. For example, Reuters has no domestic news agency function. The domestic and international revenues of the other

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<sup>39</sup> pp. 18-19.

<sup>40</sup> 'News Service Sold to Rival,' Globe and Mail, 16 January 1985; 'Reuters Plans to Bid for UPI News Service,' Globe and Mail, 15 May 1985, p. B15.

<sup>41</sup> For a fuller discussion, see Samarajiwa, 'Third-World Entry to the World Market in News,' pp. 124-28. Reuters appears to be using a premium product strategy in the US media news market -- 'Reuters Woos U.S. Papers with Expanded Service,' Editor and Publisher, 13 August 1983, p. 17.

agencies are not separable because of their accounting practices.

The financial and business information products segment may be further sub-divided geographically into North America and the rest of the World, and between 'institutional market information' (e.g., from stock and commodity exchanges), 'contributed market information' (where there are no central trading floors and traders individually supply the market information) and business news. The North American market in institutional market information is said to be dominated by Quotron Systems Inc. with about two-thirds of the market.<sup>42</sup> Automatic Data Processing (ADP) and Bunker-Ramo (a division of Allied Corporation) are the other major firms. Reuters is in competition with Commodity News Service, Inc., a Knight-Ridder subsidiary, for the US commodity information market. Telerate is considered slightly ahead of Reuters in the North American market for contributed market information. Dow Jones & Co., Inc., the publisher of the Wall Street Journal and Reuters' main competitor in online business news, acquired effective control of Telerate in July 1985.<sup>43</sup>

Reuters faces limited geographically based competition outside North America in the institutional market information market, but is clearly the dominant firm on a worldwide basis.

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<sup>42</sup> Financial Times, 12 May 1984 (297-6959 Reuters fiche, McCarthy Information Ltd.).

<sup>43</sup> 'Dow, Oklahoma Publishing Buy Stake in Telerate,' Globe and Mail, 9 July 1985, p. B9.

Reuters also dominates the contributed market information market that it practically invented in the wake of the collapse of the Bretton Woods fixed exchange rate system in 1971.<sup>44</sup> Telerate provides the main competition within the US, as well as outside, through a joint venture with Dow Jones Information and the Associated Press (the latter two companies holding 25.05 per cent ownership each).<sup>45</sup> Reuters' main competition for online business news in North America is from Dow Jones Information Services, a division of Dow Jones & Co. with 1983 revenues of US\$78.6 million.<sup>46</sup>

Total revenues of Telerate Systems, Inc. were US\$52 million in 1982, one-sixth that of Reuters for that year.<sup>47</sup> Quotron Systems, Inc. was reported as having US\$120.9 million in revenue in 1982.<sup>48</sup>

The market is also segmented in terms of certain market-information products that are seen as oriented to business users, and others to a less sophisticated market.<sup>49</sup> An

<sup>44</sup> Reuters Prospectus, p. 9; Nicholas Colchester, 'The News Agency Battle for the Marketplace,' Financial Times 13 September 1978, p. 19.

<sup>45</sup> Wall Street Journal 1 July 1983, p. 5. The status of this arrangement following the acquisition of Telerate by Dow Jones is not known.

<sup>46</sup> 'Publishers Go Electronic,' Business Week, 11 June 1984, p. 86.

<sup>47</sup> 'Reuters has Good News,' Business Week, 27 June 1983, p. 27.

<sup>48</sup> Ibid.

<sup>49</sup> 'Data Retrieval Services are Used Increasingly by Brokers and Investors for News, Prices,' Wall Street Journal, 27 September 1982, p. 42.



example is the differentiation between the Dow Jones Text-Search Service and a product like Bizdate offered by THE SOURCE, the Reader's Digest subsidiary. The vending of some common products by competing online firms (e.g., Corporatewatch, produced by McCarthy, Crisanti, and Maffei, Inc. and distributed by CompuServe, Quotron, Reuters, Telerate, and Tymshare) indicates that the actual products marketed are bundles of news and market-information products.

The overall picture is of an extremely complex system of market segments, with very few cases of direct, head-on competition. Product differentiation appears to be the prevalent pattern.

#### Economies of Scale

It is not uncommon to find economies of scale assigned an important place in the analysis of information industries and markets.<sup>50</sup> This may be due to the casual extrapolation of the public good characteristics of information in the abstract, discussed above, to actual information industries and markets.

In the short-run planning horizon, where some costs are fixed, average unit costs of output will decline up to a point, beyond which it will be necessary to supplement the 'fixed' resource. The unit costs of using an installed computer-based

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<sup>50</sup> Yale M. Braunstein, 'The Functioning of Information Markets,' in Issues in Information Policy, by Jane H. Yurow et al. (Washington DC: US Department of Commerce, 1981).

information storage and retrieval system go down with increased use, within the range of its capacity.<sup>51</sup> In his study of the computer services industry, Bower concluded that:

The case seems clear for high fixed costs in the short-run where, by definition, plans and capacity remain unchanged.<sup>52</sup>

The problem addressed within the short-run is that of using fixed capacity efficiently, and provides little guidance on the question of whether large firms have intrinsic cost advantages over small ones. What is relevant in this regard are the cost characteristics within the long-run planning horizon where the range of input variables is much greater. However, even the long-run analysis holds the state of technology to be constant.<sup>53</sup> It is possible that technological change may create new economies of scale or accentuate existing scale economies. But this is not an inevitable or uniform consequence. Rapidly changing technology can destroy economies of scale even before the plants that were designed on the basis of earlier technology reach full capacity. Recent developments with regard to satellite earth stations and the abandonment of the belief in the overwhelming cost advantages of large computers illustrate

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<sup>51</sup> Yale M. Braunstein, 'Information as Commodity: Public Policy Issues and Recent Research,' in Information Services: Economics, Management, and Technology, eds. Mason and Crespi, pp. 17-18. See also, discussion in Porter, Competitive Strategy, p. 179.

<sup>52</sup> Bower, 'Market Changes in the Computer Services Industry,' p. 548.

<sup>53</sup> See, discussion in Bela Gold, 'Changing Perspectives on Size, Scale, and Returns: An Interpretive Survey,' Journal of Economic Literature 19 (1981): 6.

the point. The rapid introduction of technology is inimical to the long-term technological stability necessary for the realization of economies of scale.<sup>54</sup>

The news and market-information market is characterized by rapid technological change and expanding demand. These conditions tend to reduce the importance of economies of scale as a determinant of market structure. Claims are made for economies of scale by the large firms:

A substantial proportion of Reuters costs is related to its reporting and communications network, and a significant portion of these does not vary directly with the number of subscribers to Reuters services. The expansion of Reuters business activities permitted the allocation of such fixed and semi-fixed costs over a larger revenue base.<sup>55</sup>

It is necessary to carefully substantiate these claims as the large firms have a vested interest in spreading the belief that they are the lowest-cost producers. It is difficult to test the claim by Reuters management with the available data. However, it is possible to cast a reasonable doubt on their claim by means of a cost-output growth comparison for Reuters, using the number of video terminals and teleprinters as a proxy for output. Reuters supplies terminals to all its customers and the pricing structure includes a terminal charge. The weakness of this proxy variable is that it does not take into account changes in the information output supplied over the terminals during the

<sup>54</sup> William H. Melody, 'Relations Between Public Policy Issues and Economies of Scale,' IEEE Transactions on Systems, Man, and Cybernetics, vol.SMC-5, no. 1 (1975): 19.

<sup>55</sup> Reuters Prospectus, p. 25.

six-year period for which the growth rates are compared.

There is a good linear correlation between the growth of output and total expenses during the 1979-1983 period for which data is available. Comparison of the average annual growth rate of output (video terminals and teleprinters) and the average annual growth rate of total expenses does not support the claim for economies of scale at the level of the firm.

Table 3: Reuters Cost/Output Comparison

	1979	1983	Ave. Growth per Annum
Video Terminals and Teleprinters	18,500	39,000	20
Total Expenses*	72.3	191.8	28
Inflation Adj. @5%/yr.*	72.3	156.2	21
Inflation Adj. @10%/yr.*	72.3	125.8	15

Source: Reuters Prospectus, pp. 17,24. (\*=millions of pounds)

The inflation adjustment figures are arbitrarily chosen. Correction factors that would accurately capture the effects of inflation in the many countries that Reuters operates in, as well as those of foreign exchange rate fluctuations, are not easy to compute, and in any case, such precision would be wasted on a comparison using proxy variables. Two adjustment figures are used to indicate the range of possible growth rates. The table shows that expenses grew at an annual average rate in the

15-28 per cent range, indicating more or less constant returns to scale for the firm as whole, at the given range of output and in the 1979-1983 period. Similar calculations performed on the three cost categories provided in the company's consolidated income statements (communication and production costs, selling and marketing expenses, and administration expenses) showed no evidence of economies of scale in relation to those activities, either. If anything, there is evidence of increasing average costs in selling and marketing.

Table 4: Cost Category/Output Comparison

	1979	1983	Ave. Growth per Annum
Video Terminals and Teleprinters	18,500	39,000	20
Production and Communication Costs*	60,077	152,722	26
Inflation Adj. @5%/yr.*	60,077	124,393	20
Inflation Adj. @10%/yr.*	60,077	100,201	14
Selling and Marketing Expenses*	3,919	16,355	43
Inflation Adj. @5%/yr.*	3,919	13,321	36
Inflation Adj. @10%/yr.*	3,919	10,731	29
Administration Expenses*	8,353	22,684	28
Inflation Adj. @5%/yr.*	8,353	18,476	22
Inflation Adj. @10%/yr.*	8,353	14,883	16

Source: Reuters Prospectus, pp. 17, 24. (\*='000 pounds)

The Reuters Prospectus offers some explanations for the cost increases, including expansion of the worldwide communications network, establishment of additional data centres, the development and introduction of new products, higher depreciation, etc.<sup>56</sup> However, these explanations only point to the difficulty of applying static cost concepts in a dynamic technological and market environment.

The recent demise of Canada's second news agency and the likelihood of the same occurring in the United States shortly, highlights the worldwide pattern of national news markets dominated by single news agencies. It is tempting to infer economies of scale, at least for general news operations, from this pattern on the basis of a crude application of the survivor test.<sup>57</sup> However, the survivor test does not differentiate between monopoly resulting from economies of scale and monopoly achieved through anti-competitive practices.

The above discussion indicates the absence of strong evidence of economies of scale at the level of the firm for Reuters during the 1979-1983 period. The possibilities for different cost structures for firms with a smaller or different mix of products, or at a lower or higher level of output cannot be ruled out. Decreasing average costs may exist at the level of individual products or within geographical areas densely

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<sup>56</sup> Ibid., p. 25.

<sup>57</sup> George Stigler, 'The Economies of Scale,' Journal of Law and Economics 1 (1958): 54-71.

populated by subscribers. It is also possible that cost structures may change once the industry reaches maturity or the pace of technological change lessens. However, at the present time, it may be concluded that the proposition that large firms enjoy an intrinsic cost advantage over small firms is not supported by the evidence.

### Economies of Scope

It is often claimed that the production and dissemination of information is characterized by economies of scope--that savings are realized by producing or disseminating two or more information products jointly instead of separately.<sup>58</sup> The argument is based on the 'inexhaustability' characteristic of information that allows the same information to be packaged into a potentially unlimited number of different products. To the extent that the cost of manipulating a body of information once in a computer-based information storage and retrieval system is lower than the cost of getting that information into the system (including the skilled information selection and processing that precedes the act of input), the new technology may be seen as reinforcing the above characteristic. For a given body of information that has already been produced, the argument is unexceptionable. However, as the discussion of economies of

<sup>58</sup> E.g., Yale M. Braunstein, 'The Functioning of Information Markets,' in Jane H. Yurow et al., Issues in Information Policy (Washington, D.C.: US Department of Commerce (NTIA-SP-80-9), 1981), p. 59.

scale above demonstrated, extrapolation from what holds under static conditions to dynamic conditions is problematic.

Firms that engage in multiproduct production have reason to claim that their mode of production results in cost savings. It is therefore necessary to independently verify the existence of economies of scope. The difficulty here is that the accounting practices of such firms make the required analysis of costs extremely difficult, if not impossible.<sup>59</sup> The difficulty with the available current data on news agencies can be illustrated by the following data from the Reuters Prospectus.

The Prospectus presents a breakdown of total costs between costs common to the overall production and communication system, and those specific to the four operational regions and the corporate head office, that indicates a very high proportion of common costs in relation to the operational units, and by extension, between products.

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<sup>59</sup> An unsuccessful attempt was made by the Taft-Ingalls Corporation in the case of *Associated Press v. Taft-Ingalls Corporation* 340 F 2d. 753, 771 (6th Cir., 1965).



Table 5: Reuters Specific and Common Costs  
(Year Ended 31 Dec.; '000 Pounds)

	1981	1982	1983
Specific Costs	16,104	27,109	36,160
Common Costs	106,325	118,639	155,601
Total	122,429	145,748	191,761
Common Costs as % of Total	86.85	81.40	81.14

Source: Reuters Prospectus, p. 38.

The notes accompanying the data from which the table was prepared state that:

A substantial proportion of Reuters costs and assets relates to its reporting and communications network which is used to gather news and financial information from all over the world. The raw data is then collated and edited for use in Reuters information services which are distributed to subscribers throughout the world over the same communications network. The costs of operating this network, and the assets which are used in its operation, are therefore for the common benefit of Reuters as a whole, and due to the interactive nature of Reuters services it is not possible to allocate them on any meaningful basis. These 'common' costs and assets relate to all other costs and assets which cannot be specifically identified with the operations of a single area, including central data centre operations and maintenance, international and national communications lines, reporting and editorial services, research and development, and corporate administration.<sup>60</sup>

Unfortunately, it is not possible to verify or deny the implicit claim of cost savings from multiproduct production made in the above quotation using the available cost data.

<sup>60</sup> Reuters Prospectus, p. 37.

However, a case may be made for the existence of some economies of scope associated with the dissemination stage of the supply of news and market-information. Most major firms in the market provide specialized terminals and include the data communications channel as part of the product package. It is not unreasonable to conclude that providing a number of products over the same dissemination channel, instead of one or two, would result in cost savings to the online firm. This argument will not hold if usage is so heavy that the facilities have to be expanded, but, at the level of individual end-users, this will happen only rarely. Therefore, it may be concluded that economies of scope exist in relation to distribution of news and market-information products to end-users. This provides an incentive for online firms to become multiproduct distributors.

The claim for existence of economies of scope deriving from the 'inexhaustability' of information may have some truth in the sense that a multiproduct producer would get the raw data for some products at no additional cost, and would also be able to better control its specifications. An argument may also be made for some economies of scope at the level of the communication facilities associated with the production of news and market-information. No firm conclusions on overall economies of scope can be made on the basis of the available data, but it would not be speculative to assume the existence of some economies of scope especially at the level of supplying individual customers.

## Vertical Integration

The major firms supplying the news and market-information market, such as the news agencies, Dow Jones, Telerate, and Quotron, are fully integrated, performing functions from the collection of raw data to delivery to end-users. Most of these firms also purchase information products from independent producers for distribution (see, appendix II), but these products are not central to their activities. Some news agencies also provide information products to online service firms for distribution. In some cases, as with foreign news agencies distributing their products through online firms, the reason is the lack of the necessary dissemination and marketing infrastructure. In other cases, as with the Associated Press supplying information products to online firms such as THE SOURCE, it may be because the agencies consider the market segments served by those online firms to be marginal, in relation to their main activity.

Vertical integration may be explained in terms of the key importance of the dissemination function. Speed of delivery is perhaps the single most important element of news and market-information products. Accuracy and reliability are also important elements. These elements of the end-products are fully or partly 'supplied' by the disseminator. In this sense, the separation between production and dissemination in the provision of news and market-information is artificial. The crucial role

played by dissemination places firms controlling dissemination in a powerful position vis-a-vis producers in bilateral negotiations. First, they control vital elements of the products purchased by end-users. Secondly, they benefit from what may be described as a 'bottleneck' property of dissemination in the news and market-information market. Customers have been found to prefer dealing with one or a very limited number of sources of news and market-information. The reasons for this preference are the inconvenience and loss of time caused by having to use different keyboards, operating systems, etc., and the problem of workspace clutter.

The dissemination firm which is in direct contact with the end-user has responsibility for product quality, including speed of delivery, accuracy, reliability, and uniformity of format. In most cases this leads to upstream integration with respect to at least some of the main products, so that the firm may exert better control over the product as well as over the independent suppliers. This explanation coincides with Lawrence E. Berman's theoretical finding that strong incentives exist for communication firms--a term that includes online services firms as well as telecommunications common carriers in his usage--to vertically integrate and/or exert strong control over the content provision stage.<sup>61</sup>

Vertical integration extends outside the news and market-information market too. Reuters manufactures subscriber

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<sup>61</sup> Berman, 'Incentives to Vertical Integration,' pp. 9-10.

terminals and develops new technology through a fully-owned subsidiary, IDR, Inc. IDR sells all its products to Reuters at the present time. Sales in 1982 amounted to US\$15.8 million.<sup>62</sup> The Merrill Lynch-IBM joint venture represents an interesting example of the news and market-information market being entered jointly by two companies that are major forces in downstream and upstream industries. Financial-services firms are major purchasers of news and market-information products. As a unit, Merrill Lynch and subsidiaries, appear to be the largest single buyer of Reuters products, accounting for 1.6 per cent of total revenues in 1983.<sup>63</sup> IBM, as is well known, dominates the computer industry, an upstream supplier of firms supplying the news and market-information market. Merrill Lynch also has a major presence in one of the upstream industries in that it is a source of contributed market-information products. The impact of entry by these particular firms is very difficult to evaluate. The IBM and Merrill Lynch moves cannot be understood solely in terms of upstream or downstream integration, but must be seen in the wider context of IBM's strategy vis-a-vis AT&T in the broadly defined information services market, and Merrill Lynch's manoeuvring in the recently deregulated financial services market. The prospect of combined entry by firms with such massive resources and with strategic objectives that are defined by developments outside the market that is being entered, does

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<sup>62</sup> Reuters Report and Accounts 1982, p. 12.

<sup>63</sup> Reuters Prospectus, p. 17, p. 19.

appear very threatening from the perspective of the incumbents. The usual protection that industries such as the online database industry have in the form of highly specialized human resources may prove inadequate in the face of Merrill Lynch and IBM, neither of which is a novice in the information processing business.<sup>64</sup>

### Barriers to Entry

The leading firms in the industry are earning significantly high profit returns at the present time.

Table 6: Reuters Financial Results<sup>64</sup> (millions of pounds)

	1980	1981	1982	1983	1984
Revenue	90.1	138.8	179.9	242.6	313.0
Net Assets	19.8	31.8	59.5	99.3	-
Operating Profit Before Tax	4.1	16.4	36.5	55.2	74.3
Operating Profit as % of Revenue	4.6	11.8	20.3	22.8	23.7
Op. Profit as % of Net Assets	20.7	51.4	61.3	55.9	-

Sources: Reuters Prospectus; Reuters Report and Accounts 1980, 1982; Globe and Mail 27 February 1985, p. B11.

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<sup>64</sup> For discussion of the possible impact of attempts to enter or control the computer services industry by IBM and AT&T, see Bower, 'Market Changes in the Computer Services Industry.'

Pre-tax profit margins of Mead Data Central were reported to be in the region of 15-20 per cent, three to four times that of the rest of Mead Corporation.<sup>65</sup> Telerate's pre-tax profits grew sixfold between 1980 and 1983 and stood at just over half the £33.1 million (US\$47.7 million) profits of its then parent, Exco International, in the first half of 1983.<sup>66</sup>

The high profits may be due to the fact that the industry is in a rapid growth phase and because the firms that were first in the field with innovative products are earning supranormal profits before entry by competitors.<sup>67</sup> Nevertheless, it would be worthwhile to examine other possible causes for the high profits.

Firms in the news and market-information market have fixed assets ranging from £63.5 million (US\$91.4 million) for Reuters in 1983, to a low of US\$20 million estimated for UPI in 1982.<sup>68</sup> Requirements for working capital are very low as there is no need to maintain stocks in the news and market-information market. Capital expenditures have been rising rapidly over the past few years as the pace of technological innovation has

<sup>65</sup> 'Mead's Efforts to Develop High-Tech Unit Begin to Pay Off After Numerous Setbacks,' Wall Street Journal 7 November 1983, p. 37.

<sup>66</sup> Financial Times 15 January 1984; Investor's Chronicle 31 August 1984 (134-0600 Exco International fiche, McCarthy Information Ltd.). Currency conversion at \$1.44 to a pound.

<sup>67</sup> Explanation propounded by Yale Brozen, cited in Scherer, Industrial Market Structure, p. 292.

<sup>68</sup> Reuters Prospectus, p. 23; 'UPI Sold to New Company,' New York Times 3 June 1982, p. 1. Pound conversion at \$1.44.

quickened. Reuters' capital expenditures grew from £10.8 million in 1980 to £36.3 million in 1983, at an inflation-unadjusted average annual rate of 50 per cent.<sup>69</sup> AP's capital outlays rose from US\$2.3 million in 1973 to US\$16.2 million in 1983.<sup>70</sup>

According to economic theory, capital is never a barrier to entry. Even if it were a barrier due to capital market imperfections or other distortions from the theoretical ideal, the sums involved in the online database industry are too small to be barriers to entry. For example, the £73 million (US\$84.7 million) spent by Dun & Bradstreet to acquire control of Datastream PLC in 1984 was less than one-tenth of the amount earmarked by the company for acquisitions and investments in electronic products.<sup>71</sup>

At the present time the industry is also characterized by a 10-12 year lag between start-up and profitability. Dow Jones Information Services, which started in 1971, turned a profit only in 1983. Mead Data Central, a major firm in the non-ephemeral-value database sector, spent US\$27 million over six years on its legal database Lexis before it made any money. The lag in its other major product, Nexis, was expected to be

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<sup>69</sup> Reuters Prospectus, p. 23.

<sup>70</sup> 'AP Looks at New Ventures to Strengthen Finances,' Editor and Publisher, 30 July 1983, p. 10.

<sup>71</sup> Financial Times, 9 May 1984 (106-9900 Datastream Services fiche, McCarthy Information Ltd.). Currency conversion at \$1.16.



only four years.<sup>72</sup> Some firms have left the online database delivery business in the face of recurrent losses, an example being the New York Times Company, a producer of intermediate ephemeral-value database products.

Reuters' operating profits as a percentage of revenue are available only for the 1975-1985 period. The company cannot be termed a new entrant, but its activities as an online database supplier can be dated to 1968. Despite the lack of data for the first seven years, the pattern is instructive.

Table 7: Reuters Profits as a Percentage of Revenue 1975-1984

1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
3.3	6.4	5.4	5.1	4.8	4.1	16.4	36.5	55.2	74.3

Sources: Reuters Annual Report and Accounts 1979; Table 6.

The sharp increases in 1976, 1981, and subsequent years may be interpreted as points where particular products or groups of products reached profitability. Strong inferences cannot be drawn because Reuters' established base of revenue in media sales may have absorbed the early losses and because the range

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<sup>72</sup> 'Publishers Go Electronic,' Business Week, 11 June 1984, p. 86; 'Mead's Efforts to Develop High-Tech Unit,' Wall Street Journal, 7 November 1983, p. 37.

of products it sequentially introduced over the years may have broken the relation between new product introduction and overall profit.

Privileged or exclusive access to raw data may constitute a barrier to entry. The most obvious possibility is that established firms have exclusive rights to sources of basic raw data such as stock and commodity market information. While there are historical examples, no current instances of the granting of exclusive access rights by these organizations have been discovered. There appear to be some limitations in the area of contributed data relating to markets with no central trading floors. Reuters reports inability to get raw data on US Treasury and federal agency securities.<sup>73</sup> The interactive contributed data services pioneered by Reuters may also have resulted in Reuters gaining exclusive access to certain data at the expense of competitors. It was not possible to ascertain whether there were contractual restrictions on supplying the data to other firms but exclusive access is most likely, just in terms of practical convenience for traders.

The network character of some information services provided by the leading firms, especially in relation to decentralized markets with no physical trading floors, may be constituting a barrier to entry. Once a particular information service such as the Reuters Monitor Money Rates Service has become established (all of the world's 100 largest banks are subscribers to this

<sup>73</sup> Reuters Prospectus, p. 16.

particular service), it becomes, in effect, the market floor, and an indispensable requirement for all participants in that market. Once a service has achieved this status, it would be difficult for a competitor to enter. The incumbent firm will also be in a position to set monopoly prices.

High profit returns may also be due to the advantages of being first in the field. In an industry where the accuracy and timeliness of information is of paramount importance, it is likely that established firms enjoy brand 'image' advantages. This may, however, be overcome by combinations such as Merrill Lynch-IBM which have immense brand image advantages in their own industries. Product and pricing strategies which may act as barriers are discussed below.

## Conduct

### Product Strategy

The dominant firms in the news and market-information market offer a variety of products. Variety in the form of different 'packages' of the same information, must be distinguished from variety in the form of products comprising different information. The former, a device for price discrimination, is discussed below, under Pricing. The latter form of variety that corresponds to multiproduct production is examined here. However, the lines between the two types of variety are not always clear as there can be significant common

elements between different products aimed at different market segments.

One of the main reasons for multiproduct production comes from the demand side: customers desire to work with a limited number of online information sources to minimize problems with space, formats, etc. This makes the number of offered products a selling point for supplier firms. Transmission and terminal costs may also be spread out over a number of products. For example, in introducing the Reuters Historical Database service, it was stated:

Because the network and terminals are already in place and paid for, we shall be able to offer these new services at very low prices.<sup>74</sup>

The new information technologies and the new marketing opportunities have caused news agencies and online firms to seek to fully exploit the potential for multiproduct production of their business, at all levels. Reuters used to maintain separate worldwide reporting networks for its general news (for media) and specialized news (for business users) products. In 1980, the two networks were merged<sup>75</sup> because the technologies enabled the separation of stories and their packaging into different products at a later stage in the production process. In any case, there is no clear-cut separation between what constitutes general news and specialized news. Specially edited general news

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<sup>74</sup> 'Reuters to Launch Historical Database Service,' Reuters press release, 10 June 1983.

<sup>75</sup> Reuters Report and Accounts 1980, p. 4.

is included in specialized news products directly, or through 'windows' or alert facilities on video monitors,<sup>76</sup> and developments in exchanges and markets that are the prime concern of specialized news spills over into general news.

Incentives to offer a large number of information products over common online communication facilities lead to multiproduct distribution, not necessarily multiproduct production. These incentives may, however, be combined with incentives to integrate upstream into production, discussed under Vertical Integration, and incentives to exploit economies of scope at the production level. Most of the major firms are characterised by multiproduct distribution, vertical integration, and multiproduct production. Given the possible existence of 'bottlenecks' at the level of dissemination, the products of the vertically integrated firms will have guaranteed access to end-users, while market access for information products of the unintegrated firms may be restricted.

This is a possibility, not an observed fact. All the major firms distribute products supplied by independent producers. Some independently produced information products are simultaneously distributed by several online firms. Furthermore, there are a large number of online firms at the present time,

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<sup>76</sup> E.g., 'AP-Dow Jones News Services are also available through Telerate, continuously updated in a six-line window at the bottom of the screen--allowing the viewer to keep abreast of the news while continuing to watch any page in the Telerate system.' -- 'AP-Dow Jones News Services,' publicity material obtained in August 1983.

including some that appear to be distributing only one specialized product.

### Pricing

The news and market-information market satisfies the three essential conditions for price discrimination: sellers within their market segments have market power; there are opportunities for the segregation of customers with different price elasticities of demand; opportunities for arbitrage are limited because of the ephemeral nature of the value of the products.

The news agency industry has long been characterized by price discrimination.<sup>77</sup> Price discrimination within a national media market is done by pricing on the basis of a formula similar to the 'Newspaper Pricing Policy' of UPI which is based on the circulation of the buyer newspaper plus a flat, uniform fee for equipment.<sup>78</sup> Price-setting outside the core media markets tends to be based on negotiation. These prices are uniformly lower than in the core markets.

There is no convenient and accepted discriminatory measure in the specialized news markets. When Dow Jones had complete monopoly over the US business information market, it used the number of branch offices a customer had, whether or not a ticker

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<sup>77</sup> Samarajiwa, 'Third-World Entry to the World Market in News,' pp. 124-26;

<sup>78</sup> 'UPI "White Paper" Refutes Rate-Busting Allegations,' Editor and Publisher, 7 May 1983, p. 12.

machine was needed in every office, as the discriminatory measure.<sup>79</sup> Reuters uses a formula that is not as patently discriminatory which takes into account numbers of locations served, numbers of video monitors and teleprinters installed, and some other factors. Examples of Reuters prices were obtained from the bankruptcy records of International Reporting Information Systems Development (Holdings) B.V., (IRIS):

Table 8: Example of Reuters Fees (US\$)

	Yearly	Monthly per Terminal
Financial Report at Fullerton, VA.	13,176.00	366.00
Financial Report at Second Location	5,112.00	426.00
Money Report at Fullerton, VA.	18,216.00	506.00
Money Report at Second Location	7,032.00	586.00

Source: US Bankruptcy Court, Alexandria, VA. Case No. 83-00131-A (Document filed 1 April 1983).

The common ratios between the charges (2.6:1 for annual charges between first and second locations, and 0.86:1 in the case of terminal charges) are indicative of formula-based pricing.

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<sup>79</sup> William J. Slattery, 'Who Now, Dow Jones?' Esquire, October 1970.

Pricing policies in the ephemeral-value database sector vary in complexity. It appears that price discrimination within segments is more difficult here. The basic charge is for connect time, with possible additional charges for characters transmitted and received, processing charges, etc.<sup>80</sup> Simpler pricing formulas are being introduced in response to market resistance. For example, FRI Information Services Ltd. offers its Trademarket product at either a C\$5,800 annual subscription for large firms, or at C\$0.06 per stock quotation for smaller users, which may have discriminatory implications in practice.<sup>81</sup>

The principal method used for price discrimination in the ephemeral-value database sector appears to be the offering of composite products. For example, Reuters offers a group of products called the Reuter Monitor Commodities Broadcast Service for three commodities--coffee, cocoa, and sugar--which is made up of futures prices from three market centres, foreign exchange rates, and a commodity news alert system. The Reuter Monitor Commodities Service for those three commodities offers commodities news, futures prices, contributed data, foreign exchange rates, and economic statistics.<sup>82</sup> The price for the latter product is higher. These two products are clearly aimed

<sup>80</sup> E.g., I.P. Sharp Associates, Inc., 'Sharp APL System Usage Agreement' (November 1982; Pub. Code 0098 8211 E5).

<sup>81</sup> 'Data Base Firms Strive to Cut Costs, Improve Access,' Globe and Mail 19 October 1984, p. R2.

<sup>82</sup> 'The Reuter Monitor Commodities Broadcast Service,' and 'A New Range of Commodity Services on the Reuter Monitor,' publicity material obtained in September 1983.



at groups of buyers with different price elasticities of demand.

It was not possible to obtain the required data on pricing policies from the major firms, as this data, among others, was considered to be confidential. IPS, a small Third World news agency, was the only firm willing to discuss pricing policies. Charges were said to be based on estimates of what the market will bear. Generally a blanket rate is charged because measuring usage is costly. In many cases optional packages were offered as 'sweeteners' in negotiations over the basic product.<sup>83</sup>

Multiproduct Pricing. Price discrimination is based on exploiting the different demand elasticity characteristics of market segments in relation to what are more or less the same products. Multiproduct pricing extends this to different product market segments. A firm that enjoys a secure position in a particular market segment with low demand elasticity (e.g., Reuters in the foreign exchange information market segment), can offer low prices in other, more competitive, market segments. The prices in these markets will be determined by 'what the market will bear', or what is needed to drive out competitors. The conditions for this type of pricing, known as 'deep-pockets' cross-subsidization, exist in the news and market-information market, but it has not been possible to find any evidence that it is actually being practised. It may be that firms have no need to engage in such anti-competitive practices in a period of -----

<sup>83</sup> Interview with Victor H. Sutton, Co-ordinator, International Organizations and NGO's, IPS-Inter Press Service, IPS Head Office, Rome, 13 September 1983.

rapidly expanding demand. It also true that even if such pricing did occur, it would be very difficult to establish that it was anti-competitive in view of the costing and accounting practices of supplier firms, where a large proportion of costs are categorized as common costs.

### Summary

This chapter was an attempt to identify economic relationships and tendencies in the news and market-information market within the broad framework of the structure-conduct-performance paradigm of the industrial organization field. The news and market-information market was defined using ephemerality of value as the key criterion. The market is made up of a number of heterogeneous market segments. Two groups of suppliers, old news agency firms and the newer online service firms, were identified.

The market is in the midst of rapid growth and change. Large numbers of new products have been introduced over the past few years. The number of suppliers is large, and a considerable amount of entry and exit appears to be occurring. However, there are a number of firms that are well established and are enjoying high profit returns.

It was found that claims for the existence of economies of scale cannot be substantiated. In any case, economies of scale are of limited importance in the present conditions of rapid technological change. No conclusive evidence was found for the

existence of economies of scope but it was concluded that some economies of scope are likely to be present in relation to dissemination. There appear to be no overwhelming structural tendencies towards natural monopoly.

Most of the large firms are integrated across production and dissemination functions. Firms controlling dissemination facilities appear to be in a powerful position vis-a-vis firms limited to information production. While possibilities of abuse were identified, there do not seem to be any instances of information providers being shut out from access to buyers at the present time.

Several possible reasons for the high profitability of the core firms are discussed but a conclusive explanation cannot be arrived at on the basis of the available data. Incentives to engage in multiproduct distribution and production are identified and the possibility of large firms expanding into market segments presently occupied by small firms is discussed.

The limited conclusions that may be drawn on the basis of this analysis of the news and market-information market are discussed in the concluding chapters.

### III. Property Rights in Ephemeral-Value Information

#### Introduction

This chapter seeks to trace the development of the property rights regime governing the present news and market-information market and related areas of information production and dissemination. The historical material is discussed under three headings. The first, common law rights, deals with a line of cases directly involving news agencies as parties. Here, judges have formulated private property rights based on the common law, on the basis that news agency reports are outside the ambit of copyright law. The second and third lines of development are in two branches of copyright law, one dealing with copyright in the content of newspapers, and the other, copyright in compilations. Parallels between these three lines of development as well as important differences are discussed.

The historical discussion is based on the common law jurisdictions of Canada, Britain, and the United States. They are all societies at the leading edge of information industry development. Canadian judges and lawyers turn to English and American law for guidance, making a study of developments in those two legal systems indispensable.

The present status of private property rights to news and market-information is discussed in relation to Canadian law in

the final section. The implications of the technological convergence of the news agency, newspaper, and compilations industries are discussed.

### Model of Property Rights Development

In every society there is a problem of resource allocation. Resource allocation through markets and private property rights is a defining characteristic of capitalist societies. A private property right has been defined by Felix Cohen as:

a relationship among human beings such that the so-called owner can exclude others from certain activities or permit others to engage in those activities and in either case secure the assistance of the law in carrying out his decision.<sup>1</sup>

In practice, what a person has or trades is a bundle of private property rights, sometimes encumbered by obligations. There are almost an infinite number of combinations of rights that can constitute such bundles, but the legal system has tended to deal with a limited number of standard bundles of rights, each standard bundle being considered in general usage to be a particular kind of property right such as ownership or leasehold. All standard bundles are in varying degrees, exclusive, enforceable, divisible, and transferable.<sup>2</sup>

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<sup>1</sup> Felix S. Cohen, 'Dialogue on Private Property,' Rutgers Law Review, 9 (1954): 373.

<sup>2</sup> Anthony Scott, 'Property Rights and Property Wrongs,' Canadian Journal of Economics, 16 (1983): 558.

Exchanges of private property rights occur in markets and direct the allocation of economic resources. Existence of private property rights may be seen as a pre-condition for market transactions. However, market transactions may take place on the basis of quasi-property rights that do not fulfil the requirement of legal enforceability. One such instance is when the transaction is illegal, as in the drug trade. Here, all parties are aware that the law will not step in and enforce property rights in case of conflict. But illegal trade has its own mechanisms for enforcing property rights, generally in the form of codes that may be broken only at risk of inviting violent retribution.

The other instance is when all parties act as though a legally enforceable property right exists. This routinely occurs at the "edge" of the market sphere, in areas into which market relations have just expanded. Whether an actual private property right exists or not, and the composition of the bundle, can be ascertained only when a conflict between two parties is taken to court or when some form of legislation is enacted to define property rights in that area. Even in the latter case, it is judicial interpretation of statutes or regulations in relation to actual disputes that defines the rights, not the legislation itself.

The definition of private property rights utilized in this thesis is narrower in scope than that usually found in the

burgeoning property rights literature in economics.<sup>3</sup> In most of these writings, the ability to secure the assistance of the law is merely one among many possible methods of enforcing property rights. In the definition adopted here, enforceability by law, is, in the last instance, the true test of a private property right (and by extension, of other types of property rights too.) It is not contended that other forms of enforcement do not exist, or that they are of no significance. Rights enforced by means other than the law are incorporated into the analytical framework under the concept of quasi property rights. The precision made possible by the narrower definition was a major factor in making this choice. It must also be noted that the prime applications of the broader definition have been in analyses of government and other bureaucratic organizations,<sup>4</sup> which are not the focus of this study.

New technologies and uses, especially when associated with private investment, give rise to demands for new private property rights. In any situation where private capital has been invested in a new economic activity there is a natural desire on the part of the investors and managers to safeguard the invested capital and to enhance its profit-yielding and other beneficial (managerial) capacities. Conflict arises when other parties do not obey the restrictions imposed by the investors and managers

<sup>3</sup> See, for example, Eirik G. Furubotn and Svetozar Pejovich, 'Property Rights and Economic Theory: A Survey of Recent Literature,' Journal of Economic Literature, 11 (1973): 1139.

<sup>4</sup> Ibid., 1137.

for the above objectives. The conflict may be resolved by negotiation, by recourse to litigation, or by appeals to government for legislative or administrative intervention. Negotiation is possible only when the number of parties involved is small, and generally does not result in full--i.e., legally enforceable--property rights. In common law market economies such as Canada, Britain, and the United States, legislative and administrative remedies have come to play increasingly important roles in defining new property rights but, arguably, the predominant mechanism still remains the judicial system.

Anthony Scott has described the legal process that gives rise to new property rights (new standard bundles of rights) to natural resources in the common law in terms of supply and demand forces.<sup>5</sup> A modified version of that model will be used to analyze the historical development of private property rights.

On the demand side are the litigants to whom the existing property rights or quasi property rights have become unsatisfactory or inadequate. A litigant usually does not demand a general change in the definition of a property right, only that legal sanction be given to what he/she is doing or intends to do. A general change is not always the objective of an individual action but may yet be the result. On the supply side are the judges. Judges deal with specific disputes brought

<sup>5</sup> Scott, 'Property Rights and Property Wrongs': 555-73; Anthony Scott and James Johnson, 'Property Rights: Developing the Characteristics of Interests in Natural Resources,' Resource Paper #88, Department of Economics, University of British Columbia, March 1983.



before them, but general changes to property rights result where there are large numbers of disputes concerning existing rights, or even one dispute in relation to quasi property rights. The outcome is not necessarily more 'efficient', or better for both parties or society as a whole. This is because the 'market' for new property rights is wracked by the debilities common to all real-world markets: the wealth of the litigants is in most cases unequal--an interpretation of a property rights bundle may emerge victorious because of the economic resources mobilized by its proponent, rather than for any other reason; 'pure competition' is absent in that litigants are not homogeneous, self-contained entities that uniformly and exclusively respond to purely short-term considerations; access to the market may be restricted for certain types of litigants because of common law procedural rules regarding 'standing'; and, public good effects exist, in that 'free rides' are possible on new property rights developed as the result of one litigant's actions.<sup>6</sup>

Common-law judges generally attempt to limit their findings to the parties before them, as to do otherwise would be to engage in explicit law-making, usurping the functions of legislatures. But the doctrine of Stare Decisis has the practical effect of generalizing specific findings in disputes to private property rights applicable to large numbers of people. It also results in the evolution of new property rights being a slow and incremental process, with judges always seeking

<sup>6</sup> Scott, 'Property Rights and Property Wrongs,' 564-66.

to adapt existing rights rather than create rights afresh.

In his discussion of the creation of private property rights to natural resources in Canada, Scott contrasts this incremental common law process with government policy to create new private property rights.<sup>7</sup> It is not suggested that government policy-making, generally or always, results in radical breaks from past policies and precedents. It is that there is latitude for relatively greater 'leaps' within the overall incrementalism of government policy-making. The discussion of legislative property rights creation must include examination of the government's role as an economic actor, extending beyond that of facilitator of industry demands. Governments may attempt to direct large politico-economic processes such as colonization of land or investments in the communication/information sector, through the creation of new private property rights. Comparisons between the two modes of property rights creation and their implications are discussed in chapter IV.

#### Development of Property Rights

Copyright is the principal form of private property rights to information other than information of novel technological products and processes represented by patents. The origin of copyright is generally traced to the invention of movable type

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<sup>7</sup> Ibid., 567.

circa 1476.<sup>8</sup> However, the beginning of copyright law as it is now known in Canada, Britain, and the United States is usually taken to be the Statute of Anne of 1709, entitled a 'Bill for the Encouragement of Learning, and for Securing the Property of Copies of Books to the Rightful Owners Thereof.' Ambiguities in the statute on the nature and scope of the private property rights conferred were resolved to a degree in Donaldson v. Beckett (1774).<sup>9</sup> Here, the court ruled that the Statute of Anne preempted common law copyright; copyright in books had to be derived from statute or not at all.

The preemption question in Donaldson is symptomatic of a larger issue. Private property rights to information may be seen either as the rule (i.e., unless proven otherwise, private property rights exist), or as the exception (where the burden of proof is on the party claiming private property rights).<sup>10</sup> In Donaldson, the court adopted the latter approach, namely that what was not explicitly brought within the sphere of private property rights by statute remains public property, which is the residual. This 'restrictive' approach retards the expansion of private property rights. Its opposite, what may be described as

<sup>8</sup> Robert C. Hauhart, 'The Origin and Development of the British and American Patent and Copyright Laws,' Whittier Law Review, 5 (1983): 544, quoting authorities.

<sup>9</sup> 1 Eng. Rep. 837 (K.B. 1774); see also, Hauhart, 'Origin and Development,' 548-551.

<sup>10</sup> For evidence of the continuing vitality of this debate, see for example, Arthur S. Levine and Jeffrey L. Squires, 'Notice, Deposit and Registration: The Importance of Being Formal,' UCLA Law Review 24 (1977): 1232-36.

the 'permissive' approach, shifts the burden of proof on to those who would limit the scope of private property rights.

The ruling in Donaldson did not settle the question of the scope of private property rights to information conclusively, as evidenced by the survival, and even the creation, of common law copyright and other similar rights. In the United States, the question became intertwined with federal-state jurisdictional issues and has been marked by swings towards both 'restrictive' and 'permissive' approaches.<sup>11</sup>

The private property rights developed for the news agency industry could be described as a result of the application of the 'permissive' approach. However, this is too simplistic a conclusion. The permissive approach adopted by the courts in fashioning new private property rights must be seen in the overall context of the existence of statutory copyright law embodying a balance between the interests of producers and users, which was, in essence, a manifestation of the restrictive approach. In most cases, the rulings of the courts on ephemeral-value information were two-pronged: the courts excluded the information from the 'strong' protection of copyright law, an action congruent with the restrictive approach; then the courts fashioned weaker property rights for the information excluded from copyright protection, adopting the

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<sup>11</sup> For a review of developments see, Henry David Fetter, 'Copyright Revision and the Preemption of State "Misappropriation" Law: A Study in Judicial and Congressional Interaction,' ASCAP Copyright Law Symposium, 27 (1982): 1-56.

permissive approach.<sup>12</sup>

The 'restrictive' approach is exemplified in the English and Australian decisions, Sports and General Press Agency, Limited v. 'Our Dogs' Publishing Co., Limited (1917),<sup>13</sup> and Victoria Park Racing & Recreation Grounds Co. Limited v. Taylor and Others (1937).<sup>14</sup> In the Our Dogs case, the plaintiff claimed the 'sole press rights' of a dog show, and sought to enjoin the publication of photographs of the event taken by others. The court held against the plaintiff:

It is said that the association [which sold the 'rights' to plaintiff] had been put to trouble and expense in organizing the show which included the right to photographs themselves and to grant the same right to others . . . . [I]t is not accurate to speak of the right of taking photographs as property. No doubt the . . . Association had the grounds for the day, and also the right of allowing those persons to enter of whom they approved and excluding those of whom they did not, and that right carried with it the right of laying down conditions binding on the parties admitted; it might be a condition that they should not use cameras . . . . But they did not lay down any such conditions . . . .

. . . . [I]f those who promote shows or exhibitions wish to prevent the taking of photographs, they must make it a matter of contract. I am clearly of the opinion that there is no such right of property in the owner of land . . . .<sup>15</sup>

The Victoria Park case broadened the rule in Our Dogs by refusing to recognize a private property right of a race-course

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<sup>12</sup> National Tel. News Co. v. Western Union Tel. Co. 119 Fed. 294 (1902) is a good example.

<sup>13</sup> 2 K.B. 125.

<sup>14</sup> 58 C.L.R. 479.

<sup>15</sup> 2 K.B. 125, 127-128.

owner to bar broadcasts from a tower built on adjoining land. In these cases, the burden of establishing private property rights contractually was imposed upon those who wished to restrict the use by others of information generated from activities under their control.

### Common-Law Property Rights

News agency reports have been considered to be outside the purview of copyright.<sup>16</sup> However, this has not resulted in the total absence of property rights. The courts in England and in the United States have designed weaker property rights for news agency products outside the statutory framework.

The leading English cases in this area are known as the Exchange Telegraph cases.<sup>17</sup> The dispute in the first case, The Exchange Telegraph Co. Ltd. v. Gregory and Co., concerned stock exchange information bought from the committee of the Stock Exchange and resold by The Exchange Telegraph Company (Extel). The news agency disseminated the information to subscribers -- bound by contract not to resell or disseminate it to

<sup>16</sup> National Tel. News Co. et al. v. Western Union Tel. Co. 119 Fed. 294 (1902); The Exchange Telegraph Co., Limited v. Gregory and Co. [1896] 1 Q.B. 147; The Rome Copyright Convention, 1928, Schedule III, Copyright Act, R.S., c.55, art.9. See also, William F. Swindler, 'News: Public Right v. Property Right,' ASCAP Copyright Law Symposium, 10 (1959): 285.

<sup>17</sup> The Exchange Telegraph Co., Ltd. v. Gregory and Co. [1896] 1 Q.B. 147; Exchange Telegraph Co. Ltd. v. Central News, Ltd. [1897] 2 Ch. 48; and The Exchange Telegraph Co. (Ltd) v. Howard and The London and Manchester Press Agency (Ltd) [1906] 22 T.L.R. 375.

non-subscribers -- by telegraph. The same information was also published, six times a day, in a copyrighted newspaper put out by Extel. The defendant, an 'outside broker', barred from subscribing to the telegraphic service, obtained the telegraphed information from a subscriber and published it in his office, sometimes before, and sometimes after, its publication in plaintiff's newspaper.

The facts in the other cases, Exchange Telegraph Co. Ltd. v. Central News Ltd. (1897) and The Exchange Telegraph Co. (Ltd.) v. Howard (1906), were fairly similar. They both involved news originating at events organized by third parties (horse races and cricket matches) in distant locations. Unlike in the Gregory case, there were no purchases of information from the organizers of the events. Presumably, the information was free for the taking. However, costs were incurred in placing reporters at the sites, transmitting the information to London, organizing it, and disseminating it through telecommunication lines and 'ticker' machines to purchasers including hotels, clubs, news-rooms, and newspapers. The defendants in both cases were alleged to have obtained the information surreptitiously from plaintiff's subscribers in breach of their contracts. The cases were argued outside statutory copyright law in terms of inducing breach of contract and common law right of property in information.

In Gregory, the court recognized Extel's private property rights in the information on the ground that it was purchased

from the Stock Exchange, which had private property rights to it:

What is done is done in a place belonging to the members of the Stock Exchange and managed by a committee, who have a right to deal with what is done in it as they think fit, and persons admitted to that place are bound to submit to the terms imposed upon them by the committee. The committee have the right to deal in their own way with that very valuable information of what is being done, or has been done earlier in the day.

This information . . . is something which can be sold. It is property and being sold to the plaintiffs it was their property.<sup>18</sup>

The private property right was derived partly from the fact that the information was generated within a privately controlled environment, partly from the fact that it was a result of conscious activity ('collecting together of materials') and partly from the existence of exchange value.

In the later cases, the information originated in the public domain. The court in Central News saw the derivation of private property rights thus:

[I]t was said first of all that here the information had become public to the world at Manchester, and there could be no property in it. But the information was not made known to the whole world; it was no doubt known to a larger number of persons, but a great many more were ignorant of it. By the expenditure of labour and money the plaintiffs had acquired this information, and it was in their hands valuable property in this sense--that persons to whom it was not known were willing to pay, and did pay, money to acquire it.<sup>19</sup>

The court in Howard agreed:

The knowledge of a fact which is unknown to many people

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<sup>18</sup> 1 Q.B. 147, 151-153.

<sup>19</sup> 2 Ch. 48, 53.



may be the property of a person in that others will pay the person who knows it for information as to that fact . . . The Plaintiffs here sue, not in copyright at all, but in respect of that common law right of property in information they had collected and which they were in a position to sell.<sup>20</sup>

The later cases are more interesting in that information that was in the public domain was seen as being made into private property. What is most interesting is the major reliance placed upon exchange value as a factor giving rise to private property rights. This feature is discussed in detail below in relation to the American cases.

The question of when private property rights to news agency products cease to exist, or when they revert to public property rights, was not adequately dealt with in the Exchange Telegraph cases. In Gregory, the issue was clouded because copyright in the newspaper was recognized, and because copyright law statutorily specifies the duration of the private property right. In the Central News case, the defence raised the point that private property rights cease the moment the news is transmitted to clubs and hotels.<sup>21</sup> Unfortunately, the court chose to treat this not as a question of law, but as a question of fact.<sup>22</sup> This question was also implicit in the defendant's statement in Howard that when a news report from his sources failed to come through, he would take cricket scores from a newspaper purchased on the street and transmit it to his

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<sup>20</sup> 22 T.L.R. 375.

<sup>21</sup> 2 Ch. 48, 53.

<sup>22</sup> Ibid. 54.

buyers.<sup>23</sup> Again, the court treated it as a question of fact.

The landmark US decision on news agency private property rights is International News Service v. Associated Press (1918).<sup>24</sup> However, two early cases dealt with similar issues. In National Tel. News Co. et al. v. Western Union Tel. Co. (1902)<sup>25</sup> the facts were somewhat similar to the Central News and Howard cases. The defence did not deny appropriation of news appearing on Western Union's tapes; instead, it was argued that such appropriation was a lawful right on the ground that the appearance of printed tape on appellee's tickers on customer premises amounted to a dedication to the public.

The court held that the nature of the appellee's business precluded compliance with the requirements of the Copyright Act, and that even if properly registered, the content of the printed tape would not be copyrightable.<sup>26</sup> Instead, the court focussed on ephemeral value:

The value of the tape to the patron is almost wholly in the fact that the knowledge thus communicated is earlier, in point of time, than knowledge communicated through other means, or to persons other than those having a like service. . . . [I]n virtue of this quality, and of this quality alone, the printed tape has acquired a commercial value.<sup>27</sup>

The court concluded that the appellee was a commercial carrier

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<sup>23</sup> 22 T.L.R. 375, 377.

<sup>24</sup> 248 U.S. 215 (2nd Cir. 1918).

<sup>25</sup> 119 Fed. 294 (1902).

<sup>26</sup> Ibid., 296-298.

<sup>27</sup> Ibid., 298.

of information and not an author or a publisher, and that a remedy should be sought outside the copyright law.

A consciously innovative ('We choose, rather, to make precedent . . . .')<sup>28</sup> remedy was fashioned on the basis that the appellant's activities resulted in some injury, however remote, to the property of the appellee:

[I]f appellants may lawfully appropriate the product thus expensively put upon the appellee's tape, and distribute the same to their own patrons, as their own product, thus escaping any expense of collection, but one result would follow--the gathering and distribution of news, as a business enterprise, would cease altogether.<sup>29</sup>

Property, in the text of the judgement, was interpreted not in relation to particular news reports or information, but rather as the commercial enterprise itself.<sup>30</sup> However, the injunction restraining use of the information by a rival enterprise until after sixty minutes, effectively created a private property right in the information.

Board of Trade of the City of Chicago v. Christie Grain & Stock Co. (1905)<sup>31</sup> was a US case with facts somewhat similar to Gregory, though the legal arguments brought to bear on them were rather more complex, and mostly not of direct relevance to the

<sup>28</sup> Ibid., 301.

<sup>29</sup> Ibid., 296.

<sup>30</sup> Ibid., 299-300. For an illuminating account of the evolution of the concept of property identified with the expected earning power of an enterprise, or essentially, with exchange value see, John R. Commons, Legal Foundations of Capitalism (New York: Macmillan, 1924), 11-21 ('Use-Value and Exchange-Value').

<sup>31</sup> 198 U.S. 236 (8th Cir., 1905).

question of private property rights in information.

The ruling was in favour of the Board of Trade, with the court holding that it had private property rights to information it generated and collected:

[T]he plaintiff's collection of quotations is entitled to the protection of the law. It stands like a trade secret. The plaintiff has the right to keep the work which it has done, or paid for doing, to itself. . . . The plaintiff does not lose its rights by communicating the result to persons, even if many, in confidential relations to itself, under a contract not to make it public . . . [citing Exchange Telegraph Co. v. Gregory and National Tel. News Co. v. Western Union Tel. Co., among others, in support]<sup>32</sup>

Though a private property right unlimited in time could be implied from this statement, a time dimension is suggested immediately thereafter.

Time is of the essence in matters like this, and it fairly may be said that, if the contracts with the plaintiffs are kept, the information will not become public property until the plaintiff has gained its reward. A priority of a few minutes probably is enough.<sup>33</sup>

The facts in dispute in the Supreme Court appeal of International News Service v. Associated Press (1918)<sup>34</sup> were as follows. The International News Service (INS) was barred from use of trans-Atlantic cables by the British government during the First World War. Unable to obtain its own reports from Europe, INS took AP-originated news immediately upon publication in the early editions of New York newspapers and newspaper

<sup>32</sup> Ibid., 150-151.

<sup>33</sup> Ibid., 251.

<sup>34</sup> 248 U.S. 215 (2nd Cir., 1918).

bulletin boards, and transmitted it on INS wires to subscribers in the Western and Midwestern United States. Time differences and publication schedules made possible the publication of this material simultaneously, or in some cases even ahead of, AP newspapers in those areas. As there was no dispute over these facts, the questions in law were:

(1) Whether there is any property in news; (2) whether, if there be property in news collected for the purpose of being published, it survives the instant of its publication in the first newspaper to which it is communicated by the news-gatherer; and (3) whether defendant's admitted course of conduct in appropriating for commercial use matter taken from Associated Press publications constitutes unfair competition in trade.<sup>35</sup>

The defendant argued that there could be no private property rights to news, both because facts are public property and because news falls outside the statutory protection granted by the Copyright Act. It was further argued that, even if a private property right were assumed, a right to uncopyrighted information could be maintained only by keeping the information confidential, as with trade secrets. At issue therefore, was the basic question as to whether private property rights could exist in relation to 'news of events of spontaneous origin'. Also at issue were questions of how private property rights, if any, arise and cease to exist, in relation to information of this type.

As in many cases of that time, the dissents in INS were extraordinarily rich in legal reasoning. In this particular case

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<sup>35</sup> Ibid., 239-240.

two of the great legal minds of the twentieth century, Justice Oliver Wendell Holmes, Jr. and Justice Louis Brandeis, wrote separate judgements. The key legal issues are discussed drawing on the majority decision as well as the minority decisions.

Could news reports be the private property of the news agencies that produced them? It was not in dispute that the news reports that were the subject-matter of the case were not protected by the Copyright Act. Even the majority held that news of current events is common property.<sup>36</sup> The majority ruling in favour of the plaintiff, the Associated Press, was based on the attribution of private property rights to the business of a news agency, and not directly to the information produced by it, the line of reasoning developed in the National Tel. News case. It was something of a judicial sleight-of-hand as the end result was the creation of private property rights (with some limitations) to the news reports themselves.

[T]o both of them, alike, news matter, however little susceptible of ownership or dominion in the absolute sense, is stock in trade, to be gathered at the cost of enterprise, organization, skill, labor, and money, and to be distributed and sold to those who will pay money for it, as for any other merchandise. Regarding the news, therefore, as but the material out of which both parties are seeking to make profits at the same time and in the same field, we hardly can fail to recognize that for this purpose, and as between them, ~~it must~~ be regarded as quasi property, irrespective of the rights of either as against the public.

The right of a purchaser of a single newspaper to spread knowledge of its contents gratuitously, for any legitimate purpose not unreasonably interfering with complainant's right to make merchandise of it, may be

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<sup>36</sup> Ibid., 234-35.

admitted; but to transmit that news for commercial use, in competition with complainant . . . is a very different matter. In doing this defendant, by its very act, admits that it is taking material that has been acquired by complainant as the result of organization and the expenditure of labor, skill, and money and which is salable by complainant for money, and that defendant, in appropriating it and selling it as its own, is endeavoring to reap where it has not sown, and by disposing of it to newspapers that are competitors of complainant's members is appropriating to itself the harvest of those who have sown. Stripped of all disguises, the process amounts to an unauthorized interference with the normal operation of complainant's legitimate business precisely at the point where profit is to be reaped, in order to divert a material portion of the profit from those who have earned it to those who have not, with special advantage to defendant in the competition because of the fact that it is not burdened with any part of the expense of gathering the news.<sup>37</sup>

News was common property at the point of origin but once economic resources were expended on it and exchange value created, it became private property as against all competitors.

Both Justice Holmes and Justice Brandeis recognized the dangers of the 'permissive' approach of the majority. Justice Holmes questioned what amounted to a derivation of private property rights from exchange value:

Property, a creation of law, does not arise from value, although exchangeable,--a matter of fact. Many exchangeable values may be destroyed intentionally without compensation. Property depends upon exclusion by law from interference, and a person is not excluded from using any combination of words merely because someone has used it before, even if it took labor and genius to make it.<sup>38</sup>

Justice Brandeis:

An essential element of individual property is the legal right to exclude others from enjoying it. . . . [T]he

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<sup>37</sup> Ibid., 139-140.

<sup>38</sup> Ibid., 246.

fact that a product of the mind has cost its producer money and labor, and has a value for which others are willing to pay, is not sufficient to secure to it this legal attribute of property. The general rule of law is, that the noblest of human productions -- knowledge, truths ascertained, conceptions and ideas -- become, after voluntary communication to others, free as the air to common use. Upon these incorporeal productions the attribute of property is endowed after such communication only in certain classes of cases where public policy seemed to demand it.<sup>39</sup>

The majority also addressed the question of when private property rights cease to exist. Against purchasers of single copies for reading, private property rights end upon publication. The majority stated:

[W]e may and do assume that neither party has any remaining property interest as against the public in uncopyrighted news matter after the moment of its first publication . . .<sup>40</sup>

But as against competitors, private property rights remained 'until its commercial value as news to the complainant and all of its members has passed away.'<sup>41</sup> The specific time period was fixed at 24 hours by the lower court.<sup>42</sup> Private property rights that come into being with exchange value, also cease to exist with exchange value.

The INS decision formed the basis of a series of later decisions involving new agency reports.<sup>43</sup>

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<sup>39</sup> Ibid., 250.

<sup>40</sup> Ibid., 236.

<sup>41</sup> Ibid., 245.

<sup>42</sup> Swindler, 'News: Public Right v. Property Right,' 298.

<sup>43</sup> E.g., Associated Press v. KVOS Inc. 80 F.2d. 575 (9th Cir. 1935), rev'd for want of juris., 299 U.S. 269 (1936); Veatch v. Wagner 116 F.Supp. 904 (D. Alaska 1953); Pottstown Daily News Publishing Co. v. Pottstown Broadcasting Co. 411 Pa. 383, 192



The extension of copyright-like protection to material uncopyrightable under the Copyright Act through the INS doctrine came under a cloud in 1964 as a result of two Supreme Court decisions on the preemptive power of federal intellectual property laws.<sup>44</sup> An attempt was made in the course of the 1976 U.S. Copyright Act revision to clarify the situation, as evidenced by this excerpt from the accompanying House Report:

'Misappropriation' is not necessarily synonymous with copyright infringement, and thus a cause of action labeled as 'misappropriation' is not preempted if it is [in] fact based neither on a right within the general scope of copyright as specified by section 106 [of the 1976 Act] nor on a right equivalent thereto. For example, state law should have the flexibility to afford a remedy (under traditional principles of equity) against a consistent pattern of unauthorized appropriation by a competitor of the facts (i.e., not the literary expression) constituting 'hot' news, whether in the traditional mold of International News Service v. Associated Press . . . or in the newer form of data updates from scientific, business, or financial databases.<sup>45</sup>

Whatever be the status of misappropriation law in general (the literature suggests that state misappropriation laws have survived the changes made in the 1976 Copyright Revision),<sup>46</sup> it is clear that the law pertaining to ephemeral-value information in the United States is still derived from the INS ruling.

<sup>43</sup>(cont'd) F.2d 657 (1963).

<sup>44</sup> Sears, Roebuck & Co. v. Stiffel & Co. 376 U.S. 225, rehearing denied 376 U.S. 973; and Compco Corp. v. Day-Brite Lighting, Inc. 376 U.S. 234, rehearing denied 377 U.S. 913.

<sup>45</sup> U.S.C. 1982 Edition, vol. 7 (Title 17), sec. 301 (p. 73).

<sup>46</sup> E.g., Fetter, 'Copyright Revision and Preemption'; Patricia Ann Mitchell, 'Misappropriation and the New Copyright Act: An Overview,' Golden Gate University Law Review 10 (1980): 587-609.

Chapter V contains a more detailed exposition of the present US law.

The private property rights granted in INS were abridged in certain respects as a result of two subsequent rulings under the Sherman Anti-trust Act. In Associated Press v. United States<sup>47</sup> the US Supreme Court held that the by-laws of the Associated Press cooperative association having the effect of denying access to AP news reports to newspapers in competition with members of the association, were in violation of the Sherman Act. In the sense that AP's ability to exclude others from use of its news reports was restricted, the ruling was an abridgement of the agency's private property rights. The rights affected were not those between competitors as in the INS case, but between the agency and the present and potential buyers of its products. In the second case, The Associated Press v. Taft-Ingalls Corporation,<sup>48</sup> it was held that AP's refusal to sell a regional news 'wire' by itself, instead of as part of a 'basic service' package that included national and business 'wires', constituted an illegal tying arrangement.

The general applicability of the ruling in Associated Press v. United States to the news agency field is limited. The industry in which the illegal exercise of economic power was being constrained was not the news agency industry, but the daily newspaper industry. AP was not seen as an economic actor

<sup>47</sup> 326 U.S. 1 (1945).

<sup>48</sup> 340 F 2d. 753 (6th Cir., 1965).

in its own right, but as an instrument through which newspaper publishers pooled their 'economic and news control power' to maintain a competitive advantage over their rivals.<sup>49</sup> The Taft-Ingalls ruling is also of limited scope in that the court based its finding, in part, on the uniqueness and desirability of a particular news product.<sup>50</sup>

There appears to be no Canadian ruling specifically on a common law property right to news agency reports,<sup>51</sup> though the Exchange Telegraph cases are cited in Canadian treatises.<sup>52</sup>

Discussion. The most important point emerging from the analysis of case law over nearly a century is the separate treatment accorded ephemeral-value information, generally of a factual nature and closely associated with the public domain. It is not that they were entirely denied private property rights but that the courts created special forms of property rights that were at least not intended to be as sweeping as the property rights created by copyright law.

There was no objection to the creation of private property rights as such. In relation to the specific disputes brought before them, common law judges approved or modified quasi property rights developed by the industry itself, to actually

<sup>49</sup> 326 U.S. 16, 17.

<sup>50</sup> 340 F 2d. 766-68.

<sup>51</sup> M.E. Nichols, (CP) The Story of The Canadian Press, (Toronto: Ryerson, 1948) p. 264.

<sup>52</sup> E.g., Harold G. Fox, Canadian Law of Copyright and Industrial Designs, (Toronto: Carswell, 1967) pp. 102-03.

create new private property rights bundles. Inherent in this process was a bias towards preserving existing exchange value. This was partly because the private property rights were derived (or explained, or justified) from the existence of exchange value and the fact that economic resources had been invested in the processing and dissemination of information for creating exchange value. Lacking a clear public policy rationale (though some judges attempted to suggest one),<sup>53</sup> the principal rationales became a simplistic protection of exchange value and what may be described as a 'labour theory of property,' perhaps best articulated by John Locke:

The Grass my Horse has bit; the Turfs my Servant has cut; and the Ore I have digg'd . . . become my Property, without the assignation or consent of any body. The Labour that was mine, removing them out of that common state they were in, hath fixed my Property in them.<sup>54</sup>

However, Locke's theory is perhaps better described as an 'investment theory' than as a labour theory in that what the servant's labour produces accrues to the master and not to the servant.

Rights were defined in relation to competitors, not in relation to end-users. In fact, in the INS decision, for example, the court explicitly affirmed that the rights of end-users in relation to the information products were not to be

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<sup>53</sup> E.g., National Tel. News Co. v. Western Union Tel. Co. 119 Fed. 294, 296 and 300-301.

<sup>54</sup> John Locke, 'Of Property,' excerpted in Property: Mainstream and Critical Positions, ed. C.B. Macpherson (Toronto: University of Toronto Press, 1978), p. 18.

infringed by the newly created private property rights which were 'between' the parties in dispute.<sup>55</sup>

Another contributory factor to the bias towards preservation of existing exchange value (the dominant firms always won), was the fact that the courts failed to adequately assess the broader implications of the newly created private property rights. The private interests of parties actually before the courts were held paramount, not the more elusive public interest in the freest possible access to public-domain information of a factual nature from a diversity of sources. It may be that without the counterweight of a clearly articulated public interest, common law courts are loath to refuse to ratify, or abolish, existing quasi property rights because of the resulting identifiable economic losses. It is noteworthy that the one judge who clearly deviated from the pattern of ratifying quasi property rights, Justice Brandeis, cited a number of public interest considerations supporting his position.<sup>56</sup>

Reading between the lines of the surveyed decisions it is possible to discern a pattern whereby smaller competitors (in all these cases, the defendants) engage in 'copying' activity in response to some significant barrier to competition erected by, or benefitting, the dominant firms. For example, the plaintiffs in the stock/commodity exchange cases enjoyed a monopoly on

<sup>55</sup> 248 U.S. 215, at 236.

<sup>56</sup> 248 U.S. 215, 261-267 (1918).

access to the sources of information; in the INS case, the defendant was excluded from telegraphic access to the source of war events by the British government's power over the trans-Atlantic cables; in the cricket and horse-racing cases, the advantage enjoyed by the plaintiffs appeared to have been the ability to 'occupy' the only available telephone instruments close to the events and/or the long-distance or 'trunk' lines to London. The available evidence is not conclusive but appears to suggest that 'copying', at least in relation to news and factual information, may possibly be a reaction to market distortions rather than a cause of market failure.

Two main lines of legal reasoning may be discerned from the case law. One is based upon the concepts of trade secrets and breach of contract. The other is based on the concept of unfair competition. The Gregory and Christie decisions exemplify the former, and the INS and the other two Exchange Telegraph cases (though not in a pure form), the latter. In the 'trade secrets' line of reasoning, the argumentation is clear and precise in articulation: the information is private property at the point of origin; its dissemination is through a series of contracts that specify limitations on further dissemination and the information never enters the public domain; if a third party is in possession of the information it necessarily must be through theft or inducement to breach of contract at some point in the dissemination process. There is nothing to fault here in terms of legal reasoning.

There are only two issues that are problematic. One is the finding that the information in question is private property at the point of origin. This is not a self-evident fact. Why should information generated by a stock or commodity exchange be private property? Do not the social ramifications of activities in stock and commodity exchanges suggest a strong public interest in the information rather than none at all? The second problematic issue is the legitimacy of the restrictive conditions of the contracts. The law does not enforce any and all contracts, only those held to be not against the public interest. The question of preventing breach of contracts restricting dissemination of information is not foreclosed from determination based on broad legal or public-policy considerations. For example, common law courts have for a long time refused to enforce certain types of restrictive covenants with employees on the ground of protecting the mobility of labour.

'Unfair competition' or 'misappropriation', the second line of legal reasoning, is less clear-cut. Here, the information is public property at the point of origin; private property rights are said to arise from exchange value and the expenditure of economic resources in information processing and dissemination; the now private information may be disseminated through contracts that restrict further dissemination along the way, but, unlike in the former case, private property rights end at some point, and the information re-enters the public domain.

Even if the sequence is accepted, it is more difficult in this case to locate or prove wrongful appropriation of the information. Theoretically, the original public information is open to processing and dissemination by anyone, even to the extent of producing identical information products. There is also the possibility that the allegedly misappropriated information may have come from the last step of the sequence after the private information has re-entered the public domain.

Almost every step of this line of legal reasoning is problematic. What are the precise characteristics of, and demarcation points in, the transformation from public information to private information, and then back to public information? Should appropriation, free or otherwise, of public information be allowed? What limitations, if any, should be placed on private use of public information? How can misappropriation by competitors be proved? How can limitations in the form of private property rights be enforced against competitors without affecting the public property rights of end-users?

### Copyright in Newspaper Content

Early legislation and judicial opinion did not recognize private property rights in newspaper content. Newspapers and periodicals were not included in the categories of material subject to copyright in the original 1790 US Copyright Act. An early English decision (1806) stated:



All human events are equally open to all who wish to add or improve the materials already collected by others, making an original work. No man can monopolize such a subject.<sup>57</sup>

In the case of Clayton v. Stone (1829), a US federal court held:

The term science cannot, with any propriety, be applied to a work of so fluctuating and fugitive a form as that of a newspaper or a price-current, the subject matter of which is daily changing, and is of mere temporary use.<sup>58</sup>

But this was at a time prior to the formation of a commercial newspaper industry. Once it had emerged, and economic resources began to be allocated on a significant scale to the production of news, the earlier notions of news as common property began to change. Judicial interpretation extended existing copyright law to meet the requirements of the new industry.<sup>59</sup>

In England, the courts gradually recognized property rights in the content of newspapers beginning with the 1869 case of Cox v. Land and Water Co. Ltd.,<sup>60</sup> and culminating in the decision in Walter v. Steinkopff (1892), a case involving the copying of an

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<sup>57</sup> Mathewson v. Stockdale 33 Eng. Rep. 103, 104 (Ch. 1806).

<sup>58</sup> 5 Fed. Cas. 999 (C.C.S.D.N.Y. 1829) (Case No. 2872)

<sup>59</sup> There were only two initiatives of any note in the legislative sphere in the US. In 1884, the US Senate considered and rejected a bill to give eight hours copyright-like protection to news agency and newspaper reports--Brandeis dissent in International News Service v. Associated Press 248 U.S. 215, 265 (1918). In 1909, the US Congress included newspapers and periodicals among the types of works eligible for copyright protection in the course of a general revision of the Copyright Act of 1790--The Statutes at Large of the U.S.A., vol. XXXV, Pt. 1, ch. 320 (1909). For further references, see Swindler, 'News: Public Right v. Property Right.'

<sup>60</sup> 21 L.T. 548 L.J. Ch.(n.s.) 152 (1869).

exclusive report to the London Times on the same day without credit:

It is said that there is no copyright in news; but there is or may be copyright in the particular forms of language or modes of expression by which information is conveyed, and not the less so because the information may be with respect to the current events of the day. The Defendants have copied from the Times without knowing, and probably without thinking, whether what they have taken was the subject of copyright or not. So far as the Plaintiffs are not proprietors of the copyright in the matter thus copied they have not any legal ground of complaint. But, with respect to the passages numbered, . . . the Plaintiffs are within the protection of the law.<sup>61</sup>

The numbered passages referred to had been individually copyrighted by the Times prior to publication.

In the United States, the extension of copyright to the content of newspapers took a little longer. In 1900, the case of Tribune Co. of Chicago v. The Associated Press<sup>62</sup> came before the courts. The Tribune had purchased copyrighted material from the London Times, which was regularly telegraphed from London to Chicago. Entire editions of the Tribune which contained these reports were copyrighted in the US. The material from the Times was not individually copyrighted. The Associated Press correspondent in London selected material from newspapers (including some for which plaintiff had purchased exclusive US rights) and transmitted them to member newspapers in the US. The Tribune sought to stop this practice.

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<sup>61</sup> 3 Ch. 489, 495-96 (1892).

<sup>62</sup> 116 Fed. 126 (C.C.N.D. Ill. 1900).

The court held that entire editions of newspapers could not be copyrighted because not everything included was entitled to copyright protection. It must be noted that this decision was handed down before the Copyright Act was amended to include newspapers and periodicals within its scope. But what was of significance was the fact that the court left open the possibility of extending copyright protection to individually copyrighted news reports contained in a newspaper.

The US equivalent of Steinkopff was the Chicago Record-Herald v. Tribune Association case,<sup>63</sup> decided in 1921. The Tribune carried an individually copyrighted article by one Edwards, and also syndicated it to other newspapers. The Chicago Herald which had not purchased syndication rights, published the gist of the article, clearly attributing it to the Tribune. The Tribune sued.

The main defence was that the Herald had published only the news element (the Tribune article had been edited to one-tenth of its original length) which was not subject to copyright. It must be noted that this defence implicitly recognizes the copyrightability of the 'literary element' of a news article. The court conceded that news was not subject to copyright, but interpreted the literary element very broadly:

In so far as the Edwards article involves authorship and literary quality and style, apart from a bare recital of the facts or statement of news, it is protected by the copyright law. . . . While the appropriated portions comprise in perhaps larger degree the salient facts than

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<sup>63</sup> 275 Fed. 797 (7th Cir. 1921).

do the deductions, descriptions, and comments with which the other parts of the copyrighted article more largely deal, they are nevertheless not wholly or strictly confined to recital of mere facts. . . . But if the whole of it were considered as stating news or facts, yet the arrangement and manner of statement plainly discloses a distinct literary flavor and individuality of expression peculiar to authorship, bringing the article clearly within the purview and protection of the Copyright Law.<sup>64</sup>

The symbolic bow had been made to the common property nature of news and facts, but the interpretation of the literary element of its expression (which was what fell within the purview of copyright protection) was so broad that, for all practical purposes, the news element of a copyrighted news article was also brought within the scope of protection.

Apart from some obiter dicta in Zamacois v. Douville et al. (1943)<sup>65</sup> and Canadian Admiral Corp. v. Rediffusion (1954),<sup>66</sup> a Canadian court has not explicitly addressed the issue of news copyright. The rule in Steinkopff appears to be widely accepted.<sup>67</sup>

Discussion. The early pattern of excluding the content of newspapers from copyright protection did not survive the transformation of the newspaper industry in the early twentieth century. As in the evolution of common law property rights, the

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<sup>64</sup> Ibid., 798-99.

<sup>65</sup> 3 Fox Pat. C. 44, 2 C.P.R. 270, 2 D.L.R. 257 (1943).

<sup>66</sup> 14 Fox Pat. C. 114, 122 (1954).

<sup>67</sup> E.g., Harold G. Fox, Canadian Law of Copyright and Industrial Designs, 2nd ed. (Toronto: Carswell, 1967) pp. 102-03; and Wilfred H. Kesterton, The Law and the Press in Canada (Toronto: McClelland and Stewart for Carleton Library, 1976).

guiding criterion has been the safeguarding of exchange value. However, inasmuch as the result has been achieved by bringing newspaper content within the scope of copyright law, copyright principles as well as logic have had to be considerably strained. The supposedly literary element of news reports has been broadened to the point of meaninglessness and the fundamental separation between ideas and expression has been muddied.

Time-value has not been a major factor in the newspaper copyright cases. William F. Swindler found that newspaper copyright is utilized primarily as a device to enable syndication (generally subsequent to publication by the original producer) of newspaper articles in which style is more important than timeliness.<sup>68</sup> Examples are features, columns and analytical reports. He also found that copyright is sometimes used to ensure that originating newspapers got credit for their reports.<sup>69</sup> Copyright law has been generally utilized by newspapers (and television networks and stations), where some sort of case can be made for the existence of a literary element but not by news agencies. But cross-overs are possible, especially in view of the recent trend towards the production of feature-type material by news agencies.

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<sup>68</sup> Swindler, 'Public Right v. Property Right,' 299.

<sup>69</sup> Ibid., 300-301.

## Copyright in Compilations

Cases in this area usually deal with telephone, street, or trade directories, generally based on public-domain information. While much of the effort involved in producing an artistic or literary work goes into the expression of an idea, in compilations the effort devoted to the collection of public-domain facts far outweighs the labour of arranging or expressing those facts. Copyright law, with its basic idea/expression dichotomy which protects expression but leaves ideas free, has little applicability to the requirements of information firms in the compiling business.

English courts attempted to deal with this problem beginning with Kelly v. Morris (1866).<sup>70</sup> Here, the court held that the second compiler 'must count the milestones for himself. . . . [A]nd the only use he can legitimately make of a previous publication is to verify his own calculations and results when obtained.'<sup>71</sup> Another case, decided a few years later (1870), permitted the use of another's copyrighted directory for assistance in collecting the data.<sup>72</sup> Even more latitude was allowed in the 1902 case of Moffat & Paige Ltd. v. Gill & Sons Ltd.:<sup>73</sup>

[T]hough you cannot, where another man has compiled a

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<sup>70</sup> L.R. 1 Eq. 697.

<sup>71</sup> Ibid., 701-02.

<sup>72</sup> Morris v. Wright [1870] L.R. 5 Ch. 279.

<sup>73</sup> 86 L.T.R. (n.s.) 465, 471 (C.A. 1902).

directory, simply take his sheets and reprint them as your own, you are entitled, taking the sheets with you, to go and see whether the existing facts concur with the descriptions in the sheets, and if you do that you may publish the result as your own.

A key case in the compilations line of development in the US is Jeweler's Circular Publishing Co. v. Keystone Publishing Co. (1922).<sup>74</sup> Here, the court held:

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. The man who goes through the streets of a town and puts down the names of each of the inhabitants, with their occupations and their street number, acquires material of which he is the author. He produces by his labor a meritorious composition, in which he may obtain a copyright, and thus obtain the exclusive right of multiplying copies of his work.<sup>75</sup>

In Leon v. Pacific Telephone & Telegraph Co. (1937),<sup>76</sup> the defendant had taken the names and telephone numbers listed in plaintiff's directory and rearranged them in the numerical order of the telephone numbers. The court found infringement. Though the defence that the defendant's use of the material in plaintiff's directory was non-competitive was not accepted in Leon, this has been a major factor in many other decisions. For example, it was held in a 1960 case that:

A man who has tramped the streets and compiled a directory can, by copyrighting the product, obtain protection against a competitor who merely copies his work. He could not, however, obtain protection against

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<sup>74</sup> 281 Fed. 83 (2nd Cir.), cert. denied, 259 U.S. 581 (1922).

<sup>75</sup> Ibid., 88.

<sup>76</sup> 91 F. 2d. 484 (9th Cir. 1937).

someone who published an article upon the distribution of residents in relation to national origin and who used a compilation from the directory for locating the concentrations of persons bearing names characteristic of the various national origins. The directory cases are exceptions to the rule that facts are not a proper subject of copyright. That exception does not go so far, however, as to prohibit non-competitive use of facts set forth in a copyrighted collection.<sup>77</sup>

A more recent (1977) case, involving the New York Times, offers a further illustration. Roxbury Data Interface, Inc., the defendant, had prepared a personal name index to the New York Times index, an annual publication of the newspaper company. A researcher seeking articles mentioning a particular person could use the Roxbury index to find specific references to the NYT indexes from which the references to the relevant newspapers could be obtained. The Roxbury index provided a short cut to wading through a large number of separate newspaper indexes. The main ground for holding no infringement existed was that the defendant's index was not a substitute and had only 'slight or non-existent' impact upon the complainant because it led to the NYT index and not directly to the newspaper.<sup>78</sup> It was stated, obiter, that had the Roxbury index contained both names and direct newspaper citations, there would have been a strong case for infringement.<sup>79</sup>

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<sup>77</sup> Consumers Union of United States, Inc. v. Hobart Manufacturing Co. 189 F. Supp. 275 (S.D.N.Y. 1960).

<sup>78</sup> New York Times Co. v. Roxbury Data Interface, Inc. 434 F. Supp. 217, 226 (D.N.J. 1977).

<sup>79</sup> Ibid., 220.



A case involving horse-racing news, decided in 1942, may be seen as the bridge between the compilations and news lines of development. The plaintiff in Triangle Publications Inc. v. New England Newspaper Publication Co. (1942)<sup>80</sup> employed a large number of experts at racecourses throughout the US at considerable cost and published periodicals containing statistics and other information originating from them. The statistical charts were accompanied by a few short staccato sentences on the performance of the horses. The defendant's newspaper first reproduced the material using short narrative sentences; later, the plaintiff's tables were directly used.

The court first considered whether the statistical charts were copyrightable. They were ruled to be protectable as compilations in that they required 'the combined skill, judgement, and effort of several highly trained persons working in unison'.<sup>81</sup> The short sentences were also held to be copyrightable. The judge ruled that the plaintiff's sentences 'may pass for original description, which it hardly lies in the mouths of lawyers or judges to disparage on the ground that it is nothing but a hackneyed arrangement of technical jargon'.<sup>82</sup> The defence that the conversion of the tables into prose sentences did not constitute infringement was not accepted.

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<sup>80</sup> 46 F. Supp. 198 (D. Mass. 1942).

<sup>81</sup> Ibid., 201.

<sup>82</sup> Ibid.

The Triangle decision suggests that no amount of rewriting--changing the form of expression or arrangement--will do. If converting statistical tables into prose sentences is not allowed, nothing short of 'counting the milestones for himself', and keeping judicially acceptable records, would do. The copyrightability of terse, jargonistic sentences is of relevance to news agency operations. News agency reports are characterized by the use of short, pithy forms of expression. There are not too many ways in which certain factual events can be reported in such sentences. Thus, the Triangle decision had the effect of extending copyright law beyond protection of forms of expression almost to the point where property rights were granted in facts themselves.

Discussion. The importance of the compilations line of development lies in the trend towards convergence of the news agency industry and the compilations industry caused by the innovation of computer based information storage and retrieval systems. Compilations used to be 'stable', in the sense of being paper documents published periodically, and news reports were always for the moment, and not usually compiled over time in a systematic manner. The new technology has enabled compilations to be continuously updated, and news reports to be systematically collected over time for sale as distinct products.<sup>83</sup> As a result, it has become difficult to

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<sup>83</sup> The Reuters Historical Data Base Service announced 10 June 1983, is an example.

differentiate between the legal-economic characteristics of compilation 'updates' and news reports on one hand, and conventional compilations and news agency databases on the other.

Efforts to devise remedies to safeguard existing exchange value (in Leon, even potential exchange value) have resulted in wide divergences from the fundamental principles of copyright. The narrow question of keeping particular firms viable, and perhaps even profitable, has been dealt with, but at the cost of granting de facto monopolies over facts, mostly in the public domain or of vital importance to fundamental social processes. Inadequate attention has been paid to the need to ensure unhindered access to public domain factual information and to encourage the best methods of compiling and updating such information. Robert A. Gorman points out the desirability of allowing subsequent compilers to verify and improve upon existing works. This practice, known as 'slipping', serves to enhance the accuracy of compilations and to keep them up to date while reducing unnecessary duplication and waste.<sup>84</sup>

The question of time value of information has not been directly addressed in the extensions of copyright law in relation to compilations. But this may be a consequence of the rigidity of statutory copyright, where the courts can judge only whether a particular work falls within or without the purview of

<sup>84</sup> Robert A. Gorman, 'Copyright Protection for the Collection and Representation of Facts,' Harvard Law Review, 76 (1963): 1585.

protection, not the length of the protected period which is statutorily defined.<sup>85</sup>

### Present Law in Canada

The Canadian Copyright Act extends protection to all 'original literary, dramatic, music and artistic' works, subject to certain conditions such as nationality, as well as the provisions of the Act.<sup>86</sup> The question whether news and market-information products, be they supplied through computer-based information storage and retrieval systems or not, qualify as original literary works has not been decided by a Canadian court. The term, 'news', is used in this study to denote the output of news agencies, and must be distinguished from the broader meaning given in everyday usage which includes, for example, the content of newspapers and magazines.

One of the reasons for ephemeral-value information being excluded from copyright protection in the United States, the requirement that registration (with deposit of identifying portions) is a prerequisite for maintaining an action for infringement,<sup>87</sup> does not apply in Canada. Canadian law does not require any formalities for obtaining copyright, not even notice, let alone registration and deposit. There is no obvious procedural reason barring a producer of ephemeral-value

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<sup>85</sup> Ibid., 1582.

<sup>86</sup> R.S., c.55, s.4.

<sup>87</sup> U.S.C. 1982 Ed., Title 17, s.411.

information in Canada from claiming and seeking to enforce copyright.

Whether or not Canadian courts will grant copyright protection to ephemeral-value information such as news reports and stock quotations depends on whether they will be recognized as original literary works. The Act defines a 'literary work' as including maps, charts, plans, tables, and compilations.<sup>88</sup> This is an illustrative definition and of little utility except in indicating the statutory intention of protecting at least some kinds of 'fact works'. Courts have tended to define literary works very broadly.<sup>89</sup> In cases where the courts have perceived issues of equity before them, they have not been above bending copyright principles to achieve the desired results, as shown by the newspaper and compilations cases above.

Basic principles of copyright law such as the idea/expression dichotomy stand in the way of news and market-information being recognized as original literary works for the purpose of granting copyright protection. The difficulty, however, lies in operationalizing the conceptual dichotomy. It is easy to say, as Harold G. Fox does, that 'there can be no copyright in news as and of itself, but only in the

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<sup>88</sup> R.S., c.55, s.2.

<sup>89</sup> E.g., *Kantel v. Grant* [1933] Ex. C.R. 84, at 95; *University of London Press Ltd. v. University Tutorial Press* [1916] 2 Ch. 601, at 618.

form in which it is expressed.'<sup>90</sup> However, where there exist only a limited number of ways of expressing facts, as is the case with news and market information, protection of expression may extend to the fact content too.

The court in Canadian Admiral Corporation v. Rediffusion addressed the question of originality and ruled that,

For a work to be 'original,' it must originate from the author, it must be the product of his labour and skill and it must be the expression of his thoughts.<sup>91</sup>

It would appear from the accompanying discussion that most 'news events'--political activities and natural phenomena--would fall outside this definition of originality in that it is not possible for the 'author' to previously script or otherwise organize them.<sup>92</sup>

Article 9 of the Convention of Rome, 1928,<sup>93</sup> provides that the 'protection of the present Convention shall not apply to news of the day or to miscellaneous information which is simply of the nature of items of news.' The existence of the property rights developed in the Exchange Telegraph decisions could also have the effect of discouraging the inclusion of news and market-information products within the subject matter of copyright. However, it would be necessary to establish that a breach of trust or confidence occurred, in order to avoid the

<sup>90</sup> Canadian Law of Copyright, p. 102.

<sup>91</sup> [1954] 14 Fox Pat. C. 114, at 129.

<sup>92</sup> Ibid., pp. 129-30.

<sup>93</sup> Copyright Act, R.S., c.55, appendix III.

pre-emption provision embodied in s.45 of the Copyright Act. The Ontario Court of Appeals recently interpreted the Exchange Telegraph cases somewhat restrictively in a case brought under the theft provisions of the Criminal Code.<sup>94</sup>

The right infringed in the case of ephemeral-value information would be 'the sole right to produce or reproduce any work or any substantial part thereof in any material form whatever . . .'<sup>95</sup> That visually perceptible copies on paper are 'material forms' is clear. Computer tapes and disks may be included in the definition by analogy with presently accepted material forms. Video displays are not 'material forms' for the purposes of the Copyright Act, according to the ruling in Canadian Admiral Corp. v. Rediffusion.<sup>96</sup> Analogous reasoning could also lead to construing the active memory of a computer as outside the definition of a material form. The copying of information originally on paper on to computer tape or disks could be interpreted as reproduction in a material form, but copies made originally on tape or disk may conceivably fall outside the definition.

It could also be argued that input of ephemeral value or other information in to a computer, even if copying onto tapes or disks is involved, does not necessarily mean that an infringing act has occurred. As long as the computer was not

<sup>94</sup> R. v. Stewart 42 O.R.(2d) 225, at 233.

<sup>95</sup> R.S., c.55, s.3(1).

<sup>96</sup> [1954] Fox Pat. C. 114, at 125-28.

used to make hard copies, it would not be unreasonable to argue that input was for manipulation of data, or use, and not for the infringing act of reproduction.

In sum, the present Canadian law on news and market-information products is unclear. Ambiguities in the present Act pertaining to manipulation and storage of data in computer based information storage and retrieval systems are exacerbated by the unclear status of news and market information in relation to the protected category of original literary works. While the strictly technical case for the existence of copyright in news and market-information in Canada at the present time can be argued, the ambiguities in the law are such that, in practical terms of easy enforceability, the rights in relation to news and market-information are closer to quasi property rights than to property rights proper. A fact pattern similar to those in the Exchange Telegraph cases has yet to be adjudicated in a Canadian court, but it is possible that firms supplying news and market-information could win similar protection especially in light of the fact that relations between them and their customers are, in almost all cases, contractual.



## Summary

The development of private property rights to news agency and related products and the present law on ephemeral value information was examined in this chapter. Private property rights were defined as legally enforceable rights to exclude or permit others from specific activities, following Cohen. The process of property rights development within the common law was understood in terms of a 'market', as set out by Scott. Being an imperfect market, there is no assumption that the resulting new property rights will be necessarily better for society.

The common law tradition has been to interpret the scope of statutory copyright law--originally formulated for literary works--parsimoniously, at least in relation to ephemeral-value information associated with the public domain. The core activity in this area, the production and dissemination of information by news agencies, has been offered a different form of private property rights, defined in relation to competitors and not end-users. Unshackled from the constraints of statutory interpretation, judges have formulated new property rights based on their perceptions of the contending economic interests of the parties before them. In the related areas of newspaper content and compilations, parallel development of property rights occurred, but the logic of the decisions is nowhere nearly as clear as in the news agency cases. In the newspaper and compilations cases, the basic economic issues tend to be obscured by the convoluted arguments devised to squeeze what are

essentially foreign issues into the framework of copyright law.

In all three areas, the guiding criterion has been the safeguarding of existing exchange value. The general trend has been for the expansion of private property rights. The approach of the courts has been 'permissive', in the sense that the burden of proof has not been placed on those wishing to obtain the imprimatur of the law for their asserted quasi property rights.

The historical survey also demonstrates the inherent limitations of common law courts in dealing with the impact of new property rights on market structure, and indirectly, upon the public interest in a diversity of information sources.

The boundaries between news agencies, newspapers, and compilers, as well as those between these industries and the entire publishing/library sector appear to be blurring as a result of changing technology and business practices. The legal significance of this apparent convergence cannot, however, be fully appreciated without reference to the current proposals to grant statutory copyright to computer based information storage and retrieval systems, which is the subject of chapter IV.

#### IV. Public Policy

This chapter is an examination of current public policy issues pertaining to the production and dissemination of news and market-information, with special emphasis on property rights. The industry study in chapter II described the economics of the news and market-information market. Chapter III traced the development of property rights to high ephemeral-value information in the common-law tradition and outlined the present Canadian law with respect to news and market-information.

The central question of how the production of new and better information can be encouraged within a market economy while preserving as best as possible the public interest in unhindered access to public-domain information is discussed in this chapter. Special attention is paid to the proposed changes to the Copyright Act affecting computer-based information storage and retrieval systems, now being considered by a parliamentary sub-committee.

## Economic Context

The news and market-information market is in the midst of a period of dynamic growth and change. Demand is expanding rapidly and so are the number and variety of new products. There are a large number of suppliers, though not all of equal size, power, or profitability.

The leading firms enjoy high profit returns. On the basis of the available evidence, it is possible to conclude that large firms do not have cost advantages over small firms deriving from economies of scale, though some economies of scope may exist. There appear to be no overwhelming structural tendencies towards 'natural monopoly'. This conclusion is congruent with the findings of earlier studies of the larger computer services industry done by Bower and Noll.<sup>1</sup>

Several explanations may be offered for the high profitability of the leading firms. The present high profits may be the result of being first in the field in supplying particular basic information products characterized by low demand elasticities. Brand-name advantages built up in the course of market development following early entry may also be partly responsible for the high profits. Exclusive or privileged access to certain kinds of data appear to exist and may contribute to the inability of competitors to enter the

<sup>1</sup> Richard S. Bower, 'Market Changes in the Computer Services Industry,' Bell Journal of Economic and Management Science 4 (1973): 539-92; Roger Noll, 'Regulation and Computer Services,' in The Computer Age: A Twenty-Year View, eds. M.L. Dertouzos and J. Moses (Cambridge, MA: MIT Press, 1979).

high-profit market segments. Larger firms appear to have a differential advantage over smaller firms in the ability to build on existing products, in the form of easy access to end-users for the marketing of new products. The large firms are also able to capture the cost advantages of delivering several products over common transmission channels and terminals. The common facilities used for the production and distribution of news and market-information make it possible for firms established in lucrative market segments to engage in deep-pockets cross-subsidization. On the available evidence, it is not possible to point conclusively to one factor as explaining high profitability on the part of the major firms supplying the market. Given the nature of the business, which is still in the process of growth, the identified factors must be taken as tendencies, rather than as established causes.

The privileged access to buyers enjoyed by firms integrated across dissemination and production functions is a potential source of market power as well as discretionary power to control what information gets disseminated. However, it is not possible, at the present time, to conclude that such power is being actually exercised. The existence of a large number of online service firms, some even disseminating a single specialized product, makes it difficult to gauge how significant the actual 'bottleneck' at the level of dissemination is. It is also too early to evaluate the impact of 'universal' database access services, such as Telecom Canada's iNet, on the news and

market-information market.

It is possible that the firms occupying the lucrative market segments may expand into more and more market segments by eliminating competitors through deep-pockets cross-subsidization. There is no evidence this is occurring at present and even if it were, proving it would be very difficult as the cost data appears to be organized in a manner that precludes cost allocation to individual products. Expansionary tendencies of larger firms may be neutralized by the economies of specialization possibly characterizing the operations of some small firms. It may also be that horizontal expansion through anti-competitive means is not an attractive course of action in a rapidly expanding market.

Two main conclusions may be drawn from the study of the news and market-information market. First, it is a dynamic and growing market. There appears to be no need for government intervention to facilitate or provide additional incentives for economic activity in this area. Secondly, there appear to be a number of tendencies within the market which, if strengthened by endogenous or exogenous factors, could result in undesirable consequences. These could be in the form of accumulation of market power as well as in the form of adverse impacts on the public interest in relatively unrestricted access to public-domain information.

The present analysis cannot support any specific structural or regulatory policy recommendations. It is possible, however,

to identify some potential problem areas on the basis of this analysis for monitoring and possible remedial action.

1. The possibility of bottlenecks developing in the dissemination stage with regard to access to end-users by information producers deserves monitoring. The danger is not of one dissemination firm controlling access to all end-users in the manner of an information utility as discussed in the literature in the 1960s and 1970s,<sup>2</sup> but of a limited number of firms controlling access to particular market segments. For example, it may be that a 'bottleneck' restricting access to information users in the bank market segment develops because all the banks are connected to an interactive network controlled by one firm.
2. It is possible that the dominant firms may attempt to engage in anti-competitive practices such as deep-pockets cross-subsidization to expand into market segments presently served by smaller firms, once market expansion slows down. The need for intervention in such a case will flow not only from competition policy considerations but also from concern over diversity of information sources. The establishment of more transparent costing and accounting procedures will be a precondition for any intervention in this area.

Access to raw data was also identified as a possible problem area. In the sense that one firm's raw data may be

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<sup>2</sup> E.g., Paul Baran, 'The Future Computer Utility,' The Public Interest 8 (1967): 75-87.

another's information product, the issue here is primarily one of private property relations between different information producers. This is an issue that is on the policy agenda of a number of countries including Canada. The prevalent line of thinking on the creation of property rights to information is exemplified by the following statement by an advisory panel to the UK government:

Copyright legislation, well drafted and effectively enforced, . . . is thus one of the main foundation stones of the tradeable information sector. . . . Our concern is that the eventual legislation . . . should . . . provide a framework in which new information services exploiting new technology can easily develop, with clearly defined ownership of the information content of the information supplied. We suspect that this may require a shift towards the interests of the supplier, as compared with the present Act.<sup>3</sup>

The rest of this chapter is devoted to an examination of the implications of property-rights creation, with specific reference to the proposals now under consideration by the government of Canada.

### Copyright Revision

Revision of the Canadian Copyright Act of 1924 has been under consideration for the past few decades. A number of studies and reports on various aspects of copyright have been commissioned over this period, ranging from report of the Royal Commission on Patents, Copyrights, Trade Marks and Industrial

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<sup>3</sup> Information Technology Advisory Panel [UK Cabinet Office], Making a Business of Information: A Survey of New Opportunities (London: HMSO, 1983), p. 33.



Designs (Ilsley Commission) of 1957 to the more recent Copyright Revision Studies conducted under the auspices of the Minister of Consumer and Corporate Affairs. The copyright revision process entered the pre-legislative phase with the issuance of From Gutenberg to Telidon: A White Paper on Copyright in mid-1984 by the then Ministers of Consumer and Corporate Affairs, and Communications.<sup>4</sup> The new Progressive Conservative government decided to proceed on the basis of the 1984 White Paper, and in early 1985, a Sub-committee of the Standing Committee on Communications and Culture on the Revision of Copyright was empowered to examine the proposals in the White Paper and report to Parliament. However, the status of From Gutenberg to Telidon has been downgraded to that of a discussion paper not reflecting the official position of the government in power.<sup>5</sup>

The sub-committee received more than 300 briefs and letters in response to a call for public comments. Public hearings were held in June 1985 and the final report is expected to be submitted to Parliament by 30 September 1985. Like the former Liberal government, the present government has assigned responsibility for the revision to two ministers, the Minister of Communications as the advocate of information producers and with prime responsibility, and the Minister of Consumer and

<sup>4</sup> (Ottawa: Supply and Services Canada, 1984).

<sup>5</sup> Canada, Parliament, House of Commons, Minutes of Proceedings and Evidence of the Sub-committee of the Standing Committee on Communications and Culture on the Revision of Copyright, [Hereafter, 'Minutes of Proceedings.'] Issue No. 1 (9-5-1985): 'Brief by Marcel Masse, Minister of Communications,' 1:26.

Corporate Affairs to represent user interests.

Marcel Masse, Minister of Communications, set the context for the present revision:

Technology has transformed the marketplace. In 1924 copyright entrepreneurs invested only small sums. Today . . . making use of copyright requires considerable investment in very costly technologies. The economic risks have increased proportionately . . .

Our present legislation does not take these phenomena into consideration. The lack of protection, particularly with respect to the cultural and information processing industries, is an obstacle to economic growth. We must create a favourable climate in which the possibilities offered by new technologies can be exploited.

A revised copyright law must, in my view, balance the interests of authors and entrepreneurs with those of consumers. The legislation must recognize authors' exclusive rights to exploit their own works in the context of fair competition. The public then decides what to watch, listen to or read. The success or failure of authors or entrepreneurs is not determined by government intervention. . . . The government's role is to enact legislation which harmonizes diverse copyright interests, without forgetting that the law--the 'rules of the game' and the guiding principles that it defines--has essentially, as its objective, the promotion and the maintenance of cultural advancement and economic growth.<sup>6</sup>

## Proposals

Despite the changed status of the White Paper, the proposals contained in it are, at the present time, the only concrete expressions of government intentions with regard to copyright reform. As a result almost all the interventions at the Copyright Hearings were framed with reference to the White

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<sup>6</sup> Ibid., 1:23-1:24.

Paper proposals.

The extension of copyright protection to computer based information storage and retrieval systems is presented under the heading, 'Subject Matter of Copyright.'<sup>7</sup> The present Copyright Act provides that copyright shall subsist in 'every original literary, dramatic, musical and artistic work . . . ,' subject to certain conditions such as author's nationality.<sup>8</sup> The Act also provides protection to sound recordings and cinematographic productions. The White Paper proposes that the four main categories be supplemented by two more, so that sound recordings and cinematographic productions may be protected in their own right. The general objective of the revision in relation to subject matter is set out thus in the White Paper:

To ensure that the revised Copyright Act includes new creations as well as new forms of expression of existing works, the Act will apply to original works defined in accordance with a generic phrase and classified into specific categories of works. Every work coming within the Copyright Act will be entitled to protection, regardless of the mode or form of its expression and of the means by which it may be reproduced, perceived or communicated.<sup>9</sup>

Obviously, computerized information storage and retrieval systems do not constitute a distinct category of works, being a medium of expression, communication and reproduction. Therefore, the substance of the proposed change appears to be in extending the definition of a medium of expression to explicitly include

<sup>7</sup> From Gutenberg to Telidon, pp. 10-11.

<sup>8</sup> Copyright Act, R.S., c.55, s.4.

<sup>9</sup> From Gutenberg to Telidon, p. 9.

magnetic tapes and disks. Displays on video units are to be excluded, retaining the current law, as enunciated in Canadian Admiral v. Rediffusion.<sup>10</sup> The status of material stored only in the active memory of a computer is not specifically clarified. Creation and fixation in computer tapes or disks is to be considered adequate for copyright protection irrespective of fixation in another medium. The White Paper proposes a rule requiring that authorization be sought at the input stage for any use infringing on the pertinent economic rights proposed in the White Paper (which are slightly stronger restatements of the rights in the present Act).<sup>11</sup>

The economic rights attached to matter subject to copyright protection are to be regrouped under six broad headings: reproduction, performance in public, publication, adaptation, broadcasting, and authorization of any of the above.<sup>12</sup>

According to the White Paper,

'[t]he right to reproduce' means the right to copy a work or any substantial part of it in any material form . . . . What constitutes 'any substantial part' is a question of fact to be determined by the courts based on the circumstances of each case.<sup>13</sup>

The other pertinent right is the right to publish. The White Paper proposes that the existing concept of publication as the

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<sup>10</sup> [1954] 14 Fox's Pat. C. 114, at 128.

<sup>11</sup> Ibid., p. 11.

<sup>12</sup> Ibid., p. 17.

<sup>13</sup> Ibid., p. 18.

issuance of copies to the public be retained.<sup>14</sup>

Another provision affecting computer-based information storage and retrieval systems is that on collective works. The existing definition is,

- (a) an encyclopaedia, dictionary, year book, or similar work
- (b) a newspaper, review, magazine, or similar periodical, and
- (c) any work written in distinct parts by different authors, or in which works or parts of works of different authors are incorporated.<sup>15</sup>

The changes are, first to broaden the definition to include all works irrespective of medium, and secondly, to limit the rights of an owner of copyright in a collective work vis-a-vis the owners of copyright in the underlying works.<sup>16</sup>

The White Paper also proposes changes to the fair-dealing provision of the present Act. It is to be replaced by a new definition of 'fair use' and a 'priorized list of factors to be considered in determining whether a particular use of a work is a fair use.'

Fair use will be defined as a use that does not conflict with the normal exploitation of the work or subject matter and does not unreasonably prejudice the legitimate interests of the copyright owner.<sup>17</sup>

The factors to be considered by the courts in determining whether a particular use is fair or not are, in decreasing order

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<sup>14</sup> Ibid., p. 19.

<sup>15</sup> Copyright Act, R.S., c.55, s.2(e).

<sup>16</sup> From Gutenberg to Telidon, pp. 32-33.

<sup>17</sup> Ibid., p. 39.

of importance:

. . . the impact of the use on a copyright owner's economic reward. If copying is so substantial as to materially reduce demand for the original, the copyright owner's interests have been harmed. Secondly, the type of work involved and its purpose are also relevant, for the nature of the creation will colour the owner's expectation about how it will be used. . . . The final factor . . . is the amount or extent of the taking.<sup>18</sup>

Also of relevance to the question of copyright to the content of computer-based information storage and retrieval systems are procedural rules relating to registration and notification. The White Paper proposes the abolition of the current permissive Berne Convention-type registration system where registration is not obligatory even for maintenance of an action for copyright infringement.<sup>19</sup> It is also proposed that crown copyright continue as the general case, with the waiving of copyright where protection is not required left to the discretion of government agencies.<sup>20</sup> Compliance with the Access to Information Act is made possible by specific exemptions in the present Act, the continuance of which is recommended by the White Paper.<sup>21</sup>

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<sup>18</sup> Ibid., pp. 39-40.

<sup>19</sup> Ibid., pp. 73-74.

<sup>20</sup> Ibid., pp. 75-76.

<sup>21</sup> Ibid., p. 53.

## The Hearings

The Sub-committee on the Revision of Copyright was constituted on 7 February 1985 to study all aspects of copyright revision and report its findings and recommendations. Following a call for briefs, the committee commenced hearing evidence on 9 May 1985 with an opening presentation by Marcel Masse, Minister of Communications. Public hearings began on 21 May 1985, with 10 days set apart for 'organizations who have a global view of the question' and 10 more days devoted to specific themes. The Minister of Consumer and Corporate Affairs, Michel Cote, also appeared before the Committee.

Many of the intervenors were representatives of producers' organizations and advocated stronger private property rights. The spokesperson for the Conference des Associations des createurs et creatrices du Quebec who decried the notion of attempting to balance the interests of producers and users made explicit the underlying thrust of the producer arguments:

Why do we insist that the government take a clear stand in favour of creative artists? Because we feel it is the only logical choice that it can make, given the economic and legal rules which currently govern our society. No one would dare to proclaim that the right of farmers, fishermen, livestock producers or, for that matter, any producer of foodstuffs, to be fairly paid for his work be restricted in any way through legislation or even, in some cases, rendered inoperative because of the apparent necessity to meet the fundamental needs of our population. On the contrary, all the necessary steps are ordinarily taken in such circumstances to ensure that the law of supply and demand operates as freely as possible and that the contract which flows from it is the result of open negotiation.<sup>22</sup>

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<sup>22</sup> Evidence of Marcel Dube (translation), Minutes of Proceedings Issue No. 4 (23-5-1985): 4:5.

Copyright to content of computer-based information storage and retrieval systems tended to be overshadowed by issues such as computer software copyright. Of the witnesses who did address the question of granting copyright to online database content, the majority advocated private property rights stronger than those offered by the White Paper. A number of producer representatives asked that display on a video terminal be considered a form of fixation.<sup>23</sup> A plea was also made for the explicit recognition of data capture on the active memory of a computer as a form of fixation within the scope of the Copyright Act.<sup>24</sup>

The strong property rights approach of the producer groups appeared to be shared by some members of the committee and the staff. The main countervailing force appeared to be what may be described as the 'national interest' line of reasoning. Concerns about negative effects on the information/communication sector's balance of trade, possible ramifications for trade and industrial policies, and national security concerns which were raised in questions posed by committee members and staff can be grouped under the above heading.

It may be stated, as a general observation, that users' interests in unfettered use of information products and

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<sup>23</sup> E.g., Evidence of Mark Burnham (Canadian Copyright Institute), Minutes of Proceedings, Issue No. 2 (21-5-1985): 2:7.

<sup>24</sup> Brief submitted by the Canadian Business Equipment Manufacturers' Association to the Sub-committee on the Revision of Copyright, p. 19.



diversity, and society's interests in the wide dissemination of useful information and prevention of monopolization of facts and ideas, were seldom, if ever, introduced into the discourse. Exceptions were mostly in the area of entertainment, specific examples being concerns over higher cable television rates resulting from the granting of retransmission rights and the alleged unfair practices of the monopolistic performers' rights organizations vis-a-vis operators of dining lounges and similar establishments.<sup>25</sup>

## Discussion

The significance of the Canadian copyright revision proposals affecting computer-based information storage and retrieval systems can be better understood in comparison with US law. The US Copyright Act of 1976 is similar to the Canadian proposals in making copyright independent of medium of expression:

Copyright protection subsists . . . in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.<sup>26</sup>

The accompanying House Report makes clear fixation in computer tapes or disks is within the phrase, 'any tangible means of expression'. The language appears to suggest that display on a

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<sup>25</sup> Notes of the proceedings, 17-18 June 1985.

<sup>26</sup> Copyright Act, U.S.C. 1982 edition, Title 17, s.102.

video unit does not constitute fixation.<sup>27</sup> The Report also states that 'literary works' include catalogues, directories, and similar factual works and compilations, as well as computer databases.<sup>28</sup> However, the portion of the House Report accompanying s.301 (Preemption with Respect to Other Laws) appears to suggest that rights vis-a-vis competitors over facts ('hot' news and database updates) are outside the purview of statutory copyright law.<sup>29</sup>

The first impression that what is proposed in Canada is no more than what has already been enacted in the United States proves deceptive upon further investigation. The rights granted copyright holders in s.106 of the US Act are subject to the limitations embodied in sections 107 to 118, especially the fair-use exemption as judicially interpreted in the Sony Betamax case.<sup>30</sup> These limitations combined with the effect of stronger registration requirements, result in significantly weaker private property rights for information in computer-based information storage and retrieval systems in the United States.

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<sup>27</sup> A public display right granted elsewhere in the Act offers a limited form of protection to copyrighted material publicly displayed on video units--s.106(5).

<sup>28</sup> Ibid., p. 5.

<sup>29</sup> Ibid., p. 73. See also, Henry David Fetter, 'Copyright Revision and the Preemption of State "Misappropriation" Law: A Study in Judicial and Congressional Interaction,' ASCAP Copyright Law Symposium, 27 (1982):1-56.

<sup>30</sup> 104 S.Ct. 774.

The first, and perhaps most important, limitation is the fair use exemption embodied in s.107. The language in the Canadian proposal is very restrictive compared to s.107. The most important difference in the proposed Canadian fair use exemption is the central importance given the economic interests of the copyright holder. The very definition is based on absence of conflict with the 'normal exploitation' of the work. There is no statutory definition in the US Act, but the language suggests that the social value of particular uses gives rise to the fair use exemption. The Canadian proposal includes a 'prioritized' set of factors for judging fair use, with economic impact carrying the most weight. Section 107 has an illustrative list of factors with no stated ordering:

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for non-profit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the effect of the use upon the potential market for or value of the copyrighted work.<sup>31</sup>

The US fair use criteria begin by differentiating between commercial and non-commercial uses and end with economic impact. The Canadian list does not even include the commercial/non-commercial distinction and explicitly assigns economic impact the most weight.

The commercial/non-commercial dichotomy played a central role in what was perhaps the most significant fair-use ruling of

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<sup>31</sup> U.S.C. 1982 Ed., Title 17, s.107.

recent times, the decision of the US Supreme Court in Sony Corp. v. Universal City Studios (1984).<sup>32</sup> The majority based its reasoning on a blending of the criteria listed in s.107 that increased the evidentiary burden of proving economic harm in the case of non-commercial uses.

. . . [A]lthough every commercial use of copyrighted material is presumptively an unfair exploitation of the monopoly privilege that belongs to the owner of the copyright, non-commercial use is a different matter. A challenge to a non-commercial use of a copyrighted work requires proof either that the particular use is harmful, or that if it should become widespread, it would adversely affect the potential market for the copyrighted work.<sup>33</sup>

A Canadian court would not have the freedom to treat non-commercial use any differently from commercial use, were the White Paper proposals enacted.

Furthermore, the US Copyright Act requires registration of the work as a prerequisite for the maintenance of an action for copyright infringement. Closely related is the requirement to deposit copies in the Library of Congress. The US Copyright Office circumvented the difficulties of depositing databases by totally exempting '[l]iterary works, including computer programs and automated data bases, published in the United States only in the form of machine-readable copies (such as magnetic tapes or disks, punched cards, or the like) from which the work cannot ordinarily be visually perceived except with the aid of a

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<sup>32</sup> 104 S.Ct. 774 (1984).

<sup>33</sup> Ibid., 793.

machine or device,'<sup>34</sup> under the more relaxed depositary requirements of the 1976 Act.

The regulations for deposit for purposes of copyright registration, of published or unpublished works such as automated databases that are fixed only in machine-readable copies are that,

deposit shall consist of . . . one copy of identifying portions of the work, reproduced in a form visually perceptible without the aid of a machine or device, either in paper or in microform. For these purposes: (1) 'identifying portions' shall mean either the first and last twenty-five pages or equivalent units of the work if reproduced on microform, or, in the case of automated data bases comprising separate and distinct data files, representative portions of each separate data file consisting of either 50 complete data records from each file or the entire file, whichever is less. . . . (In the case of revised versions of such data bases, the portions deposited must contain representative data records which have been added or modified.) . . . <sup>35</sup>

One of the most attractive features of computer-based information storage and retrieval systems is the combination of the dynamic aspects of ease of updating and communication with the static aspect of efficient storage. The US registration requirements have the effect of extending copyright protection to databases that emphasize the static storage aspect but not to databases that are at the other end of the continuum such as the ephemeral-value databases examined in this study. The permissive

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<sup>34</sup> Title 37--Patents, Trademarks, and Copyrights, ch. II--Copyright Office, Library of Congress, s.202.19(5), reprinted in Copyright, Congress and Technology: The Public Record, vol. 5, ed. Nicholas Henry (Phoenix, AZ: Oryx, 1980), p. 268.

<sup>35</sup> Ibid., p. 269.

registration rules in effect in Canada do not allow this type of differentiation, enabling all database owners to claim and seek to enforce copyright if they wish. Adherence to the Berne Convention precludes making the rules more stringent to achieve a result similar to that in the United States.<sup>36</sup>

The dynamic aspects of databases have not been fully addressed in the Canadian proposals. The Canadian proposals not only would allow database owners to claim copyright for any particular version of the database, but they also would have the effect of granting perpetual copyright, in that the term of protection will continually be extended into the future as updating occurs. In passing, it may be noted that the White Paper does not appear to have taken into account the fact that databases are normally produced by corporate entities and are the result of the combined labour of large numbers of employees. Databases are given protection as 'literary works', for which term of copyright has been set at life of author plus 50 years. There is no single 'author' of a database for the purpose of calculating the length of term of copyright.

Input/Output. The Canadian proposals and the US law share the view that computer-based information storage and retrieval systems are not qualitatively different from printed text which was the original subject matter of copyright law--the computer

<sup>36</sup> 'The enjoyment and the exercise of these rights [copyright under domestic law] shall not be subject to the performance of any formality . . . '--The Rome Copyright Convention [Revision of the Berne Convention], 1928, Schedule III, Copyright Act, R.S., c.55.

is just another medium of expression. There is little recognition that the prime potential of computer technology lies in the capacity for manipulating data, and not in that of merely reproducing it. In both the US and Canadian copyright revision processes this point was raised implicitly in the debate over whether infringement occurred at the input or output stages, but was not developed further.

The rule that authorization is necessary at the input stage assumes that the expression of the copyrighted material put into the computer is to be reproduced. This may happen, but not necessarily, or even in a majority of cases. Where the computer is being used as a cognitive tool, the facts/ideas would be taken for manipulation, not for mere reproduction. Reproduction may occur, but would be incidental to the main purpose.

Requiring that authorization be obtained for this kind of taking amounts to granting an additional 'right to use' to the owners of computer-based information storage and retrieval systems, a right that has never been part of copyright law, as recognized in the White Paper in another context:

There is no right to use under traditional copyright law. For example, although it may be an infringing act to make a copy of a recipe in a book it is not an infringing act to bake a cake using that recipe.<sup>37</sup>

Utilization of the end-user's computer to print out or otherwise disseminate without permission identical copies of the material put in is the act that is analogous to infringement of the

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<sup>37</sup> From Gutenberg to Telidon, p. 82.

reproduction right in relation to printed copyright material.

Unfortunately, this aspect of the significance of the input/output controversy has been completely disregarded in the Canadian proposals, as in the US Act. As a result, the crucial separation of ideas and facts from expression has been further weakened. The requirement that authorization be obtained at the input stage creates a barrier to the use of new technology as a cognitive tool, in that the efficient transfer of data from one computer memory to another for manipulation is hindered.

Transaction Costs. Specifying input as the stage requiring authorization imposes tremendous transaction costs on users. First, it greatly enlarges the number of transactions that require clearance. In effect, every transaction with a database other than the simplest display of data on a 'dumb' video terminal would require permission. The producer groups would have even display brought within the category of transactions requiring permission. A sense of the cost of obtaining permissions in terms of time, money, and aggravation is given by a case study conducted by the producers of ABI/INFORM, a reference database.<sup>38</sup>

Other costs imposed on end-users by the input rule are increased online and telecommunications charges. A British study reports that a saving of 74 per cent on telecommunications and

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<sup>38</sup> Loene Trubkin, 'The Copyright Quandry for Database Publishers,' 3rd International Online Information Meeting, London, 4-6 December 1979 (Oxford: Learned Information, 1980), pp. 32-34.



connect charges was realized by using specialized downloading software.<sup>39</sup> The use of specialized software to interact with online databases is reported to be useful in establishing efficient offline search preparation, record search strategies, and log-on procedures.<sup>40</sup> Downloading with specialized software is also reported to enable the user to:

1. eliminate irrelevant records;
2. delete system messages and/or search strategy statements;
3. provide automatic enhancements to the citation;
4. cull duplicate records;
5. reformat records into standard form; and
6. permit the insertion of notes into the output.<sup>41</sup>

The above reports are based on experience with reference databases but serve to give an idea of the potential benefits end-users may be deprived of by the input rule.

Enforcement. The creation of a private property right by law does not necessarily translate into a private property right in fact. The rapidly expanding use of personal computers creates a situation in which the policing of downloading is almost impossible. It is with this problem in mind that proposals for

<sup>39</sup> Mary J. Feeny and Ruth Miller, 'Downloading: Piracy or Panacea?' Journal of Information Science, 8 (1984): 10.

<sup>40</sup> Ibid., 7.

<sup>41</sup> Kenneth R. Murr, 'After Downloading: How to Get the Most out of Your Microcomputer,' National Online Meeting, New York, 10-12 April 1984, pp. 243-44, quoted in Erik Mortensen, 'Downloading: Potentials and Restrictions in Online Searching,' Proceedings of the 47th ASIS Annual Meeting, vol. 21 (White Plains, NY: Knowledge Industry Publications, 1984), p. 166.

rights of discovery and complicated arbitration procedures have been proposed by proponents of strong private property rights in the contents of computer-based information storage and retrieval systems.<sup>42</sup>

Even with such procedures, it is unlikely that enforcement would be practicable. It is technically almost impossible for an online firm to detect whether data are being downloaded or not.<sup>43</sup> The impracticability of the rule and the large transaction costs incurred by obeying it, suggest it will be obeyed only in the breach. The situation in the database industry with regard to downloading has obvious parallels to home videotape recording where even those wishing to exercise private property rights in relation to home use recognized the impossibility of direct enforcement.<sup>44</sup>

The News and Market-information Market. The White Paper proposals affect all computer databases, including those containing news and market-information. The White Paper does not make explicit changes in the concepts of literary works and originality. Whatever uncertainties there are in the present law with respect to news and market-information satisfying the requirements of original literary works would be unaffected by the proposed changes. However, other likely changes in the

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<sup>42</sup> E.g., John Palmer and Raymond Resendes, Copyright and Computers, Copyright Revision Studies (Ottawa: Supply and Services Canada, 1982), pp. 165-66.

<sup>43</sup> Feeney and Miller, 'Downloading: Piracy or Panacea?': 9.

<sup>44</sup> Sony Corp. v. Universal City Studios, 104 S.Ct. 774 (1984).

Copyright Act, such as the granting of copyright to computer software and the generally stronger bias toward producers, could have the effect of tilting the balance in favour of broad interpretations of originality and literary work by the courts.

Were the new Copyright Act to make specific reference to databases, which the US Copyright Act of 1976 does not do, that in itself could have the effect of strengthening copyright in all computer-based information storage and retrieval systems, irrespective of content. The courts would tend to assume that all databases are protected by copyright, and shift the burden of proof on to those who would claim otherwise.

The cumulative impact of these small changes, combined with the absence of notice, registration, and deposit formalities in Canadian law makes the proposed Act a very much more pliable instrument in the hands of news and market-information firms. Once the barrier of getting their products recognized as copyrightable is overcome, the whole range of new rights being proposed for databases in general--the right to authorize input, the right to allow display, the right to allow reformatting, etc.--can be exercised.

### Possible Effects

#### End-Users

If it is assumed that the legal rights proposed in the White Paper can be translated into actual private property

rights, there will be significant effects upon end-users. Faced with restrictions on use and large transaction costs, users may reduce usage, or leave the online market altogether. Suppliers can be expected to respond to this reaction but not to the less perceptible, but perhaps more significant, long-term phenomenon of new buyers not entering the market at all. The negative effects are likely to be felt most strongly in the personal computer user segment as these buyers will be the least equipped to deal with higher transaction costs. Corporate users will be able to bear the costs or pass them on. The creation of the proposed private property rights could slow down the present rapid rate of market growth.

However, it is unlikely that suppliers will seek to enforce all the rights against end-users during the current market development phase. During this period, the stronger rights will most probably be used to supplement contractual relations between suppliers and corporate users. For example, a corporate user who pays for only five terminals, and channels all or some of the information products to its internal computer network, could, if discovered, be threatened with a copyright infringement suit. Even if strict enforcement is unlikely in the near-term, impact on end-users cannot be discounted completely. Rigorous enforcement is likely once the market reaches maturity and buyers have been 'locked into' the use of online products.

## Market Structure

If the rights are unlikely to be enforced against end-users at least in the near-term, why does the database industry want them, or why is the government trying to create them? There are two possible answers. The first is suggested by a passage in the District Court ruling in the Sony Betamax case:

Plaintiffs' experts admitted at several points in the trial that the time-shifting without librarying would result in 'not a great deal of harm.' Plaintiffs' greatest concern is with 'a point of important philosophy that transcends even commercial judgement.' They fear that with any Betamax usage, 'invisible boundaries are passed: 'the copyright owner has lost control over his program.'<sup>45</sup>

The 'philosophical point' about maintaining control over information is understandable in the context of information firms seeking to exploit what appear to be the infinite possibilities of making money out of the same information. Different forms of 'packaging' the same information and sequential or territorial release strategies make the exercise of a very high degree of control over the information highly desirable to producers, especially if some part of the cost of maintaining that control is borne by government as is the case with copyright law. What is less understandable is why public policy makers seek to pander to such desires.

The second answer to the question, 'why property rights?', is that the practical use of the proposed property rights will be in competitive strategy. Chapter II demonstrated the

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<sup>45</sup> Universal City Studios v. Sony Corp., 480 F. Supp. 429, at 467 (1979).

volatility of the news/database industry. Studies such as Bower's<sup>46</sup> suggest the conditions are not atypical for the entire database sector. In such conditions, the slightest change in property rights can have disproportionate effects on market structure.

Private property rights such as those proposed in the White Paper can be enforced against competitors, as the numbers are much smaller and policing more practical. The prime use would be by established firms producing basic information products seeking to foreclose smaller firms from developing related, but more customized, products and carving out niches.<sup>47</sup> Stronger private property rights may also be utilized by dominant firms against smaller competitors attempting to circumvent barriers protecting privileged access to raw data, as in the INS case, or artificially created bottlenecks, as with the 'occupation' of telephone facilities in Exchange Telegraph v. Howard.<sup>48</sup>

Proponents of stronger private property rights to information frame the choice as one between no private property rights and market failure, on one hand, and private property rights and a perfectly competitive market, on the other:

In the case of copyright protection, a conventional

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<sup>46</sup> Richard S. Bower, 'Market Changes in the Computer Services Industry,' Bell Journal of Economics and Management Science 4 (1983): 539-92.

<sup>47</sup> E.g., New York Times Co. v. Roxbury Data Interface, Inc. 434 F. Supp. 217 (D.N.J., 1977), discussed in chapter III.

<sup>48</sup> 248 U.S. 215 (2nd. Cir., 1918, [1906] 22 T.L.R. 375, both discussed in chapter III.

economic analysis would state that the need for a public good arises because intrinsic technical characteristics of an intellectual work prevents the operation of the perfectly competitive market for such works without Government intervention. . . . In the presence of these technical facts, and with the condition that the author or his assignees have a property right in the work, a market failure will result without the protection and enforcement power of the Government. The market failure is that without copyright protection the author or rights proprietor would not be able to fully appropriate the economic value of originality through sale.<sup>49</sup>

The real choice is between limited private property rights and functioning markets, on the one hand, and stronger property rights leading to the possible decline of existing levels of competition and diversity in information markets. Scherer's comments on the effects of patent rights appear to be more to the point than abstract claims of market failure:

Through the grant of patent rights on inventions, the government may facilitate dominance of a market by one or a few firms and make entry by newcomers difficult or impossible.<sup>50</sup>

#### Public Domain Information

There is no consensus on what constitutes public-domain information. In some discussions it is taken as

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<sup>49</sup> Roy G. Saltman, Computer Science and Technology: Copyright in Computer-Readable Works: Policy Impacts of Technological Change, National Bureau of Standards Special Publication 500-17 (Washington, DC: U.S. Government Printing Office, 1977), pp. 11-12. See also, Harold Demsetz, "Information and Efficiency: Another Viewpoint," in Economics of Information and Knowledge, ed. D.M. Lamberton (Harmondsworth: Penguin, 1971), pp. 160-86.

<sup>50</sup> Industrial Market Structure, p. 142.

government-produced information or public records.<sup>51</sup> This is the definition underlying access-to-information laws. The United States has recognized the public-domain nature of government records and government-produced information by preventing the government from asserting copyright against citizens.<sup>52</sup> This is not the case in Canada and many other countries.

A broader definition of public-domain information runs through judicial considerations of the question whether private property rights exist in news. As an early English decision stated:

All human events are equally open to all who wish to add or improve the materials already collected by others, making an original work. No man can monopolize such a subject.<sup>53</sup>

The exclusion, at least in theory, of ideas and facts from the purview of copyright protection may also be seen as premised upon this broader conception of public-domain information. The broad definition has been subject to gradual attrition, as documented in chapter III. However, the attention paid in recent times to access to government information has, among other things, had the effect of reinforcing the concepts of public-domain information and access thereto. A US government

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<sup>51</sup> E.g., Great Britain, Parliament, Cmnd. 6732, 'Report of the Committee to Consider the Law on Copyright and Designs,' [Chairman: The Hon. Justice Whitford], March 1977, pp. 175-76; and Herbert I. Schiller, Who Knows: Information in the Age of the Fortune 500 (Norwood NJ: Ablex, 1981), pp. 47-78.

<sup>52</sup> U.S.C., Title 17, s.105.

<sup>53</sup> Mathewson v. Stockdale 33 Eng. Rep. 103, 104 (Ch. 1806).



policy document states that the presumption of openness to access that applied to government information is slowly changing to include certain private sector information as well.<sup>54</sup>

A comprehensive definition of public-domain information would encompass government records and government-produced information and all factual information, or, alternatively, all information, public or private, that is 'affected with a public interest'. The first two categories are traditional, though not fully recognized in practice. The ~~third~~ category represents an extension of the traditional concepts, but one that has arisen in the context of the vastly expanded role of private information activities such as the credit information and direct-mail businesses.

It is not easy to define access to public-domain information in the context of the new communication/information technologies. Some writers appear to suggest that availability through old channels of depositary libraries and free distribution on request by government agencies constitutes adequate access.<sup>55</sup> But that concept of access can be easily challenged as constituting universal access for a limited group

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<sup>54</sup> Arthur A Bushkin and Jane H. Yurow, The Foundations of United States Information Policy. A United States Government Submission to the High-Level Conference on Information, Computer, and Communications Policy, OECD, October 6-8, 1980, Paris (Washington DC: US Department of Commerce, NTIA-SP-80-8, June 1980), p. 6.

<sup>55</sup> E.g., Schiller, Who Knows, pp. 47-78.

who patronize depositary libraries or who have specialized knowledge of government operations. Experience with access-to-information laws in Canada and elsewhere has demonstrated the ease with which this type of access can be exploited commercially by corporations mining 'free' government information resources for commercial purposes. The increasing levels of mechanization of information storage and processing in the government and private sectors, as well as in some groups of individual users, raises a further question regarding access: who has the burden of converting machine-readable data to the form required the potential user, be it hardcopy or a different 'machine language'? The real issue may not be one of access to information per se, but of access to information retrieval systems, broadly defined.<sup>56</sup>

No claim is made here that all problematic issues in the definition of, and access to, public-domain information have been satisfactorily resolved. The immediate question is how public access to public-domain information is affected by the proposed changes to the Copyright Act. This is especially important in the context of the present study because all news and market-information falls within a broad definition of public-domain information.

Were copyright to be extended to news and market-information, the advances made in recent years with

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<sup>56</sup> Andrew E. Wessel, The Social Use of Information--Ownership and Access (New York: Wiley-Interscience, 1976), esp. p. 63.

respect to public-domain information in the area of access-to-information legislation would be nullified. The proposed changes have the effect of further blurring the long maintained distinction between expression and ideas/facts in copyright law. Where factual information capable only of a limited number of forms of expression, is given copyright protection as 'literary works', the effect is one of withdrawing that information from the public domain.

Implications for access are not clear-cut. This is principally because of conceptual difficulties with what access means in the context of new information technologies. Creation of strong private property rights promotes the commercial exploitation of public-domain information. This will, in most cases, lead to better organized, more easily retrievable information being made available through commercial channels. In some cases, commercial information vendors may succeed in stopping free distribution through the old government channels of information considered competitive with their products. It could be argued that the public domain in information has been diminished as a result of commercialization. On the other hand, an argument can be made that, despite the deleterious effects on old distribution channels, the overall result is beneficial as more public-domain information, better 'packaged', is made available to a larger group of users.

Whatever be the actual merits of the two perspectives, the fact remains that public-domain information is being steadily

drawn into the commodity sphere. The more appropriate policy issue is how the negative effects of commoditization can be minimized. The need is to devise a legal regime to govern the commercial provision of public-domain information that will place minimum restrictions on use by the public and prevent blatant misappropriation by competitors, while allowing adequate freedom for other firms to further process the factual information into information products meeting the needs of users.

The strong property rights represented by the copyright proposals are not capable of achieving this delicate balance. They cannot be expected to, since traditional copyright was not designed with the special requirements attaching to public-domain information in mind.

### Policy Proposals

The discussion of policy proposals reflects two 'levels' of policy. The first is the general policy on computer databases which is what is discussed in the White Paper and at the hearings of the Sub-committee on the Revision of Copyright. The second is specific policy affecting the news/database industry which is the focus of this study.

Participants in the copyright revision process usually preface their interventions with a reference to the radical changes represented by the new information technologies. However, very few follow up with proposals for radical changes

to the legal regime governing the industries employing these technologies. R. Grant Hammond's plea for an 'equivalent of a shift from Newtonian physics to quantum mechanics' in the legal treatment of information has gone unheeded.<sup>57</sup> Pragmatic concerns over fine-tuning the existing property rights system or fending off changes perceived as ill-advised, have combined with the fact that most intervenors are lawyers imbued with the cautious, one-problem-at-time mentality of the common law, to give most policy interventions a decidedly non-radical tone.<sup>58</sup> The ostensibly radical proposals come from those who subscribe to the private-property-rights-as-panacea faith. The proposals for strong private property rights do challenge the status quo in copyright, but would not qualify as a 'legal equivalent of a shift . . . to quantum mechanics.' In essence, they call for information to be shoehorned into a standard commodity form so that institutional relations governing tangible commodities can be applied--a decidedly non-radical prescription.

No claim is made that the proposals outlined below constitute a conceptual leap of the type called for by Hammond. However, they represent a conscious effort to step back from the typical common-law preoccupation with incremental change and re-examine basic principles. They are not revolutionary

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<sup>57</sup> R. Grant Hammond, 'Quantum Physics, Econometric Models and Property Rights to Information,' McGill Law Journal 27 (1981): 52.

<sup>58</sup> See, for example, even the author's presentation before the Sub-committee on the Revision of Copyright at its hearings on 17 June 1985 (appendix IV).

proposals, but they may, if adopted, result in a qualitatively different legal regime for factual information.

It is a basic principle of copyright law that protection is granted for expression of an idea, not the idea itself. Ideas are common property, private property rights being granted only to forms of expressing ideas. The principle includes facts: copyright does not grant even a limited monopoly over facts, only over particular forms of expression.

The idea/expression dichotomy has undergone slow attrition over the years, especially in the areas of news and compilations discussed in chapter III. The recent success of computer software producers in obtaining copyright protection is but one sign of a qualitatively higher level of attack on the basic principle.<sup>59</sup>

Larger investments of resources in information-related activities have accelerated the tendency to make copyright law an omnibus statute governing information in general, rather than expression alone. The negative impacts on end-users, market structure and public domain information discussed above give reason to oppose this tendency.

What is proposed is that the idea/expression dichotomy be reaffirmed as a fundamental principle of copyright law with operational rules for distinguishing ideas and facts from expression, and specifying the level of protection afforded

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<sup>59</sup> For example, see, 'Dissent of Commissioner Hersey,' in 'CONTU's Final Report and Recommendations,' in Copyright, Congress and Technology, vol. V, pp. 63-65.

'fact works', written into the statute. Mere inclusion of the basic principle in the statute would be no path-breaking step: a general statement was included in the US Copyright Act during the 1976 revision;<sup>60</sup> and it has been recommended for inclusion in the British Copyright Act.<sup>61</sup> To actually specify operational criteria whereby property rights disputes over ideas and facts can be identified and excluded from the purview of the Copyright Act would be a very significant change.

The proposed operational rule is based on one devised by a US Court of Appeals in the case of Morrissey v. Proctor & Gamble Co. in relation to a sales promotional contest.<sup>62</sup> Where an idea can be expressed in only a limited number of forms, copyright should not be recognized with respect to any of those expressions, in effect precluding the use of copyright protection to monopolize ideas or facts capable of only a limited number of forms of expression.

Michael S. Oberman has proposed the application of the Morrissey rule to computer-produced directories:

. . . the use of computers allows compilers to order information in many different ways; if the lines of protection granted to each work are not closely drawn,

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<sup>60</sup> U.S.C., 1982 Ed., Vol. 7, Title 17, s.102(b).

<sup>61</sup> Recommendation of Gregory Committee (1952) endorsed by the Whitford Committee--Great Britain, Report of the Committee to Consider the Law on Copyright and Designs, [Chairman: The Hon. Justice Whitford], p. 4.

<sup>62</sup> 379 F.2d 675 (1st Cir., 1967). For an insightful discussion, see, Michael S. Oberman, 'Copyright Protection for Computer-Produced Directories,' Fordham Law Review 41 (1973): 767-806.

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facts essential to society might be systematically monopolized. . . . Only the plan of ordering facts and the graphic arrangement for the facts should be protected. Others should be free to reorder the facts and to redesign the directory in order to prepare a non-infringing work; even more, others should be allowed to feed the facts into computer storage banks. Should the plans of ordering certain facts prove so limited as to make possible a freezing of the facts, then the protected expression should be restricted to the visual presentation. In effect, this would preclude only total replication. Nevertheless, given the prospects of new communication systems, basic data ought not be locked in fifty-six year time capsules.<sup>63</sup>

A clear statement of principle that the Copyright Act does not extend protection to ideas and facts, but only to expression, should be followed by a provision to the effect that where an idea can be expressed in only a limited number of forms and where certain facts can be organized only in a limited number of forms, no copyright protection will be granted. In addition, the rule proposed in the White Paper requiring authorization at the stage of input in relation to computer-based information storage and retrieval systems should be replaced by one requiring authorization at the output stage. The input rule is based on the faulty assumption that the computer is a sophisticated replicating machine, when, in fact, replication is incidental to the main purpose of manipulating data. It is only when expression is replicated in material form as output (paper or otherwise) that infringement occurs.

The proposed changes have the effect of excluding a significant number of information transactions from the purview

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<sup>63</sup> Oberman, 'Copyright Protection for Computer-Produced Directories,' 805-06.



of copyright law. It is not that these transactions are being consigned to some kind of legal limbo where there are no property rights at all. Even if nothing is done beyond making the proposed changes in the copyright law, the excluded transactions could be governed by the common law property rights deriving from the Exchange Telegraph cases.

The real challenge, however, will be to create a statute to govern information use, drawing on the common-law property rights and improving them where necessary. This could take the form of an 'Information Use Act', or a 'Non-tangible Property Use Act,' as proposed by one intervenor at the Copyright Hearings.<sup>64</sup> While the main focus should be on commercial and non-commercial use of fact works such as downloading, rental, and acts that may amount to unfair competition, it may be possible to address a wide range of information use issues including those pertaining to non-fact works such as home videotaping and retransmission. The advantage in originally focussing on fact works would be the availability of a body of law that has attempted to address questions of information use over a relatively long period of time.

The proposed Information Use Act should attempt to ensure maximum user rights with respect to the capabilities of the new information technologies, while preventing unfair competition between producers. This would require, among other things, the

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<sup>64</sup> Vancouver Ad Hoc Committee on Computer Related Legal Problems, Brief Presented to the Sub-committee on the Revision of Copyright, 17 June 1985, p. 7.

development of a commercial/non-commercial dichotomy on the lines of the Sony Betamax decision. Unfair competition should be very carefully construed with due attention paid to implications for market structure.

'Competition' in the form of wholesale appropriation of an information firm's product for sale in the same market serves no purpose but that of driving the original firm out of business. There must be safeguards against this type of activity. However, rights in relation to blatant misappropriation must be carefully devised so that dominant firms cannot extend them to prevent the production of related, but different products. The economic factors favouring multiproduct production by large firms do not need any legal reinforcement. A different standard for judging infringement must be devised for cases where the firm claiming infringement has privileged access to basic raw data needed for a number of information products.

#### Public Policy vs The Common Law

Formulation of a comprehensive information use statute would not only provide an appropriate institutional framework for much of the new information transactions made possible by new technologies, but would also restore clarity and coherence to the copyright law. This would be an opportunity to 'devise new social arrangements that ensure both the creation and the effective and profitable utilisation of new information and

technology . . . [while protecting] : . . . basic political and human values from unwise applications or withdrawals of that new knowledge.'<sup>65</sup> However, such a course of action has some negative implications too.

A call for enlightened policy-making that will serve the interests of all groups and of society in general, is premised on a liberal, or power-neutral, view of the policy-making process. Even if the state is seen as a simple arbiter of conflicting interests, a 'fair' solution requires that all interests be represented in the policy-making process, and that they will carry more or less equal persuasive weight. Asymmetrical organizational incentives and access to resources make this but a naive dream.<sup>66</sup> Never are all interests equally represented in any public policy process. There may be instances where rough parity between opposing interests is achieved but even this is no guarantee that all interests, especially the public interest is adequately represented. This is a pessimistic view, but one that has been reinforced most recently by the experience of participating in the Copyright Revision Hearings. From this perspective, it may appear foolhardy to throw open a body of law developed by the courts to the depredations of vested interests dominating the policy process. But absolute

<sup>65</sup> Hammond, 'Quantum Physics,' p. 52.

<sup>66</sup> See, Mancur Olson, The Logic of Collective Action: Public Goods and the Theory of Groups (Cambridge, MA: Harvard University Press, 1971), p. 143 on the higher degree of organization of business interests, and generally on the role of organized groups in the policy process.

faith in the common law is no less naive than absolute faith in the public policy process. Common law rights do not compare badly with, say, the White Paper proposals, but they cannot be described as reflecting the public interest either. It is a fact that all the cases surveyed in chapter III under common law rights were decided in favour of the plaintiffs who were also the larger, more established companies.

The public policy process cannot be side-stepped. The interests that are over-represented in the public policy process are over-represented in the judicial process too. There is no safe harbour for the public interest. It must be fought for in every available forum.

In his discussion of private property rights with respect to natural resources, Scott compares private property rights created by the public policy process with those fashioned by the common law.<sup>67</sup> Weaknesses in both types of property rights are identified, but there is an implicit suggestion that the common law process has much to commend over the public policy process. Scott makes no claim for the relative efficiency of common law rights. Their virtues are seen as workability and a degree of flexibility coupled with stability.

There is much to be said for a property rights regime for information with the above attributes. The difference in the area of information is that the rights that were being

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<sup>67</sup> Anthony Scott, 'Property Rights and Property Wrongs,' Canadian Journal of Economics 16 (1983): 555-73.

incrementally developed by the common law were based on rights borrowed from the legal regime governing tangible goods. The incremental adjustments made by the common law were incapable of culminating in a property rights regime that was workable, flexible and, above all, appropriate to information use patterns. Perverse results such as the extension of private property rights to facts and ideas indicate the dangers of relying entirely on the common law for the moulding of a property rights regime for information. Despite the susceptibility of the public policy process to lobbying by vested interests and the inherent risks of large-scale tampering with institutional relationship patterns such as property rights, there appears to be a clear need for the use of the public policy process to devise a qualitatively new legal regime for information.

It is not possible to sketch out all the details of an information use act here. That task is beyond the scope of this study. What is suggested here, in brief, is that the drift towards making the Copyright Act an omnibus information law be halted by reaffirming and making operational the basic idea/expression dichotomy of copyright law; that the essential function of computers as cognitive tools be recognized by specifying output as the point where copyright infringement could occur; and that a new information use act be carefully drafted on the basis of existing common law rights to information with necessary changes.

## Summary

Examination of the news and market-information market does not yield findings supportive of any type of policy intervention. It is a growing and dynamic market that does not require any regulatory or structural intervention at the present time. Two potential problem areas that may require future intervention were identified. Government intervention in the form of creating stronger property rights is seen as having the potential of exacerbating negative tendencies within the news and market-information market. These changes, which are not limited to the news and market-information market but apply to all computer databases, would hinder the full utilization of new information technologies and the expansion of information dissemination by imposing a heavy and disproportionate share of transaction costs on end-users. The revised Act is likely to strengthen the hands of established firms vis-a-vis smaller competitors, and result in the imposition of unjustifiable restrictions on public domain information.

It is proposed that copyright be kept as copyright, a limited form of protection designed to protect expression as opposed to embodied ideas or facts. An operational rule is proposed to distinguish fact works which can then be excluded from the purview of copyright protection. In light of the large number of problems that have arisen pertaining to use of information, especially fact works, it is suggested that a

comprehensive information use act be enacted based upon existing case law dealing with information use, an appreciation of the use potential of new information technologies, and a clear commitment to preserve the interests of end-users as well as broad social interests.

## V. Conclusions

This thesis examined emerging institutional relationships in a new information market based on leading-edge communication/information technology. Economic relationships and tendencies existing within the market, as well as existing and proposed private property relationships were described and analyzed.

Most governments in the advanced market economies are preparing to intervene in information markets by revising intellectual property laws, or have already done so. Other forms of intervention in the communication/information sector include subsidies and regulation. As befitting the nascent phase of the information society, many perceptive analysts have focussed their attention on the role played by government in subsidizing the new information technologies from public funds.<sup>1</sup> While this remains extremely important, especially in the information facility sector, the role of government in shaping the property rights regime under which the production and use of information in the information society will be governed, deserves more attention. The present discussion focusses on intervention in the form of modifying and creating private property rights.

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<sup>1</sup> E.g., Herbert I. Schiller, Information and the Crisis Economy (Norwood, NJ: Ablex, 1984), pp. 84-88; and Robin Mansell, 'Industrial Strategies and the Communication/Information Sector: An Analysis of Contradictions in Canadian Policy and Performance,' PhD dissertation, Simon Fraser University, 1984.



The principal rationale given for these interventions is that the old laws have to be updated to meet the needs of the information society. The need to establish a stronger private property rights regime to facilitate and encourage economic activity in the communication/information sector, and thereby contribute to overall economic growth is cited. Marcel Masse, the Minister of Communications, stated this rationale in the course of describing the objectives of the present copyright revision:

New technologies have created uncertainties, not only for authors, but also for Canadian business, because copyright legislation affects their activities. Any restrictions it may now place on economic growth must be eliminated so that interested parties--authors, investors, entrepreneurs--can profit from all the economic possibilities arising out of the modernization of the Act and the clarification of 'the rules of the game'.<sup>2</sup>

Is government intervention in the form of modifying private property rights necessary or justified? Is it the right kind of intervention? What will be the consequences, intended or otherwise? What are the better alternatives? These are some of the key questions that must be asked in relation to the shaping of institutional relationships in the news and market-information market. These questions are of relevance to all information markets.

Copyright law has been the principal vehicle of property rights intervention in information markets by governments. The

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<sup>2</sup> Brief presented by Marcel Masse, Minister of Communications (translation), Minutes of Proceedings, Issue No. 1 (9-5-1985), 1:23.

information markets and industries to which copyright law is being applied are extremely diverse. The results of this type of broad-brush policy intervention can only be uneven. What will work for markets supplied by 'starving artists',<sup>3</sup> may cause more harm than good when applied to totally different kinds of markets like the one examined in this study, and vice versa.

The omnibus approach to property rights in information is not conducive to evaluation of particular information markets and industries and the design of appropriate private property rights. The economic analysis in this thesis illustrates the need for such evaluations. The news and market-information market exhibits all signs of economic vitality. Strengthening of property rights based on market-failure rationales, which may be appropriate for markets supplied by 'starving artists', has no relevance to this particular market, and possibly to a number of others too.

Clarification of 'the rules of the game' is a valid policy objective. It is true that the private property regime governing the news and market-information market is unclear. But extending private property rights designed for literary works to the content of computer-based information storage and retrieval systems is hardly the right kind of clarification. The possibility of perpetual copyright being created and problem of

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<sup>3</sup> Perceived as the 'constant theme' of the copyright revision process by committee member Lynn McDonald [New Democratic Party Communications and Culture Critic]--Minutes of Proceedings, Issue No. 18 (18-6-1985), p. 18:11.

defining term of copyright for 'literary works' authored by corporations, identified in chapter IV, are indicative of the mismatch.

The news and market-information market is a transnational market. None of the core firms are Canadian, though there are some important online service firms such as I.P. Sharp Associates. There could be a policy concern over the absence of a major Canadian supplier or the fact that Canadian information users in this market are purchasing information from foreign firms. National markets in news and market-information will work to the extent that the country's economic and political relationships are self-contained. In a country like Canada, it would be unrealistic to expect purchases predominantly from domestic suppliers. This policy concern has not been voiced in relation to the copyright revision process. The proposals under consideration by Parliament have not been framed with this concern in mind. In fact, the proposed database provisions amount to unilaterally strengthening the hand of the dominant foreign suppliers. It may, however, be possible to incorporate policy objectives that seek a stronger Canadian online database industry into an information property rights scheme, in the manner domestic-manufacture clauses have been used in other intellectual property statutes.

The efficacy of stronger property rights in encouraging economic activity in new information markets remains to be demonstrated. The particular market that was examined in this

study is experiencing very high growth without the help of stronger property rights. It is difficult to envisage stronger property rights pushing growth over the present levels. On the other hand, it is quite possible that strong property rights could hinder the development of new markets.

Chapter IV identified some of the other possible consequences of stronger private property rights, in relation to the news and market-information market. Stronger rights could restrict the availability of information and hinder its manipulation. Depending on how the rights proposed in the White Paper will be enforced, 'secondary' information producers could be denied access to raw data, because it happens to be another firm's copyrighted information product; input into computers for commercial or non-commercial manipulation may be hindered. Most importantly, a sizeable portion of public-domain information may be withdrawn from public access.

What public-domain information is and what access to public-domain information means remain questions for further investigation. News and market-information products, in their high ephemeral-value form and also when processed into low ephemeral-value forms, easily fit within the concept of public-domain information. Even if no immediate negative effects are felt, the very notion of ascribing private property rights to news and market-information and other factual information in computer-based information storage and retrieval systems would nullify the gains made in this area as a result of the debate

over access to information laws.

On the question of alternatives, it is proposed that information use issues associated with factual information be removed from the purview of copyright law, and that property rights to meet the specific requirements of various forms of factual information and their use and manipulation by means of the new communication/information technologies be designed within the framework of an Information Use Law. The objective should be that of creating 'thin' property rights, adequate to prevent outright piracy, but open to use and further processing. The common law rights to information described in chapter III and representing the accumulated wisdom of judicial experimentation in this area, are suggested as a good starting point.

In terms of contributing to the development of economic analysis of information industries and markets, this study has demonstrated the need to analyze each information industry and market individually as one would do in the case of conventional manufacturing industries. It is not possible, for example, to make the general claim that information is a public good and that therefore all information industries are characterized by economies of scale. This study showed that the presence of economies of scale that appears a truism in static conditions, may well disappear when dynamic conditions are introduced.

Differential access to information has been a major concern of communication researchers working in the area of impact of

new communication/information technologies.<sup>4</sup> Some researchers are investigating differential access which takes the form of one party in a negotiating relationship getting exclusive access to crucial information, sometimes even paying for the differential advantage. News and market-information products do not fit that model. In another formulation of the issue, the raising of the information threshold, be it in the form of computer literacy or in the form simple commercialization, is being examined. It may be possible to examine this question in relation to the news and market-information market where a great deal of sophisticated technology has been introduced, but where prices may well have increased in real terms. It may be useful to conduct field studies of the type done by Salinas,<sup>5</sup> to obtain information from Third World sources about price trends, impact, users dropping out of the system or reducing usage, etc. It is possible that price discrimination by news and market-information firms has lowered the information threshold below what it would otherwise have been.

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<sup>4</sup> E.g., Rita Cruise O'Brien (ed.), Information, Economics, and Power (London: Hodder & Stoughton, 1983); Oscar H. Gandy, Jr., 'Inequality: You Don't Even Notice It After a While,' plenary presentation at Thirteenth Annual Telecommunications Policy Research Conference, Airlie VA, April 1985 (mimeo); Raquel Salinas Bascur, 'Let's Kill the NWICO . . . And Start All Over Again. This Time Seriously . . .,' A Report of the Collaborative Project on Information Overload and Information Underuse, United Nations University, Global Learning Division, April 1985.

<sup>5</sup> Salinas, 'Let's Kill the NWICO.'

Questions of vulnerability cannot be avoided in a discussion of the broad implications of information technology. Vulnerability is usually defined in terms of extra-economic factors such as acts of god (e.g., the Reuters' fire of 1970), system failures (e.g., the failure of ARPANET, a major US data network), and acts of state (e.g., consideration of the possibility of switching off the portion of Iran's telecommunications system based on satellite channels during the hostage crisis). However, vulnerability may be given a broader meaning to include exposure to the possibility of exercise of economic power.<sup>6</sup> The channelling of large amounts of vital economic information, including actual transactions through highly interdependent, transnational information production and dissemination facilities pose some interesting questions for national governments.<sup>7</sup> The trade-offs between economic 'efficiency', narrowly defined, and vulnerability must be examined in greater detail.

The production and dissemination of new and better information in a market economy requires the creation of private property rights. It may be that there are satisfactory methods of encouraging innovative information production and

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<sup>6</sup> E.g., Anthony J. Flowerdew, 'The Government's Role in Providing Information: A British Academic's View,' in Information Services: Economics, Management, and Technology, eds. Mason and Creps. (Boulder CO: Westview, 1981), p. 68.

<sup>7</sup> See, for example, discussion of vulnerability in relation to domestic networks of this type in Computer-Based National Information Systems: A Study by the [US] Office of Technology Assessment (New York: Petrocelli, 1984), p. 85.

dissemination methods outside the market system. But, if market provision is taken as a given, there can be no doubt about the need for private property rights. The challenge is to design private property rights that can encourage production while minimizing harmful effects, not only for news and market-information but also for many types of new information products such as videotex. This thesis has identified two key tools for such an exercise, the common law and the economic analysis of information industries and markets.



## APPENDIX I: SAMPLE QUESTIONS SUBMITTED TO REUTERS HOLDINGS PLC

The following sample questions were submitted to Reuters Holdings PLC in July 1984 in the course of attempting to arrange interviews with company executives in late August of that year. An earlier attempt the year before yielded descriptive material on company products but no interviews, and the questions in the second round were considerably less probing as a result of that experience.

### Sample Questions for 'New Products' Interview

1. More than one product is possible from an information base such as that of Reuters. Is the decision to introduce a new product principally determined by market surveys, or by product development people based on the potential of existing technology and information? Is an attempt made to avoid additional information-gathering costs?
2. How are the costs of different products allocated?
3. What is Reuters' position on 'customized' business information services such as those proposed by IRIS (now defunct) and Financial Times/ITT? Is this a market Reuters will enter in the near future?
4. Is it possible to estimate dissemination costs as a percentage of total costs for (a) individual products, (b) product clusters, and (c) the company as a whole?

Sample Questions for 'Legal' Interview

1. Has Reuters ever gone to court to resolve disputes involving 'news piracy' (similar to the Exchange Telegraph cases) or copyright? If so, what are the case references?
2. What are the clauses that are included in standard Reuters contracts (general news as well as specialized services) that address the possibility of unauthorized use by competitors, or by the customers themselves? Any information on how these clauses changed over time?
3. Does Reuters copyright material in its databases? If only some material is copyrighted, what are the reasons?
4. Reuters encourages customers to buy additional terminals and services. What measures are taken to prevent customers from hooking up office communication/computer systems to a single terminal thus avoiding some charges?
5. Are providers of information to Monitor products restricted from supplying the same information to others?

Mr Michael Neale, Publicity Manager for Reuters, communicated the decision not to grant any interviews in a telephone conversation on 23 August 1984, in the course of which he made the following statement:

I must compliment you on the questions you have framed, but I am afraid we cannot answer them as they go to the

very heart of our business. Publication of such information would be of assistance to our competitors and would be detrimental to our interests.

## APPENDIX II: HIGH EPHEMERAL-VALUE DATABASES BY CONTENT CATEGORY

Key: P=Producer; O=Online Service Firm

### I. General Market

1. ADP Financial System One Quotation Service. P=ADP Financial Information Service; O=Same.
2. AGORA/AECO. P=Agence France Presse; O=G.CAM
3. AP Stock. P=The Associated Press; O=THE SOURCE.
4. Bizdate. P=THE SOURCE; O=Same.
5. Bridge Information System Brokerage Service. P=Bridge Data Company; O=ADP Network Services Co.; Bridge Data Co.; Market Data Systems, Inc.
6. Broker Services, Inc. (BSI). P=Broker Services, Inc. O=Same.
7. Budget Scope. P=Chambers Associates, Inc.; Data Resources, Inc. (DRI); O=Data Resources, Inc.
8. Business Credit Services. P=TRW Information Services Division; Business Credit Services; O=Same.
9. Business Information Wire (BIW). P=The Canadian Press; O=CompuServe Consumer Information Service; CompuServe Executive Information Service.
10. The Business Wire. P=Business Wire; O=CompuServe Consumer Information Service; CompuServe Executive Information Service; Mead Data Central (NEXIS).
11. Citicorp Economic Report. P=Citicorp Information Service; Citicorp Economic Report; O=Quotron Systems, Inc.; Reuters Ltd.
12. Commodity News Service. P=Commodity News Service, Inc.;

O=AgriData Network.

13. Compact. P=Chronometrics; O=National Computer Network of Chicago, Inc.
14. Corporate Watch. P=McCarthy, Crisanti & Maffei, Inc.; O=CompuServe Executive Information Service; Quotron Systems, Inc.; Reuters Ltd.; Telerate Systems, Inc.; Tymshare Inc.
15. Credit Data. P=TRW Information Services Division; Credit Data Service; O=TRW Information Services Division.
16. Datastream. P=Datastream International Ltd.; O=Same.
17. Dow Jones Quotes. P=Dow Jones & Co., Inc. O=Same.
18. Dow Jones Text-Search Services. P=Dow Jones & Co., Inc.; O=Same.
19. DowQuot. P=Dow Jones & Co., Inc.; Quotron Systems, Inc.; O=DowQuot (a special Dow Jones-Quotron service).
20. Executive Market Follower. P=CompuServe Inc.; O=CompuServe Consumer Information Service; CompuServe Executive Information Service.
21. Fintex All-Day Foreign Exchange Monitor; Foreign Exchange Report. P=Global Finance Information, Inc.; O=NewsNet Inc.
22. FYI News Service. P=Western Union Telegraph Co.; O=Same.
23. Innerline. P=Bank Administration Institute (BAI) et al.; O=Same.
24. Insider Trading Monitor. P=FCI-Invest/net. O=Same.
25. Investor Service. P=THE SOURCE; O=Same.
26. Market Decision System 7. P=Bunker Ramo Information System; O=Same.

27. Markets Advisory. P=Markets Advisory; O=Quotron Systems, Inc.
28. Monchik-Weber Options Monitor Service. P=Monchik-Weber Corporation (New York); O=Same.
29. Monchik-Weber Price Access Service. P=Monchik-Weber Corporation (New York); O=Monchik-Weber Corporation (New York); THE SOURCE.
30. Money Market Price Quotation Service. P=Market Data Systems, Inc.; O=Same.
31. Moneywatch. P=McCarthy, Crisanti & Maffei, Inc.; O=CompuServe Executive Information Service; Quotron Systems, Inc.; Reuters Ltd.; Telerate Systems, Inc.; Tymshare Inc.
32. Munifacts. P=The Bond Buyer; O=Quotron Systems, Inc.; Telerate Systems, Inc.
33. NAICO-Net. P=North American Investment Corporation; O=General Videotex Corporation.
34. Newsbeat. P=ADP Financial Information Services; O=Same.
35. Nikkei Stock Prices. P=Nihon Keizai Shimbun; O=Same.
36. Optimum. P=Monchik-Weber Corporation (Chicago); O=National Computer Network of Chicago, Inc.
37. Options. P=FRI Information Services Ltd.; O=Same.
38. Quotron 800. P=Quotron Systems, Inc.; O=Same.
39. The Reuter Monitor. P=Reuters Ltd.; O=Same.
40. S&P MarketScope. P=Standard & Poor's Corporation et al.; O=ADP Financial Information Services; Quotron Systems, Inc.
41. Stewart Data. P=Stewart Data Services; O=Quotron Systems,

- Inc.
42. Stock Check. P=THE SOURCE; O=Same.
  43. StockLine. P=Control Video Corporation; O=Same.
  44. Superticker. P=Market Data Systems, Inc.; O=Same.
  45. Telequote III. P=Bunker Ramo Information Systems; O=Same.
  46. Telerate Financial Information Network. P=Telerate Systems, Inc.; O=Same.
  47. Trade\*Plus. P=Trade\*Plus; O=Chemical Bank of New York; KEYFAX; Trade\*Plus.
  48. Unistox. P=United Press International; O=THE SOURCE.
  49. Vickers Institutional Stock System. P=Vickers Stock Research Corporation; O=Quotron Systems, Inc.; Vickers Stock Research Corporation.
  50. VU/QUOTE. P=Commodity News Services, Inc.; O=VU/TEXT Information Services, Inc.

## II. Specialized Market

1. AgriMarkets Data Service (AMDS). P=Capitol Publications, Inc.; O=NewsNet, Inc.
2. AgriData Network. P=AgriData Resources, Inc. et al.; O=AgriData Network.
3. Baseline. P=Baseline Inc.; O=Baseline Inc.
4. Commerce Business Daily (CBD Online). P=US Department of Commerce; Commerce Business Daily; O=DIALOG Information Services, Inc.; United Communications Group.
5. Datafile. P=Computer Intelligence Corporation; O=Same.
6. Drilling Information Services (DIS). P=Adams and Rountree

Technology Inc.; O=Same.

7. EMIS (Electronic Markets and Information Systems). P=McGraw Hill, Inc.; O=Data Resources, Inc.; I.P. Sharp Associates.
8. Everything Architectural. P=Imagineer Associates, Inc.; O=CompuServe Private Interchange.
9. Instant Update. P=Professional Farmers of America; O=Same.
10. Lundberg Survey Wholesale Prices and Moves. P=Lundberg Survey, Inc.; O=I.P. Sharp Associates.
11. Numerax IV. P=Numerax Inc.; O=Same.
12. O.V.A.S. (Offshore Vessels Availability System). P=Alpha Asia Systems Pte. Ltd.; O=Singapore International Software Services Pte. Ltd.
13. Petroflash! P=Petroflash! Inc.; O=I.P. Sharp Associates; Reuters Ltd.
14. Petroscan. P=United Communications Group; O=Same.
15. Photonet. P=Photonet Computer Corporation; O=Same.

### III. Weather and Related

1. Accu-Weather. P=Accu-Weather Inc.; O=Reuters Ltd.; THE SOURCE.
2. EMI Flight Planning. P=EMI Aerodata, Inc.; O=CompuServe Consumer Information Service; CompuServe Executive Information Service.
3. FLITEbrief. P=WSI Corporation; O=Same.
4. NOAA Weather Service. P=National Oceanic and Atmospheric Administration; O=CompuServe Consumer Information Service; CompuServe Executive Information Service.



5. Real-Time Weather. P=WSI Corporation; O=Same.
6. SuperSat. P=WSI Corporation; O=Same.
7. US National Observatory Automated Data Service. P=US Naval Observatory, Time Service Division; O=General Electric Information Services Co.; US Naval Observatory, Time Service Division.
8. Weatherscan Data Base (W.A.R.R.). P=Weatherscan International; O=Same.

#### IV. General News

1. AGORA/AGRA. P=Agence France Presse; O=G.CAM.
2. AP Videotex. P=The Associated Press; O=AgriData Network; ITT Dialcom, Inc.; THE SOURCE; VU/TEXT Information Services, Inc.
3. Canadian Press Newstex (CPN). P=The Canadian Press; O=QL Systems, Inc.
4. DEA. P=Agenzia ANSA; O=Same.
5. News/Retrieval World Report. P=Dow Jones & Co., Inc.; O=Same.
6. TT-Nyhetsbanken. P=Tidningarnas Telegrambyra; O=DataArkiv AB.
7. UPI News. P=United Press International; O=DIALOG Information Services, Inc.; General Videotex Corporation; THE SOURCE.

#### V. Sports

1. Sportel. P=Sportel Communications Network; O=Same.
2. SportsLine. P=Control Video Corporation; O=Same.
3. SuperSports. P=WSI Corporation; O=Same.

Source: Cuadra Associates, Inc., Directory of Online Databases,  
vol. 6(1) (Fall 1984).

## APPENDIX III: MAJOR NEWS AGENCIES AND ONLINE SERVICE FIRMS

### SUPPLYING HIGH EPHEMERAL-VALUE DATABASE PRODUCTS

#### Major News Agencies

The list is limited to those based in the advanced market economies.

1. Agence France-Presse
2. Agence Telegraphique Suisse
3. Agencia EFE, S.A.
4. Agenzia Nazionale Stampa Associata
5. The Associated Press
6. Australian Associated Press
7. The Canadian Press
8. Deutsche Presse Agentur
9. Jiji Press
10. Kyodo Tsu Dhinsha
11. New Zealand Press Association
12. Norsk Telegrambyra P/S
13. The Press Association
14. Reuters Holdings PLC
15. Tidningarnas Telegrambyra
16. United Press International

#### Online Service Firms

The online firms given below supply database products classified as having high ephemeral-value and listed in appendix II. In addition, a number of these firms supply online database products classified either as intermediate ephemeral-value

databases (daily updating) or as low ephemeral-value databases. The number given in parentheses after the name indicates the number of high ephemeral-value databases supplied by that particular firm.

1. Adams and Rountree Technology, Inc. [1]
2. Automatic Data Processing, Inc.
  - a. ADP Financial Information Services [3]
  - b. ADP Network Services [1]
3. Agenzia ANSA [1]
4. AgriData Network [3]
5. Bank Administration Institute [1]
6. Baseline Inc. [1]
7. Bridge Data Co. [1]
8. Broker Services, Inc. [1]
9. Bunker Ramo Information Systems [2]
10. Chemical Bank of New York [1]
11. CompuServe Inc.
  - a. CompuServe Consumer Information Services [5]
  - b. CompuServe Executive Information Service [7]
  - c. CompuServe Private Interchange [1]
12. Computer Intelligence Corporation [1]
13. Control Video Corporation [2]
14. Data Resources, Inc. [2]
15. DataArkiv AB [1]
16. Datatream International Ltd. [1]
17. DIALOG Information Services, Inc. [2]

18. Dow Jones & Co., Inc.
  - a. Dow Jones & Co., Inc. [3]
  - b. DowQuot [1]
19. FCI-Invest/net [1]
20. FRI Information Services Ltd. [1]
21. G.CAM [2]
22. General Electric Information Services Co. [1]
23. General Videotex Corporation [2]
24. I.P. Sharp Associates [3]
25. ITT Dialcom [1]
26. KEYFAX [1]
27. Market Data Systems, Inc. [3]
28. Mead Data Central [1]
29. Monchik-Weber Corporation (New York) [2]
30. National Computer Network of Chicago, Inc. [2]
31. NewsNet, Inc. [2]
32. Nihon Keizai Shimbun [1]
33. Numerax Inc. [1]
34. Photonet Computer Corporation [1]
35. Professional Farmers of America [1]
36. QL Systems, Inc. [1]
37. Quotron Systems, Inc. [10]
38. Rapidata Division, National Data Corporation [1]
39. Reuters Ltd. [6]
40. Singapore International Software Services Pte. Ltd. [1]
41. THE SOURCE [8]

- 42. Sportel Communications Network [1]
- 43. Telerate Systems, Inc. [4]
- 44. Trade\*Plus [1]
- 45. TRW Information Services Division [2]
- 46. Tymshare Inc. [2]
- 47. US Naval Observatory, Time Services Division [1]
- 48. United Communications Group
  - a. Petroscan [1]
  - b. United Communications Group [1]
- 49. Vickers Stock Research Corporation [1]
- 50. VU/TEXT Information Services, Inc. [2]
- 51. Weatherscan International [1]
- 52. Western Union Telegraph Co. [1]
- 53. WSI Corporation [4]

Sources: Infrastructures of News Collection and Dissemination in the World, Document No. 19 of the International Commission for the Study of Communication Problems (Paris: UNESCO, 1978); and Cuadra Associates, Inc., Directory of Online Databases, vol. 6(1) (Fall 1984).

#### APPENDIX IV: PRESENTATION AT COPYRIGHT HEARINGS

I am here as an academic researcher, making policy recommendations on the basis of an intensive study of the computer database and related industries. I represent no particular interest group, except perhaps the most important one of all, the individual end-users whose voices have difficulty being heard in the midst of the loud lobbying of organized vested interests.

I have one general prefatory comment, prompted by reading the previous evidence before this committee: words used in copyright discussions can be very deceptive. The word 'author', though suggestive of writers starving in garrets, also includes corporations. In the area of computer databases, most, if not all, 'authors' are corporate entities. Another word that is bandied about is 'markets'. We must remember that there are markets and markets, markets that are more or less neutral and efficient allocators of resources and markets that are shot through with monopoly power. In my area of study, I have documented the existence of decreasing unit costs. In the words of no less an authority than Paul A. Samuelson:

So long as increasing returns prevail in the actual range of consumption . . . perfect competition will not be self-preserving and market behavior is unlikely to be optimal.<sup>1</sup>

In markets such as those for information there is no automatic guarantee that the interests of users as well as those of

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<sup>1</sup> 'Aspects of Public Expenditure Theories,' Review of Economics and Statistics, 40 (1958): 335.

society as a whole will be impartially and efficiently served, unless great care is taken in designing appropriate private property rights.

My research is on the law and economics of a segment of the commercial database sector, that may be clumsily but accurately described as the news agency/ephemeral-value database industry. One of the fastest growing and most lucrative segments of the database sector, the news/database industry provides the basic informational infrastructure for the functioning of market processes (such as stock and commodity market information) and political processes ('spot' news). The distinguishing characteristic of the information products supplied by the industry is speed of delivery. This information loses its primary commercial value in a matter of minutes.

The importance of the news/database industry is threefold:

1. The result of the convergence of news agencies, computer-based information storage and retrieval systems, and advanced telecommunications, it is at the cutting edge of the new information industries in terms of technical innovation, market penetration, and commercial success.
2. The information products it supplies play a basic infrastructural role in politico-economic processes not very different from that played by money and credit.
3. It is a new industry in terms of technology, but an old one in terms of having a property rights structure developed over a period of a century or so.



My research shows that:

1. Information of the type supplied by the news/database industry has been supplied for over one hundred years on a commercial basis without the protection of copyright. Legislators as well as the courts have expressly excluded this type of information which has a very high factual content, from copyright protection. The common law has devised weaker private property rights to define relations between competitors.
2. The news/database industry as well as the rest of the commercial database sector is at a formative stage, with significant experimentation occurring in products and pricing. There is also a considerable degree of activity in terms of entry, mobility and exit, though there is a core of established firms making high profits. Tendencies exist for a decrease in the diversity of information providers and more vertical integration.

These findings suggest that stronger private property rights are not needed in this segment of the database sector, and that they may even have the effect of exacerbating tendencies such as those toward decreasing diversity of products and providers.

The White Paper proposals need to be seriously reconsidered for the following reasons:

1. Underlying the proposals is the erroneous view that the computer is merely a sophisticated replication machine. The

fact that it is primarily a cognitive tool for the manipulation of data is not recognized. Furthermore, the proposals have the effect of abolishing rights to information that people have enjoyed over the years. For example, it is commonly recognized that a newspaper reader has rights to clip news, stories of interest, to share them with friends, to maintain clippings files, etc. It may be that in a few years time news stories will be routinely accessed through online terminals and that the normal method of keeping files will be in personal or other computers. If the White Paper proposal in its present form is accepted, these non-commercial rights that have been enjoyed by the public for years will be wiped out. The proposals also violate the fundamental distinction made in copyright law between expression and ideas/facts.

2. Requiring authorization at the input stage imposes tremendous transaction costs on users. This rule will increase telecommunication and other costs of users who will be forced to remain online while merely perusing data. This is in addition to the costs of obtaining authorizations. This proposal will have less of an effect on institutional users who can absorb or pass on the transaction costs. The overall negative effect on market expansion is bound to hurt everyone concerned, in the long run.
3. Government must be wary of creating private property rights that are unenforceable. The White Paper proposals are

unenforceable against the growing number of individual end-users. Even with draconian rights of discovery, it would be impossible to effectively police non-commercial downloading by individuals.

It should also be noted that the private property rights proposed in the White Paper are more rigid and biased against users than the corresponding rights in the 1976 US Copyright Act because of the more restrictive Canadian fair use proposal and the permissive registration requirements. The White Paper does not seem to have taken into account the possibility that the more or less continuous updating that takes place in most databases could have the effect of bestowing perpetual copyright. The fact that the 'authors' of databases are in almost all cases corporate entities does not appear to have been taken into consideration in setting the term of copyright.

Policy Options On the basis of my research I wish to place before you two alternative policy options: one modest, and based on a pessimistic view of how end-users will fare in the copyright revision process; and the other, a more comprehensive and optimistic proposal.

#### I. No Copyright/Common Law Protection

This is a 'least worst' option that seeks to prevent the public policy process from exacerbating negative tendencies

within the news/database industry and hindering the freest possible dissemination of information vital to politico-economic processes. The new Canadian Copyright Act should explicitly exclude ephemeral-value information, defined on the basis of frequency of updating or a similar criterion, from the subject matter of copyright. Any property rights disputes arising in this area can be dealt with under the existing common law remedies developed in the Exchange Telegraph cases.<sup>2</sup>

Exclusion of ephemeral-value information products from the ambit of copyright protection is not completely novel even in the current context of computer-based information storage and retrieval systems. The 1976 US Copyright Act and the legislative material accompanying it may be read as excluding ephemeral-value information in computer-based information storage and retrieval systems from the general provisions creating copyright in computer databases, and leaving their protection to the common law.<sup>3</sup>

## II. Copyright/Fair Use

What is proposed here is that information in computer-based information storage and retrieval systems be brought within the purview of the Copyright Act as recommended by the White Paper, with several additional provisions inserted to eliminate the

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<sup>2</sup> [1896] 1 Q.B. 147; [1897] 2 Ch. 48; [1906] 22 T.L.R. 375.

<sup>3</sup> U.S.C. 1982 Edition, vol. 7 (Title 17), sec. 301 (p. 73).

detrimental effects discussed above. The proposed fair use exemption should be revised to give primacy to the distinction between commercial and non-commercial use. Change of a general exemption such as fair use would affect the entire Act, but, in my opinion, the effect will only be for the better.

It will also be necessary to introduce a clause reiterating the crucial distinction between expression and ideas/facts and establishing a different standard of fair use in relation to factual works so that a greater degree of commercial taking of facts may be allowed. The special characteristics of computer-based information storage and retrieval systems should be recognized by specifically providing that manipulation of information by end-users for non-commercial purposes is a non-infringing act.

The possibility of utilizing a statutory framework for limiting negotiating-power asymmetries in monopolistically competitive markets such as those found in the database sector is the strongest reason for proposing that information in computer-based information storage and retrieval systems be brought within the ambit of copyright law. The copyright/fair use option is pro-active unlike the previous proposal. It is an attempt to utilize the opportunity offered by the copyright revision to establish a property rights regime that is better than what exists at present.

In conclusion, I would like to state that my proposals should not be construed as anti-producer or as anti-private property rights. The position I adopt on the question of retransmission which formed part of my original brief should make that clear. My proposals reflect my research finding that the simple creation of private property rights in information does not guarantee that the interests of all groups and society in general will be served impartially and efficiently. The White Paper proposals are harmful to the interests of individual end-users, smaller competitors, and society in general. What I have attempted to do is to formulate better proposals drawing on the rich resources of copyright law and the common law. I have with me chapter drafts from my dissertation which contain the detailed findings and arguments on which I have based my submission which I can make available to the committee and the research staff if necessary. I thank you for this opportunity to participate in the copyright revision process.

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