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A New Economics of Trademarks

David W. Barnes



A NEW ECONOMICS OF TRADEMARKS

By David W. Barnes *

I. INTRODUCTION

¶1 According to conventional wisdom, trademark law has no theoretical or practical connection to copyright and patent law. It is associated with wasteful spending on advertising and with trade and competition rather than with music, literature, art, or clever new inventions. Its purposes seem largely economic and market-oriented.¹ Trademark law is not designed to elevate discourse or disseminate knowledge the way copyright law does or lead to life enhancing innovation, as patent law does. Trademarks do not enrich the public domain, that collection of useful ideas and uses of ideas that are the basic tools for promoting progress in science and the useful arts. Trademark law is the poor relation of the intellectual property world, not really “intellectual” at all.

¶2 Unlike trademark, copyright and patent have an intellectual foundation in public goods theory. In these two areas of law, public goods theory is used to justify

* Seton Hall University Distinguished Research Professor of Law. The author would like to thank Professors Michael Abramowicz, Barton Beebe, Gaia Bernstein, Graeme Dinwoodie, Brett Frischmann, Glynn Lunney, Richard Murphy, Frank Pasquale, Jon Romberg, and Roger Schechter as well as his Trademark Theory seminarians for helping clarify his thinking on these issues. He wishes to express special appreciate to Charlie Sullivan for his careful reading and inquiring mind.

¹ According to conventional theory, when mark holders invest in trademarks, they create goodwill that leads to greater profits from sales of their goods and services. Mark holders invest in trademarks through maintaining consistent quality and characteristics of their products and services and advertising that informs consumers about their products’ qualities or, at least, informs consumers about their products’ availability. Consumers benefit because they can rely on familiar marks to locate satisfactory goods and services. Competition is enhanced because new entrants to a market can also invest in trademarks that will attract new customers to the qualities and characteristics of their own goods. Competition lowers prices. Everyone benefits. Investing in and protecting the signals conveyed by trademarks benefits suppliers and consumers. See generally Nicholas S. Economides, *The Economics of Trademarks*, 78 TRADEMARK REP. 523 (1988). See also WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 167-68 (2003) [hereinafter LANDES & POSNER, ECONOMIC STRUCTURE]; William M. Landes & Richard A. Posner, *The Economics of Trademark Law*, 78 TRADEMARK REP. 267, 276-77 (1988) [hereinafter Landes & Posner, *Economics of Trademark*]; William M. Landes & Richard A. Posner, *Trademark Law: An Economic Perspective*, 30 J.L. & ECON. 265, 268-70 (1987) [hereinafter Landes & Posner, *Economic Perspective*]. Because exclusive rights in trademarks support investing in trademarks and in reputation, trademark rights create incentives for manufacturers to develop high quality goods. See Dan L. Burk, *Trademark Doctrines for Global Electronic Commerce*, 49 S.C. L. REV. 695, 696 (1998) (asserting that trademark protection enhances the quality of goods and services); Laura A. Heymann, *The Birth of the Authormym: Authorship, Pseudonymity, and Trademark Law*, 80 NOTRE DAME L. REV. 1377, 1414 (2005) (“The law grants protection to trademarks to ensure the reliability of these source indicators and, relatedly, to encourage companies to produce goods of consistent quality under a particular mark.”); Hannibal Travis, *The Battle for Mindshare: The Emerging Consensus That the First Amendment Protects Corporate Criticism and Parody on the Internet*, 10 VA. J.L. & TECH. 3, 106 (2005) (asserting that trademark protection assures ability to exploit investment in consistently high product quality).

government intervention in the market.² Although the intervention may take a variety of forms,³ public goods theory is used in intellectual property theory to justify limited grants of legal monopolies. Public goods theory explains why unregulated markets fail to encourage sufficient creativity and disclosure of original works and novel, non-obvious innovations. Government intervention is thought to increase the quantity of information available for all to use, even though use of the information is restricted during the legal monopoly period.

By contrast, scholars consider trademarks to be private goods, despite the fact that trademarks contain information that the public is encouraged to use from the moment of their disclosure. Private goods are rivalrous. At any given time, only one person can directly benefit from using a particular toothbrush. Scholars typically assume without detailed analysis that trademarks have the characteristics of private goods.⁴ The implicit reasoning must be that, if anyone other than the mark owner simultaneously uses a particular trademark, this will interfere with the benefits the mark owner obtains from the

² Reference to public goods theory is most common in the legal literature discussing copyright issues. See generally Michael Abramowicz, *A Theory of Copyright's Derivative Right and Related Doctrines*, 90 MINN. L. REV. 317 (2005) [hereinafter Abramowicz, *Derivative Rights*]; David J. Brennan, *Fair Price and Public Goods: A Theory of Value Applied to Retransmission*, 22 INT'L REV. L. & ECON. 347, 351-355 (2002); Dan L. Burk, *Muddy Rules for Cyberspace*, 21 CARDOZO L. REV. 121 (1999); John Cirace, *When Does Complete Copying of Copyrighted Works for Purposes Other than for Profit or Sale Constitute Fair Use? An Economic Analysis of the Sony Betamax and Williams & Wilkins Cases*, 28 ST. LOUIS U. L.J. 647 (1984); Peter Eckersley, *Virtual Markets for Virtual Goods: The Mirror Image of Digital Copyright?*, 18 HARV. J.L. & TECH. 85, 117-18, 139-41 (2004); Shubha Ghosh, *Copyright as Privatization: The Case of Model Codes*, 78 TUL. L. REV. 653, 657-63 (2004); Raymond Shih Ray Ku, *Consumers and Creative Destruction: Fair Use Beyond Market Failure*, 18 BERKELEY TECH. L.J. 539 (2003) [hereinafter Ku, *Consumers*]; Raymond Shih Ray Ku, *The Creative Destruction of Copyright: Napster and the New Economics of Digital Technology*, 69 U. CHI. L. REV. 263 (2002) [hereinafter Ku, *Creative Destruction*]; Glynn S. Lunney, Jr., *Fair Use and Market Failure: Sony Revisited*, 82 B.U. L. REV. 975 (2002) [hereinafter Lunney, *Fair Use*]; Christopher S. Yoo, *Copyright and Product Differentiation*, 79 N.Y.U. L. REV. 212 (2004). But see Alfred C. Yen, *The Legacy of Feist: Consequences of the Weak Connection Between Copyright and the Economics of Public Goods*, 52 OHIO ST. L.J. 1343 (1991) (arguing that copyright protection is not necessary for recoupment of costs for creation of compilations despite predictions of public goods theory).

For examples in patent law, see Michael Abramowicz, *Perfecting Patent Prizes*, 56 VAND. L. REV. 115 (2003) [hereinafter Abramowicz, *Perfecting*]; Brett M. Frischmann, *Innovation and Institutions: Rethinking the Economics of U.S. Science and Technology Policy*, 24 VT. L. REV. 347 (2000); Glynn S. Lunney, Jr., *Patent Law, the Federal Circuit, and the Supreme Court: A Quiet Revolution*, 11 S. CT. ECON. REV. 1 (2004); Craig Allen Nard, *Certainty, Fence Building, and the Useful Arts*, 74 IND. L.J. 759 (1999). But see Jonathan M. Barnett, *Private Protection of Patentable Goods*, 25 CARDOZO L. REV. 1251 (2004) (arguing that patentable subject matter does not suffer from non-excludability and that the incentives provided by patent law are not necessary as an incentive to inventive activity); Clarisa Long, *Patent Signals*, 69 U. CHI. L. REV. 625, 625-26 (2002) (calling the public goods foundation of patent law “the simple view of intellectual property rights”).

³ Speaking of the public goods foundations of copyright theory, Professor Ku identifies the justifications for government intervention as “the obvious public benefits of embodying works of authorship in a tangible medium and the need to protect against the copying that threatens the publication and distribution of works.” Ku, *Creative Destruction*, *supra* note 2, at 278. Speaking of patent law, Professor Nard suggests that the government might intervene to prevent the inefficiencies associated with the public goods character of ideas by producing the public good itself (e.g., by establishing government research agencies), by subsidizing the production of public goods (e.g., by funding others’ research), or by creating a market for the good by recognizing property rights in public goods (e.g., by creating patent monopolies). Nard, *supra* note 2, at 772.

⁴ See discussion *infra* Parts IV.A, IV.B.

owner's use of the mark and obscure the signals that enable consumers to reduce their costs of searching for satisfactory goods.

¶4 This article rejects the private goods characterization of trademarks relied upon by noted intellectual property scholars Professors Mark Lemley, Stephen Carter, and Dan Burk, and law and economics scholars such as Professor William Landes and Judge Richard Posner.⁵ It argues that the entire trademark literature has failed to appreciate the market failures associated with the supply of trademarks and the information they provide about products and sources of products.

¶5 Public goods are non-rivalrous. Once a public good is produced, many people can simultaneously consume it without interfering with the benefits of each other's consumption. Outdoors, everyone can simultaneously enjoy the benefits of breathing clean air. Economists suggest that all can simultaneously enjoy the benefits of pollution control devices, weather monitoring stations, and disease-eradication programs.⁶ By contrast, food, clothing, and fuel are rivalrous in their consumption.⁷ Consumption of food by one person diminishes the ability of others to consume that food. Information and ideas are public goods because they can be non-rivalrously consumed. All can simultaneously exploit an innovative idea or enjoy a creative expression without diminishing the quantity of information about how to produce useful products or how to express ideas that are available to others.

¶6 This article takes issue with the common assumptions that trademarks, unlike expressions and innovations, are private rather than public goods, that there is no market failure in the private provision of source-indicating devices, and that trademark law is fundamentally different from copyright and patent law. It argues that because trademark owners contribute to the store of information available for all people to use, their efforts are more similar to the efforts of authors and inventors than is generally recognized. Trademarks have non-rivalrous uses, primarily in the sense that many consumers may use them without interfering with one another's use. In these uses, trademarks have the characteristics of public goods.

¶7 Many people locate their morning coffee by searching for the STARBUCKS COFFEE⁸ logo. No consumer's use of that source-indicating device interferes with another consumer's use. Society benefits from a legal regime that ensures that only Starbucks U.S. Brands LLC uses this logo proprietarily, as a source indicator. Consumers would be confused by the simultaneous use of the STARBUCKS mark by two unrelated coffee shops on the same block. But society also benefits from unlimited referential use, to search for or refer to products from Starbucks U.S. Brands. The information contained in a



⁵ See discussion *infra* Parts IV.A, IV.B. The one notable scholarly exception to the general consensus that trademarks are private goods is an article by Glynn S. Lunney, Jr., *Trademark Monopolies*, 48 EMORY L.J. 367 (1999). In a superb article on the lack of economic foundation for the propertization of trademarks, he recognizes in passing that, without legal protection, trademarks are public goods. *Id.* Lunney fails to appreciate, however, that even with protection, some uses of trademarks have the non-rivalrous character of public goods. *Id.* at 462-63. The discussion of public goods theory was not central to Professor Lunney's analysis of trademark law.

⁶ See RICHARD CORNES & TODD SANDLER, *THE THEORY OF EXTERNALITIES, PUBLIC GOODS, AND CLUB GOODS* 8 (2d ed. 1996).

⁷ *Id.*

⁸ U.S. Trademark Registration No. 2180758 (filed Sept. 24, 1997).

trademark, like the information disclosed in a patent or revealed in a copyrighted expression, can be consumed non-rivalrously.

¶8 Public goods theory recognizes that there are few perfectly non-rivalrous goods.⁹ Impure public goods are congestible; simultaneous consumption by additional users interferes to some extent with the benefits others derive. Adding more drivers to a highway or swimmers in a pool diminishes the benefits existing users obtain. With enough simultaneous use, the highway or pool becomes congested. These are congestible public goods.

¶9 Simultaneous use of a trademark by consumers referring to a particular source of coffee is purely non-rivalrous and simultaneous use by competing coffee suppliers in the same geographic market is purely rivalrous. Trademark law permits unrestricted referential use. Infringement actions are directed at conflicting proprietary uses of a mark, source-indicating uses by competitors.

¶10 Dilution law is aimed at partially rivalrous uses. If one supplier of non-competing goods uses an identical mark in the same market, that use might not confuse consumers, but repeated use by others might diminish the distinctiveness of the mark and gradually interfere with the source-indicating power of the mark. Non-competing uses are partially rivalrous and gradually whittle away at the strength of a mark.¹⁰ Dilution actions are directed at congesting uses of marks. The new economic theory of trademarks presented in this article characterizes trademarks as impure public goods, with various uses that are rivalrous, non-rivalrous, or congesting.

¶11 Because trademarks have the non-rivalrous characteristic of public goods in some uses and at least partially rivalrous characteristics in other uses, an unregulated private market is unlikely to provide optimal incentives to produce trademarks. This market failure justifies considering whether government intervention is appropriate, just as the government intervenes in patent and copyright law to promote the progress of the science and useful arts.¹¹ Producers of source-indicating devices, expressions, and inventions all contribute to the public domain, that collection of resources or uses of resources from which no individual is entitled to exclude another.¹² The widely adopted search-cost

⁹ See John G. Head, *Public Goods and Public Policy*, in READINGS IN PUBLIC SECTOR ECONOMICS 176, 179 (Samuel H. Baker & Catherine S. Elliott eds., 1990).

¹⁰ Gerard N. Magliocca, *One and Inseparable: Dilution and Infringement in Trademark Law*, 85 MINN. L. REV. 949, 976 (2001) (“While a single junior use of a valuable resource (i.e., the persuasiveness of a distinctive mark) might well be innocuous, in the aggregate those uses could whittle away and destroy the resource unless they are adequately regulated.”).

¹¹ The United States Constitution, art. I, § 8, cl. 8, gives Congress power to provide copyright and patent protection “to promote the progress of science and the useful arts.”

¹² Courts and scholars use the term “public domain” in a variety of ways. Some scholars enumerate types of resources that fall into their definitions of the public domain (e.g., words, facts, information, ideas, laws). See, e.g., Pamela Samuelson, *Mapping the Digital Public Domain: Threats and Opportunities*, 66 LAW & CONTEMP. PROBS. 147 (2003). The Supreme Court also often takes this approach in copyright and patent cases, referring to such resources as “works,” see, e.g., *Metro-Goldwyn Mayer Studios Inc. v. Gorkster, Ltd.*, 545 U.S. 913, 125 S. Ct. 2764, 2771 (2005) (referring to copyrights); *TraFFix Devices, Inc. v. Mktg. Displays, Inc.*, 532 U.S. 23 (2001) (referring to patents), “knowledge,” see, e.g., *Eldred v. Ashcroft*, 537 U.S. 186, 234 (2003) (copyright); *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 65 (1998) (patent), or “ideas,” see, e.g., *Pfaff*, 525 U.S. at 64. These are easily seen as intangible resources, raw materials, or inputs to advance the progress of science and the useful arts.

Professor James Boyle describes another view, in which the public domain contains a “bundle of privileges,” an approach in which *uses* of ideas are in the public domain, and copyright is then the law of user’s rights. James Boyle, *The Second Enclosure Movement and the Construction of the Public Domain*,

theory of trademarks, notably articulated by Nicolas Economides¹³ and adopted by contemporary scholars¹⁴ and a few courts,¹⁵ focuses on how consumers use trademarks and it is sensible to consider those non-rivalrous uses in trademark theory.

¶12

Treating trademarks as purely private goods obscures the intellectual property foundations of trademarks and the fundamental commonalities shared by trademark, copyright, and patent. This article offers a general theory of trademark law closely aligned with the analysis of copyright and patent using public goods theory to explain how all three areas of intellectual property may be based on the same underlying economics. Rejecting the conclusion that trademarks are purely private goods clarifies the reasons for the creation and protection of trademark rights. It demonstrates a need for incentives to produce trademarks and the search-information they contain that current theory does not recognize and identifies market failures that trademark law does not address. Focusing on the public goods character of trademarks leads to an argument that exclusive rights to trademarks are enforced only to the extent necessary to protect the public uses of trademarks.

¶13

To appreciate the fundamental nature of trademarks, it is critical to understand how they are used. Scholars viewing trademarks as private goods and ignoring market failures associated with the supply of information about products and their sources presumably consider only the mark owner's proprietary interest, using the device as a mark. Part II describes other non-proprietary uses of trademarks by consumers, other suppliers, and commentators. It characterizes the most important of these uses as "referential uses."

66 LAW & CONTEMP. PROBS., Winter/Spring 2003, at 33, 60, 68, citing L. RAY PATTERSON & STANLEY W. LINDBERG, *THE NATURE OF COPYRIGHT: A LAW OF USERS' RIGHTS* (1991). See also Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U. L. REV. 354, 360 (1999) (stating that "information is 'in the public domain' to the extent that no person has a right to exclude anyone else from using the specified information in a particular way"); Jessica Litman, *The Public Domain*, 39 EMORY L.J. 965, 981 (1990) (citing use of the science in a science book and use of a table from a copyrighted text on bookkeeping as being assigned to the public domain.).

The Supreme Court has also adopted this "use" perspective. In *Parker v. Flook*, 437 U.S. 584 (1978), a patent case, the Court said that "[r]espondent . . . does not seek to 'wholly preempt the mathematical formula,' since there are uses of his formula outside the petrochemical and oil-refining industries that remain in the public domain." *Id.* at 589-90. In *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984), a copyright case, the Court said "[a]ll reproductions of the [copyrighted] work, however, are not within the exclusive domain of the copyright owner; some are in the public domain. Any individual may reproduce a copyrighted work for a 'fair use'; the copyright owner does not possess the exclusive right to such a use." *Id.* at 433.

These approaches focus on the public domain as either a collection of resources or of *uses of resources* over which no individual has exclusive dominion. This article focuses on how trademarks are used by different interests in society, notably, though not exclusively, by suppliers and consumers of goods. No individual has the right to prevent public domain uses. Because trademark law focuses so carefully on the "use" to which words, symbols, and other devices are put, this article includes the uses to which they are put in its definition of the public domain.

¹³ Economides, *supra* note 1.

¹⁴ See, e.g., Stacey L. Dogan & Mark A. Lemley, *Trademarks and Consumer Search Costs on the Internet*, 41 HOUS. L. REV. 777 (2004).

¹⁵ See, e.g., *Ty, Inc. v. Perryman*, 306 F.3d 509, 510 (7th Cir. 2002) ("The fundamental purpose of a trademark is to reduce consumer search costs by providing a concise and unequivocal identifier of the particular source of particular goods. The consumer who knows at a glance whose brand he is being asked to buy knows whom to hold responsible if the brand disappoints and whose product to buy in the future if the brand pleases."). See also *Brennan's, Inc. v. Brennan's Rest., L.L.C.*, 360 F.3d 125, 132 (2d Cir. 2004); *Union Nat'l Bank of Tex., Laredo, Tex. v. Union Nat'l Bank of Tex., Austin, Tex.*, 909 F.2d 839, 844 (5th Cir. 1990).

The dominant modern theory of trademark law, search cost theory, is based on the benefits of marks to consumers who refer to or search for products by recognizing suppliers' marks. Yet modern theories ignore the public goods character of referential uses. Part II also identifies customary uses of marks, which arise from the communicative value of marks as cultural symbols that transcend the marks' source-indicating function.

¶14 Analyzing trademarks as serving a referential and customary function reveals that these uses are non-rivalrous, giving them the characteristics of a public good. Part III explores the characteristics of public goods and the market failures associated with unregulated, free-market provision of public goods. After describing pure public goods in Part III.A, the article focuses on the market failures closely associated with public goods. The non-rivalry characteristic gives rise to a conflict between short-run, static efficiency and long run, dynamic efficiency that can be satisfied only through compromise, a second best solution to the problem of providing public goods. As Part III.B indicates, this dilemma is recognized in intellectual property law generally, but has never been applied to the analysis of trademark law.¹⁶ Part III.C discusses the difficulty in excluding users from exploiting many types of intellectual property once they have been disclosed. This non-excludability characteristic, which also applies to some private goods, gives rise to its own set of market failures, an underprovision of goods due to the inability of suppliers to recoup their expenses and an inability to determine the optimal level of supply due to an inability to determine users' demand for the good. Part III.D illustrates these market failures in the context of copyright and patent law.

¶15 Because trademarks have rivalrous and non-rivalrous uses, they are more appropriately classified as impure public goods. As Part III.E explains, impure public goods come in a variety of forms. Trademarks have two relevant properties. First, they simultaneously have rivalrous proprietary uses and non-rivalrous referential and customary uses. Second, while some proprietary uses are rivalrous and immediately diminish the referential utility of a mark, others, such as source-indicating uses by non-competitors, only gradually "whittle away" at the communicative meaning of a mark. These latter proprietary uses are characterized as congestible, partially rivalrous, rather than either purely rivalrous or purely non-rivalrous. Part III.F discusses the market failure associated with impure public goods and several considerations that reduce the practical significance of some of the market failures identified earlier in this section.

¶16 Part IV discusses modern theories of trademark and illustrates how they have failed to appreciate either the public goods character of trademarks or the market failures associated with them. Modern search cost theory is represented by the works of three authors: Professor William Landes and Judge Richard Posner, who offer a competition and firm-oriented model of the benefits of trademarks, and Professor Mark Lemley, a widely respected and widely published intellectual property scholar, who represents the mainstream search cost theory. Part IV.A, focusing on Landes and Posner, explains how and why they ignore the problem of determining and supplying the optimal quantity of search-information. Part IV.B, focusing on Lemley and other scholars who follow the

¹⁶ Lunney, *supra* note 5, at 420-39, discusses the problem of designing trademark law under the "second best" circumstances presented by the fact that markets for trademarked products are not perfectly competitive. These circumstances are unrelated to the difficulties presented by the public goods character of trademarks, which would exist even if markets were perfectly competitive.

mainstream approach, describes the most common error in that approach, which is to recognize only the non-excludability characteristics of trademarks and ignore the non-rivalry characteristic.

¶17 Part V illustrates the inability of an unregulated market to meet the demand for search information through trademarking activity. In Part V.A, the article discusses the economic implications of the non-rivalrous character of referential uses of trademarks and the deadweight losses created by passing on the cost of trademarking behavior to consumers. Part V.B assesses the demand revelation problem associated with non-excludability of intellectual property and its implication for the supply of intellectual property in general and trademarks in particular. Part V.C describes how the market failures associated with the supply of trademarks lead to a sub-optimal supply of search information.

¶18 This article concludes with a summary of what this new economic model of trademarks adds to current theory. In particular, public goods theory creates a more accurate picture of the market failures associated with the unregulated, competitive supply of trademarks. This reveals ways in which trademark law ameliorates some of those problems and fails to address others.

II. USES OF TRADEMARKS

¶19 Devices used as trademarks, such as words, symbols, or shapes, may be used in three ways. First, the device may have a customary use, with a recognized communicative meaning unrelated to the source of any goods. “Ice cream” refers to a cooling summer treat without regard to who supplies it. Second, a person may use a device proprietarily to indicate that it is the source of goods to which that device is affixed. Joico Laboratories, Inc. registered the ICE CREAM mark¹⁷ for a proprietary use, to indicate that it is the source of nail polish bearing that mark. Third, consumers, competitors, and others use the mark to refer to the products from that source or to distinguish that product from others. A consumer may search for Joico’s brand of nail polish by looking for or asking for ICE CREAM at the cosmetics counter. A competitor may compare its polish to Joico’s by claiming that its polish is twice as long-lasting as Joico’s ICE CREAM brand nail polish. Or an artist may mock Joico’s product by including the ICE CREAM mark in a parodic commentary on the fashion world. Each is using the mark to refer to Joico or to Joico’s products. These are referential uses as opposed to Joico’s own proprietary use. All uses of source-indicating devices may be classified as either customary, referential, or proprietary.

¶20 A source of goods or services engages in “trademarking” behavior by creating a link between a device and a product or service. Trademarking behavior simultaneously enables proprietary and referential uses. This process is understood as “using a mark in commerce,” a pre-requisite for registration¹⁸ and protection¹⁹ of a mark. Creating this

¹⁷ U.S. Trademark Registration No. 1491822 (filed Apr. 10, 1987).

¹⁸ See 15 U.S.C. § 1051 (2000 & Supp. 2005) (setting forth requirements for registration).

¹⁹ See 15 U.S.C. § 1114 (2000 & Supp. 2005) (recognizing a cause of action for infringement of a registered mark); 15 U.S.C. § 1115 (2000 & Supp. 2005) (recognizing registration as prima facie evidence of the validity of a mark and exclusive right to use the mark); 15 U.S.C. § 1125(a)(1) (2000 & Supp. 2005) (recognizing a cause of action for infringement of unregistered marks that have been used in commerce).

link simultaneously produces a resource of value to its creator in its own proprietary use and to others in their referential use. By investing in the link between the swoosh symbol²⁰ and its sports products, Nike Inc. creates goodwill for its product that enhances the symbol's proprietary value and referential utility.

¶21 Occasionally, investment in the device/product link creates a customary use as well, a use that transcends the link. Producing the luxury association between the CADILLAC mark²¹ and automobiles, General Motors Corporation has also created a linguistic device that communicates luxury in general. A barbeque grill incorporating every possible feature and built to last for years might be described as the "Cadillac" of grills even though it is clear that the grill was not produced by General Motors. Both referential and customary uses of the meaning created by trademark owners are parts of the store of resources potentially available to society, just as the modes of expression underlying copyrighted works and the ideas underlying patented innovations are potentially available to society. Trademark law protects contributions to this store of resources by permitting unrestricted referential and customary use.

¶22 If the trademark owner's interest in protecting its investment in goodwill were the primary concern of trademark law, a trademark theory based on notions of private property might be more appropriate than a theory based on protecting public uses. This article argues that trademark law gives primacy to referential and customary uses over proprietary uses.²² The infringement action is most obviously directed at preserving the utility of referential uses. Mark owners prevail in trademark infringement cases only upon proof that consumers are likely to be confused.²³ In the terms introduced in this article, owners prevail only if the referential utility of their source-indicating device to consumers is affected by the alleged infringers' uses. Under this legal theory, there is no recovery simply because another uses the mark proprietarily.

¶23 Similarly, the dilution action is directed at protecting referential uses where multiple users of a device obscure the signal conveyed by the mark owner's proprietary use of the mark. The supplier of a novelty item consisting of a gavel and a target surface with a coin embedded in that surface²⁴ might decide to use the mark QUARTER POUNDERS in connection with sales of its product. That may diminish the referential utility of McDonald's QUARTER POUNDER mark because people will have to look more carefully at the context in which the mark is used to understand which source it indicates.²⁵ To protect the public domain, which in this case is the stock of referential meanings of marks, and to encourage investment in trademarking activity, trademark law protects the referential device/product link.

¶24 Public access to trademarks is greater than public access to copyrighted expressions and patented innovations during their terms of protection. In the conflict with the exclusive proprietary uses, trademark law accords greater deference to customary and referential uses by providing only very limited protection to terms that become generic,²⁶

²⁰ U.S. Trademark Registration No. 2164810 (filed Oct. 11, 1994).

²¹ U.S. Trademark Registration No. 0201694 (filed June 27, 1924).

²² See discussion *infra* Part II.

²³ The Lanham Act requires "likelihood of confusion" as an element of a mark owner's infringement action. 15 U.S.C. §§ 1114, 1125 (2000 & Supp. 2005).

²⁴ U.S. Intent to Use Application Serial No. 78584715 (filed Mar. 10, 2005).

²⁵ U.S. Trademark Registration No. 1017498 (filed Nov. 23, 1973).

²⁶ Trademark law provides only limited protection for terms that become generic. While generic terms

freely allowing consumers to use marks to refer to the supplier or its goods, and even permitting competitors to use others' marks to describe their own or the mark owner's goods.²⁷ In contrast, consumers have access to copyrighted and patented works during the period of legal monopoly²⁸ only by paying for the privilege. Exceptions to the exclusivity of copyright are available only through the fair use provisions of the Copyright Act,²⁹ which focuses on non-interference with the authors' profit-making opportunities.³⁰ Exceptions to the exclusivity of patent are meager indeed. The Patent Act generally permits use of patented innovations without payment only for "philosophical experiments."³¹ In patent and copyright law, neither consumers nor competitors have unfettered access to the resource. Because of the extent and importance of unfettered customary and reference public use of marks, a public use perspective on trademark law is particularly appealing.

¶25

Referential users of trademarks benefit from two related types of information disclosed by the mark. The first is information about the source. A mark might tell consumers who supplied the goods, as the NIKE mark³² tells a buyer that the Nike, Inc. corporation is responsible for the supply of products bearing that mark. A mark such as FRAPPUCCINO³³ might obscure the corporate name of the supplier (Starbucks U.S. Brands, LLC) but still inform consumers that all products bearing that mark come from the same supplier, even if the corporate identity of the source is unknown. Either way, consistent use of the mark lowers consumers' costs of selecting goods by referring to their memory of a prior experience with that brand or by another consumer's reference to

cannot be registered, *see* Lanham Act § 2, 15 U.S.C. § 1052 (2000 & Supp. 2005) (requiring that marks be capable of distinguishing the goods of the applicant from the goods of others), and marks that have become generic terms lose their trademark status, *see* Donald F. Duncan, Inc. v. Royal Tops Mfg. Co., 343 F.2d 655, 667 (7th Cir. 1965) (collecting cases of marks that have lost their trademark status due to genericide), competitors may not use even unprotectible terms in a way that causes confusion between themselves and the original mark owner. *See* Kellogg Co. v. National Biscuit Co., 305 U.S. 111, 119 (1938) (holding that, while the original manufacturer of shredded wheat had no exclusive right to use the term in labeling it breakfast cereal, competitors had an obligation when using the term "to identify its own product lest it be mistaken for that of the plaintiff"). *See also* American Thermos Prods. Co. v. Aladdin Indus., Inc., 207 F. Supp. 9, 14-15 (D. Conn. 1962), *aff'd sub nom.* King-Seeley Thermos Co. v. Aladdin Indus., Inc., 321 F.2d 577, 581 (2d Cir. 1963) (holding that "thermos" was generic and could legally be used by defendant with only modest restrictions designed to prevent confusion).

²⁷ Lanham Act § 33(b)(4), 15 U.S.C. § 1115(b)(4) (2000 & Supp. 2005) (permitting use "otherwise than as a mark" of terms used descriptively and in good faith).

²⁸ *See* Copyright Revision Act of 1976, 17 U.S.C. § 302(a) (2000) (creating a general rule that the term of copyright is limited to the life of the author plus 70 years from his or her death); Patent Act § 532(a)(2), 35 U.S.C. § 154(a)(2) (2000) (creating a general rule that the term of a patent ends 20 years from the date on which the application for the patent was filed in the United States).

²⁹ 17 U.S.C. § 107 (2000) (listing four factors to be considered when determining whether an otherwise infringing use was considered a non-infringing fair use).

³⁰ *See* Harper & Row, Publishers, Inc. v. Nation Enters., 471 U.S. 539, 566 (1985) (stating that the effect on the market was "undoubtedly the single most important element of fair use").

³¹ *See* Poppenhusen v. Falke, 19 F. Cas. 1048, 1049 (S.D.N.Y. 1861) (stating that the law was "well settled . . . that an experiment with a patented article for the sole purpose of gratifying a philosophical taste, or curiosity, or for mere amusement, is not an infringement of the rights of the patentee"). The Patent Act has since been amended to include an additional narrow exception for uses related to development and submission of information under a federal law regulating the manufacture, use, or sale of drugs or veterinary biological products, 35 U.S.C. § 271(e) (2000).

³² U.S. Trademark Registration No. 0978952 (filed Jan. 31, 1972).

³³ U.S. Trademark Registration No. 2149732 (filed May 28, 1996).

their experience with the brand. Either method of recalling or identifying a desired good is a referential use of the mark.

¶26

A second sort of information a mark may contain is information about the characteristics and qualities of the product itself. This may also occur in two ways. First, as with the source-indicating information, a suggestive or descriptive mark itself may disclose information about the product, even if it hides the actual source. MR



the Speedy Burrito³⁵ mark, even in a drawing, might be a direct description of a



characteristic of the restaurant using it in connection with fast food. Second, experience with a source or a particular mark, even if the mark is arbitrary or fanciful, may convey information. Consumers may find all cereals marked with the Quakers Oats Company mark³⁶ too sweet or all automobiles labeled



with the Mercedes mark³⁷ too expensive. Like source information, product information disclosed by the mark, whether directly or indirectly, whether desired by the mark owner or not, comes through referential use.

¶27

Finally, either source or product information may be associated with a mark through advertising. Advertising tacks additional information onto marks. This information is luggage that the mark carries on its travels along the stream of commerce. GM's "CADILLAC" means "luxury" not just because of people's experiences with the car or because of any pre-trademark use of the term, but because GM constantly tells consumers that "CADILLAC" means "luxury." The search information loaded onto the mark by all of these routes increases the utility of the mark, providing, of course, the information is accurate.

¶28

The richness and quality of the stock of marks available for referential use is contingent, however, on the success of mark owners in creating a strong device/product link. Because the value of the referential use is related to the strength of the proprietary, source-indicating use, the law's protection of referential uses usually protects the selling value of the mark as well. Trademark laws designed to protect referential uses also protect exclusive proprietary uses, making it appear that trademark law is designed primarily to protect the goodwill of suppliers. If this were true, however, violation would not rest on proof of a detrimental impact on the referential uses of marks.

¶29

This public use perspective on trademarks suggests a different orientation towards trademark law. Rather than focusing on marks as a means for competing in a market, the public use perspective identifies consumers, competitors, and others as the users of trademarks. Copyright and patent theory explicitly recognizes that the law's grants of limited monopolies are for the purpose of eventual enrichment of the public domain. Investment in trademarks immediately enriches the public domain by providing resources available for referential use. Trademark law implicitly recognizes this by protecting the

³⁴ U.S. Trademark Registration No. 1065021 (filed Sept. 20, 1976). This mark was registered by the General Motors Corporation for use in connection with the servicing and repair of automobiles. *Id.*

³⁵ U.S. Trademark Registration No. 2161955 (filed May 15, 1997) (now cancelled).

³⁶ U.S. Trademark Registration No. 0526830 (filed June 11, 1948).

³⁷ U.S. Trademark Registration No. 0285557 (filed Aug. 16, 1929).

communicative meaning of devices used as trademarks in their customary and referential uses through infringement and dilution actions.

¶30 If public goods theory and the focus on non-rivalrous referential uses is to resonate at all with scholars and policy makers, there must be some connection between referential uses and current trademark doctrine. From a public goods perspective, the two principal claims arising under the Lanham Act are directed towards protecting referential uses and protecting private rights only to the extent necessary to do so.³⁸ This is not surprising for infringement claims. That dilution law focuses on protecting referential use is a somewhat remarkable claim because that theory is often viewed as protecting only the private, proprietary rights in marks, even to the extent of creating “property rights” in those marks.

¶31 It is generally accepted that infringement actions protect both the goodwill of mark owners and competition by preventing confusion. The Lanham Act grants exclusive trademark rights to “secure to the owner of the mark the goodwill of his business and to protect the ability of consumers to distinguish among competing producers.”³⁹ It is misleading, however, to think that the structure of trademark law is directed towards protecting private interests.

¶32 Consumers’ ability to rely on the referential meaning of marks reduces consumers’ cost of seeking information about goods, including not just reading labels, advertising, and literature, but acquiring experience by buying and rejecting unsuitable goods. Allowing others’ proprietary use of an owner’s mark may confuse consumers about the source, obscuring information about the goods and raising search costs.⁴⁰ Thus, an action for trademark infringement by a mark owner requires proof that use by the other is likely to cause confusion as to the source of the goods.⁴¹ Proof of infringement does not require any evidence showing that the goodwill of the owner has or is likely to be affected. It depends only on whether the referential meaning of the mark is obscured. The likelihood of confusion is determined by reference to factors that describe the effect of the alleged infringer’s use on referential use,⁴² on how consumers are likely

³⁸ Other trademark doctrines, such as the ones prohibiting registration of generic marks, are addressed to protecting customary uses of marks. 15 U.S.C. § 1052 (2000 & Supp. 2005) (requiring registration only of marks “by which the goods of the applicant may be distinguished from the goods of others”). Explaining the entire structure of trademark law through the lens of public goods theory will necessarily be reserved for another article.

³⁹ *Park ‘N Fly, Inc. v. Dollar Park and Fly, Inc.*, 469 U.S. 189, 198 (1985).

⁴⁰ *Virgin Enters. Ltd. v. Nawab*, 335 F.3d 141, 147 (2d Cir. 2003) (“The purpose for which the trademark law accords merchants the exclusive right to the use of a name or symbol in their area or commerce is *identification*, so that the merchants can establish goodwill for their goods based on past satisfactory performance, and the consuming public can rely on a mark as a guarantee that the goods or services so marked come from the merchant who has been found to be satisfactory in the past.”)

⁴¹ *Two Pesos, Inc. v. Taco Cabana, Inc.*, 505 U.S. 763, 769 (1992) (“It is, of course, also undisputed that liability under § 43(a) requires proof of the likelihood of confusion.”). Proof of likelihood of confusion is required for federal claims involving registered marks and other source-indicating devices. 15 U.S.C. §§ 1114, 1125(a) (2000).

⁴² Each of the federal courts of appeals has adopted its own flexible list of factors, but there is a great deal of similarity among them. Combining the general sense of each list, there are seven factors: (1) similarity of marks; (2) similarity of goods and service; (3) extent of applicant’s exclusive rights/strength of mark; (4) conditions under which sales are made/classes, nature of advertising-sophistication of prospective purchasers/price/similarity of trade channels or customers; (5) actual confusion/time and conditions of concurrent use without actual confusion; (6) intent/good faith; and (7) likelihood the plaintiff will bridge the gap. *See Ty, Inc. v. Jones Group, Inc.*, 237 F.3d 891, 897-98 (7th Cir. 2001); *King of the Mountain*

to perceive marks in their commercial context, without specific regard to the mark owner's proprietary rights.

¶33 On the surface, the dilution theory seems most directly aimed at protecting private interests without concern for referential uses or the public domain.⁴³ It protects mark owners from others' use of similar marks outside of its market. Infringement and passing off require proof of consumer confusion to demonstrate that an alleged infringer's use interferes with the referential use of the mark. Dilution theory requires neither proof of confusion nor competition between the parties.

¶34 From its origins, however, the theory of dilution has always treated trademarks as goods that are congestible outside of their own markets. The logic of dilution is that successive proprietary use by increasing numbers will "whittle away" at the value of the mark.⁴⁴ This is the hallmark of a congestible public good.⁴⁵

¶35 If General Motors has successfully associated CADILLAC with "luxury," then the referential and customary significance of the term includes the meaning "luxurious."

Sports, Inc. v. Chrysler Corp., 185 F.3d 1084, 1089-90 (10th Cir. 1999); Frehling Enters., Inc. v. Int'l Select Group, Inc., 192 F.3d 1330, 1335 (11th Cir. 1999); Elvis Presley Enters. v. Capece, 141 F.3d 188, 194 (5th Cir. 1998); Shakespeare Co. v. Silstar Corp. of America, Inc., 110 F.3d 234, 241-42 (4th Cir. 1997); Volkswagenwerk Aktiengesellschaft v. Wheeler, 814 F.2d 812, 817-19 (1st Cir. 1987); Co-Rect Prods., Inc. v. Marvy! Adver. Photography, Inc., 780 F.2d 1324, 1330 (8th Cir. 1985); Interpace Corp. v. Lapp, Inc., 721 F.2d 460, 462-63 (3d Cir. 1983); Frisch's Rests., Inc. v. Elby's Big Boy of Steubenville, Inc., 670 F.2d 642, 648 (6th Cir. 1982); AMF Inc. v. Sleekcraft Boats, 599 F.2d 341, 348-49 (9th Cir. 1979); Polaroid Corp. v. Polarad Elecs. Corp., 287 F.2d 492, 495 (2d Cir. 1961). All reflect the likelihood that the defendant's use will obscure the source-indicating information provided by the plaintiff's mark. Courts give conflicting justifications for including consideration of the likelihood the plaintiff will bridge the gap between its product market and the defendant's (Factor 7) in their analysis of likelihood of confusion. Some articulate a concern for the mark owner's goodwill alone. *See, e.g.,* Interpace Corp. v. Lapp, Inc., 721 F.2d 460, 464 (3d Cir. 1983) (citing 2 J.T. MCCARTHY, TRADEMARKS AND UNFAIR COMPETITION § 24:5) (1973). Others focus more clearly on the consumer's interest and ask whether consumers are likely to assume, correctly or not, that a mark owner has diversified into a related line of products and believe that the plaintiff and the alleged infringer are related companies. *See* Lambda Elecs. Corp. v. Lambda Tech., Inc., 515 F. Supp. 915, 926 (S.D.N.Y. 1981). Some circuits that do not include Factor 7 consider the likelihood of expansion to be covered adequately by Factor 2, the relatedness of the parties' goods or services. *See, e.g.,* Planetary Motion, Inc. v. Techsplosion, Inc. 261 F.3d 1188, 1201 (11th Cir. 2001). In these latter cases the focus is on the likelihood of confusion and protection of the referential public domain rather than mark owners' proprietary interests. The Restatement (Third) of Unfair Competition also takes a referential use rather than a proprietary use perspective on Factor 7. *See* RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 21(e), cmt. j (1995). This second approach seems more appropriate from a public domain perspective because it focuses on protecting the quality of the referential public domain.

⁴³ The Lanham Act is designed to prevent "the lessening of the capacity of a famous mark to identify and distinguish goods or services." 15 U.S.C. § 1127 (emphasis added). Frank Schechter, an early proponent of the dilution theory, asserted that "the vast expenditure in advertising" associated with making a mark famous justified the mark's protection from noncompeting uses. *See* Karyn K. Ablin & Anil Koshy, *A Matter of Opinion: Deciphering Dilution Under the Federal Trademark Dilution Act*, 20 MISS. C.L. REV. 61, 67 (1999) (quoting Frank I. Schechter, *The Rational Basis of Trademark Protection*, 40 HARV. L. REV. 813, 831-32 (1927)). The legislative history of the Lanham Act dilution provisions also reflects this concern: "The concept of dilution recognizes the substantial investment the owner has made in the mark and the commercial value and aura of the mark itself, protecting both from those who would appropriate the mark for their own gain." H.R. REP. NO. 104-374, at 3 (1995) (quoting report prepared by Congressman Morehead, Chair of the Committee on the Judiciary). Even the Supreme Court agrees that "[u]nlike traditional infringement law, the prohibitions against trademark dilution . . . are not motivated by an interest in protecting consumers." *Mosely v. V Secret Catalogue, Inc.*, 537 U.S. 418, 428 (2003).

⁴⁴ *See* *Ringling Bros.—Barnum & Bailey Combined Shows, Inc. v. Utah Div. of Tourist Dev.*, 170 F.3d 449, 456 (4th Cir. 1999).

⁴⁵ *See supra* text accompanying notes 11-12. For further elaboration on this concept, see Part III.E, *infra*.

The theory of dilution suggests that a low quality dog food supplier's proprietary use of CADILLAC would change the purity of the association of CADILLAC with luxury, even if consumers know the dog food seller is unrelated to GM. Even use by a premium dog food seller might do so because dog food may generally be a less glamorous product than an automobile. Even use in connection with an equally glamorous product, such as jewelry, might dilute the meaning, in the sense that consumers would have to consider context before understanding whether to make a "luxury" association and whether to make a "General Motors" association. The more such non-competing proprietary uses occur, the more carefully consumers would have to consider context. The term's referential utility will have been diminished. GM would have to be more careful to establish the context of its use since the selling power of the mark will have been diminished. Exxon/Mobil Corporation's ads promoting EXXON's purported association with a cleaner environment without mentioning its product might no longer redound to its corporate image if an unrelated seller of shoes used the EXXON mark.⁴⁶ The referential meaning of the mark would have been diminished despite the lack of competition or confusion about the source of a particular product.

¶36 While theorists generally assume that dilution theory is focused on protecting goodwill, considering trademarks as congestible public goods suggests that the focus of dilution theory is on protecting referential uses. It should not be surprising that, when determining the likelihood of dilution, courts apply a list of factors reflecting consumers' impressions of the defendant's mark virtually identical to the likelihood of confusion factors.⁴⁷

¶37 From its conception, dilution could have been understood as protecting the public domain from referential uses. Schechter's focus was on arbitrary marks that had "added to rather than withdrawn from the human vocabulary,"⁴⁸ marks that enrich the public domain. His theory was that laws protecting against dilution would only apply to such marks: words that have "been associated in the public mind with a particular product" and "have created in the public consciousness an impression or symbol of the excellence of the particular product in question."⁴⁹ If consumer perceptions are relevant and the focus is on the diminished device/product association in the public mind, the boundaries of dilution protection might be set by considering the effect of a non-competitor's proprietary use on the customary and referential meanings of the device.

¶38 Proprietary use of trademarks by others who compete in the same geographic and product market are rivalrous, but proprietary use by others whose use is unlikely to cause source confusion is only potentially congestible. Infringement actions are designed to address those rivalrous simultaneous uses. Dilution focuses on non-confusing uses that might diminish the referential utility of a mark in other ways. From a congestible public goods perspective, the task of dilution law is to determine which trademarks are susceptible to congestion and which other uses cause congestion. Only by understanding

⁴⁶ U.S. Trademark Registration No. 0902044 (filed Nov. 30, 1970).

⁴⁷ *Nabisco, Inc., v. PF Brands, Inc.*, 191 F.3d 208, 217-22 (2d Cir. 1999) (deriving its list of dilution factors from the circuit's own list of likelihood of confusion factors).

⁴⁸ *Moseley*, 537 U.S. at 429 (quoting Frank Schechter, *Rational Basis of Trademark Protection*, 40 HARV. L. REV. 813, 829 (1927)).

⁴⁹ *Id.* at 439 n.10. See generally Sara Stadler Nelson, *The Wages of Ubiquity in Trademark Law*, 88 IOWA L. REV. 731 (2003) (emphasizing Schechter's focus on protecting only unique marks).

the public goods nature of trademarks can we properly establish the boundaries of permissible uses of marks.

III. PUBLIC GOODS THEORY AND MARKET FAILURES

¶39 This article argues that trademarks are a species of public good, in particular, mixed public goods. Proprietary uses of marks are in some cases rivalrous and in others congestible. Referential uses are non-rivalrous with one another and with proprietary uses. Considering trademarks as purely private goods is an oversimplification. This part lays the economic foundation for appreciating the market failures associated with the provision of trademarks. From a public goods perspective, the market failures associated with trademarks are identical in kind, if not degree, to the market failures associated with patent and copyright law.

¶40 Public goods theory demonstrates that the market failure justifying government intervention in the regulation of trademarks is the same as the justification for regulating copyrights and patents. For all three substantive areas, there exists both the defining non-rivalry characteristic of public goods and non-excludability. Both non-rivalry and non-excludability interfere with market's provision of an optimal supply of creative work. This part focuses on the nature of public goods and the market failures associated with them. The characterization of trademarks as public goods is distinctly contrary to contemporary wisdom.

A. *Non-Rivalry and Pure Public Goods.*

¶41 The defining distinction between public and private goods is non-rivalry. Professor Paul Samuelson introduced the concept of public goods to economic theory in the United States.⁵⁰ Public goods are non-rivalrous in nature: "The first and most obvious implication . . . is that Samuelson's public good is in joint supply, in the special sense that, once produced, any given unit of the good can be made equally available to all. Extension of the supply to one individual facilitates its extension to all."⁵¹ In their referential uses, trademarks fit squarely within this definition. Once a supplier adopts a mark to use proprietarily and uses it in commerce, that mark is equally available to all to use referentially. The creation of a device/product link by a supplier through use in commerce facilitates its use by all. This is equally true of disclosure of ideas for patented inventions and ways to express ideas, which is why expressive works and useful innovations have traditionally been considered public goods.⁵²

⁵⁰ Paul A. Samuelson, *The Pure Theory of Public Expenditure*, 36 REV. ECON. & STATISTICS 387 (1954) [hereinafter Samuelson, *Pure Theory*]; Paul A. Samuelson, *Diagrammatic Exposition of a Theory of Public Expenditure*, 37 REV. ECON. & STATISTICS 350 (1955); Paul A. Samuelson, *Aspects of Public Expenditure Theories*, 40 REV. ECON. & STATISTICS 332 (1958).

⁵¹ See Head, *supra* note 9, at 179.

⁵² There is a long history of applying public goods theory to intellectual property law. For intellectual property articles laying out the foundations of the theory of public goods and its intellectual origins, see Brett M. Frischmann, *An Economic Theory of Infrastructure and Commons Management*, 89 MINN. L. REV. 917, 939-56 (2005) (discussing public goods theory and comparing impure public goods), Lunney, *supra* note 5, at 441 & nn.267-270 (referring to the history of the development of public goods theory), and Yen, *supra* note 2, at 1365-69.

¶42 Intellectual property scholars describe the non-rivalry characteristic in a variety of ways. Professor Craig Nard, discussing patent law, says that “[a] good is [non-rivalrous] if consumption by one person does not leave any less of the good to be consumed by others.”⁵³ Professor Brett Frischmann, says that:

[N]onrivalry describes the situation “when a unit of [a] good can be consumed by one individual without detracting, in the slightest, from the consumption opportunities still available to others from that same unit.” For economists, “consumption” simply refers to the realization of benefits by virtue of one’s access to the good.⁵⁴

¶43 David Brennan reports that the view that an additional person should be free to enjoy copyrighted subject matter “where such access does not prejudice another person’s enjoyment of the work” has “existed as long as copyright itself.”⁵⁵ The focus of all these perspectives is whether one person’s use of a good interferes with the consumption, benefits, or enjoyment of the good by others.

¶44 It is easy to see that one consumer’s referential use of a trademark does not interfere with the benefits others obtain from their simultaneous use. One person’s reference to a source-indicator in conversation or in searching for a good does not diminish the benefits others derive from their referential use.⁵⁶ Just as all can simultaneously enjoy a sunny day, all *can* use a means for referring to a source, a means of expressing an idea, a means for producing a useful result, without diminishing the benefits others derive. Trademarks used referentially are public goods, as are expressions of ideas and ideas for inventions.⁵⁷

¶45 Trademark law distinguishes between what uses others *may* make of source-indicating devices according to whether those users interfere with the benefits each

⁵³ Nard, *supra* note 2, at 771.

⁵⁴ Frischmann, *supra* note 52, at 942 (quoting CORNES & SANDLER, *supra* note 6).

⁵⁵ Brennan, *supra* note 2, at 358 & n.61 (describing an account of what is thought to be the first copyright infringement action, which took place in the fifth century).

⁵⁶ See CORNES & SANDLER, *supra* note 6, at 8. The authors offer the following examples: a sunset when views are unobstructed, deterrence as provided by a fleet of Trident submarines, pollution-control devices, weather-monitoring stations, disease-eradication programs, crisis-warning monitors, and information-dissemination networks. *Id.* By contrast, food, clothing, and fuel are rivalrous in their consumption. *Id.*

⁵⁷ In fact, trademarks are public goods that benefit from network effects, a concept frequently invoked in discussions of copyright and patent law. See Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479, 481 (1998). Network effects appear when the value of a network resource increases and more people use the resource. See Stan J. Liebowitz & Stephen Margolis, *Seventeen Famous Economists Weigh in on Copyright: The Role of Theory, Empirics, and Network Effects*, 18 HARV. J.L. & TECH. 435, 449-50 (2005). E-mail is more valuable as more people are linked through computer networks. See Michael A. Carrier, *Unraveling the Patent-Antitrust Paradox*, 150 U. PA. L. REV. 761, 838 & n.328 (2002) (referring to auctions, instant messaging, chat rooms, and dating services as Internet services that benefit from network effects). It is easier to explain one’s mid-afternoon cravings because so many are familiar with the STARBUCKS mark. A trademark device is similar to other linguistic devices. See Dan L. Burk, *Legal and Technical Standard in Digital Rights Management Technology*, 74 FORDHAM L. REV. 537, 552 (2005) (citing language as an example of a good exhibiting network effects). The more people who know and refer to a particular source by its trademark, the more easily people can explore and satisfy their desires for products with suitable characteristics and qualities. Network effects may decrease the value of a resource as more people use the resource, as congestion sets in, but the term “network effects” generally refers to positive benefits. Liebowitz & Margolis, at 449.

derives. Referential uses are non-rivalrous and permitted. Proprietary uses by competitors, each using the same device to indicate the source of their own goods, are rivalrous and prohibited if the simultaneous use diminishes the referential utility of the mark.

B. Non-Rivalry and Market Failure: The Static/Dynamic Dilemma

¶46

The policy significance of classifying a good as a public good rests initially on the non-rivalry characteristic. Non-rivalry implies that once such a good is produced, simultaneous consumption by additional people imposes no cost on other consumers. This is often interpreted as meaning that once a good is produced, no additional production costs need to be incurred in order to allow another consumer to benefit from that same good.⁵⁸ Despite the possibility that there are costs of letting the additional person know the good is available and informing that person of its utility, this interpretation is usually summarized by saying the marginal cost of supplying the good to another person is zero.⁵⁹

¶47

The normative implication of zero marginal cost of supplying the good to another is that the good *ought* to be widely available at a price of zero:

This view, that information is a public good whereas tangible things are not, informs a great deal of thinking about intellectual property. And it leads to the view that this very difference has important public policy consequences, more or less along these lines: Congress should keep firmly in mind three facts. (1) Information is a public good. (2) Every additional form of intellectual property protection, every increase in the scope or number of intellectual property rights, is a restriction on information sharing. (3) Because the marginal cost of such sharing is zero, the right price for that additional customer should be zero, whereas any additional intellectual property protections imply a non-zero price and therefore serve to prevent the socially desirable outcome. In short, many commentators urge us to remember that because information is a public good, Congress should keep the legal restrictions on information – the intellectual property laws – as narrow as possible.⁶⁰

⁵⁸ See, e.g., William H. Oakland, *Congestion, Public Goods and Welfare*, 1 J. PUB. ECON. 339, 339 (1972) (describing the purpose of his paper on congestible public goods as “relax[ing] the strong assumption of zero short-run marginal cost . . .”).

⁵⁹ See JOSEPH E. STIGLITZ, *ECONOMICS OF THE PUBLIC SECTOR* 105 (1986) (discussing inefficiencies arising from the private provision of public goods). Stiglitz observes that, where there is a small marginal cost of making the good available to an additional user, the user should be charged that marginal cost as a user fee. *Id.* That user fee, however, is determined by additional costs such as costs of distribution and dissemination of information in the intellectual property context and not the cost of producing the good itself and so will not be sufficient to cover the total cost of providing the good. *Id.* In copyright theory, for instance, scholars argue that the ideas underlying the expression of a song are public goods even though there may be a positive cost of distributing the song to more people. See Ku, *Consumers*, *supra* note 2. See also Ku, *Creative Destruction*, *supra* note , at 306 (describing the economic circumstances of musicians). Charging a price equal to the marginal cost of distribution is unlikely to cover the total cost of creating and distributing the song.

⁶⁰ Trotter Hardy, *Not So Different: Tangible, Intangible, Digital, and Analog Works and Their Comparison*

¶48 All should be able to exploit a new manufacturing process, enjoy a piece of music for free, or use a trademark referentially because, once it has been created, it costs no more for everyone to enjoy the work.

¶49 The normative conclusion that price should equal marginal cost is a “short-run” or “static efficiency” concern.⁶¹ It is based on cost-benefit reasoning. The allocation of resources to producing another unit of a good is efficient if the cost of doing so is less than the benefits that the additional unit would provide. If the marginal cost of supply is zero, then resources should be allocated to supplying the good to people who attach any positive value to it. Any positive price might exclude some people whose valuation of the good is greater than zero. Those excluded people would have been able to improve their well-being and it would have cost society nothing to provide that improvement. Economists refer to the costs associated with excluding such people as deadweight loss,⁶² which is measured by the difference between what they would have been willing to pay and the cost of supplying the good to them.⁶³

¶50 Marginal cost pricing fails to provide an allocatively efficient supply of public goods in a competitive marketplace. Suppliers of public goods must somehow cover their production costs, which they cannot do if they give the goods away for free. The ability of suppliers to recover total costs and remain in the business of supplying the good is a “long run” or “dynamic efficiency” concern.⁶⁴

for *Copyright Purposes*, 26 U. DAYTON L. REV. 211, 225 (2001) (cautioning that there are varying degrees of publicness that should be considered in policy analysis). See also Christopher S. Yoo, *Rethinking the Commitment to Free, Local Television*, 52 EMORY L.J. 1579, 1598 (2003) (“[P]ricing along the marginal cost curve represents one of the basic criteria for maximizing allocative efficiency.”).

⁶¹ Thomas M. Jorde & David J. Teece, *Rule of Reason Analysis of Horizontal Arrangements: Agreements Designed to Advance Innovation and Commercialize Technology*, 61 ANTITRUST L.J. 579, 601 (1993) (“[T]he focus of traditional antitrust has been upon static, short-run allocative efficiency: i.e., concern for the spread between today’s price and cost of a service or good.”).

⁶² Yoo, *supra* note 60, at 1598-99 (“Unfortunately, charging a positive price creates deadweight loss by denying some consumers access to the product even though the marginal benefits that they would derive from consuming it would exceed the marginal cost of allowing them to do so.”).

⁶³ According to economic theory, the well-being of society’s members is increased by increasing the production of any good as long as the additional benefits from production exceed the additional costs. Because public goods are non-rivalrous and one unit can be simultaneously consumed by many, the additional benefit from production of a unit is measured by the sum of benefits each derives from that unit. Thus, the optimal quantity of production of any public good is reached where the sum of the additional benefits equals the additional cost. For rivalrous private goods, the optimal quantity of production of any private good is reached where the additional benefit to any individual equals the additional cost. See Glynn S. Lunney, Jr., *E-Obviousness*, 7 MICH. TELECOMM. & TECH. L. REV. 363, 398 (2001).

The benefits one person derives from production of another unit is measured by the additional resources he or she would be willing to give up to consume the good. In economics, this is the marginal rate of substitution, MRS, between the resources the person would give up and the good in question. Because of non-rivalry, the total benefit from an additional unit of a public good is the sum of everyone’s MRS, that is, $\sum MRS_i$ for all i consumers. The optimum is reached where $\sum MRS_i = MC$, the marginal cost of production. Thus, the demand for a public good is determined by summing the benefits each person derives from the provision of a single unit of the good. For private goods, the optimum is reached where MRS_i , the marginal rate of substitution for a single individual, equal the marginal cost, $MRS_i = MC$. Thus, the demand for a private good is determined by summing the number of units demanded by consumers at a particular price. See Samuelson, *Pure Theory*, *supra* note 50, at 354. See also CORNES & SANDLER, *supra* note 6, at 23 (generalizing Samuelson’s result); STIGLITZ, *supra* note 59, at 113-14.

⁶⁴ Frischmann, *supra* note 52, at 947 (“Taken together, these two perspectives—static and dynamic efficiency—yield a complicated economic puzzle in terms of maximizing social welfare. As a policy matter, it may be necessary to strike a balance between opening access to reap static efficiency gains and

¶51 Without compensation, they will produce too little of the public good, thus failing to satisfy the demands of some who would be willing to pay for that production and creating a deadweight loss. But charging a positive price may exclude some users who would benefit from the supply, again resulting in deadweight loss due to less than the optimal amount of resources being devoted to supply of the public good.⁶⁵ The challenge to public policy arising from the static/dynamic dilemma is to optimize access, which minimizes the deadweight loss associated with pricing above marginal cost, while providing incentives to encourage the supply of public goods, minimizing the deadweight loss associated with undersupply due to lack of profitability.⁶⁶

¶52 This is precisely the dilemma confronted by copyright and patent law. Once produced, one person's use of an idea does not generally interfere with the benefits another derives from his or her own use of the same idea. It can simultaneously be made available to all. From a short-run, normative perspective, everyone ought to have free access to those ideas embodied in expressions and innovations. But if creators of ideas are not compensated, insufficient resources will be devoted to creative activity and disclosure of the results.

¶53 Two rules summarize the theoretical conditions that must be met for efficient allocation of resources to the supply of any good. First, the quality of the good supplied should increase until the additional benefit is equal to the marginal cost. Second, producers of goods should be able to cover their total costs. For public goods, it is impossible to satisfy both the static and dynamic conditions simultaneously. If we follow the first rule, pursuing static efficiency and setting a price equal to marginal cost, we cannot follow the second dynamic rule, making sure producers get paid. If we follow the second rule and permit suppliers to charge enough to cover their costs, we cannot price according to marginal cost. The inability to satisfy both conditions means that a

restricting access to reap dynamic efficiency gains.”).

⁶⁵ This dilemma is described as the conflict between short run or static efficiency and long run or dynamic efficiency. *See, e.g.*, Brennan, *supra* note 2, at 354-55. *See also* Abramowicz, *Perfecting*, *supra* note 2, at 172-73 (discussing the provision of public goods in the intellectual property context). Professor Glynn Lunney recognizes that this problem exists in the context of copyright law:

As economists have recognized, using a system of exclusive rights, such as copyright, to ensure an appropriate supply of a public good through private markets creates a Catch-22 situation. In the absence of copyright, if markets were perfectly competitive, there would be no economic incentive to produce works of authorship. When a new work was introduced, competitors would instantly copy it, price would be driven to the marginal cost of additional copies, and the work's author would receive no economic profit or rent to cover her initial authorship costs. Given the absence of an economic incentive to produce such works, too few works would be created. In the absence of copyright, perfectly competitive private markets would not therefore ensure an optimal allocation of resources. On the other hand, if we grant the author a legal right to prohibit unauthorized copying, thereby enabling her to set a price for her copies somewhat above their marginal cost, then the author will earn some economic rent and have a corresponding incentive to create the work. However, absent an ability to price discriminate perfectly, pricing above marginal cost will deny some consumers access to the work, creating a deadweight welfare loss. Because of this deadweight loss, private markets for copyrighted works will also fail to achieve a Pareto optimal allocation of resources.

Lunney, *Fair Use*, *supra* note 2, at 994-95 (citations omitted).

⁶⁶ *See* JAMES M. BUCHANAN, THE DEMAND AND SUPPLY OF PUBLIC GOODS 179-82 (1968) (describing consumption clubs as a means for privately resolving this dilemma); James M. Buchanan, *An Economic Theory of Clubs*, 32 *ECONOMICA* 1 (1965) (extending the pure theory of public goods to a theory of co-operative membership in clubs).

competitive market fails to provide an efficient supply of public goods. Since intellectual property law is concerned with public goods, unregulated markets will not devote sufficient resources to the production of intellectual property. The policy question is how to design intellectual property regimes that provide an allocatively efficient quantity of intellectual property.

C. Non-Excludability, Public Goods, and Market Failure

¶54 The market failure in the provision of public goods arising from the conflict between static and dynamic efficiency does not depend on whether it is possible to exclude people from using the resource. Even if a supplier can easily exclude some users by charging a positive price and even if that revenue is enough to cover its costs, the static efficiency goal is not met. Paul Samuelson observed that this conflict means that a competitive market cannot logically yield a solution to this dilemma.⁶⁷ This is a market failure associated with public but not private goods because the marginal cost of a private good is not zero and suppliers in a competitive market will be able to cover their costs.⁶⁸

¶55 The difficulty of finding a compromise price that optimizes static and dynamic efficiency is compounded by non-excludability, a characteristic that may be associated with either private or public goods.⁶⁹ Non-excludability raises two efficiency concerns. The first is that producers may be unable to cover their total costs if unable to collect payment from those who benefit from their activity. This dynamic concern is related to the static/dynamic dilemma resulting from non-rivalry.

¶56 The second efficiency concern arising from non-excludability is demand revelation. When people can enjoy the benefits of the provision of a good (public or private) without payment, there is no mechanism, such as a market, that encourages people to reveal how much they would be willing to pay to use the good. A market obtains this information by providing the good only to those willing to pay the asking price. Only by knowing people's preferences for goods can a market or policy maker determine the optimal amount of the good to produce. A competitive market accomplishes this by increasing the supply of goods until all those willing to pay more than the marginal cost of supply are satisfied. Those unwilling to pay that amount are excluded.

⁶⁷ Samuelson, *Pure Theory*, *supra* note 50, at 388 (“[N]o decentralized pricing system can serve to determine optimally these levels of collective consumption.”) (emphasis omitted).

⁶⁸ CORNES & SANDLER, *supra* note 6, at 23.

⁶⁹ See ADAM GIFFORD, JR. & GARY J. SANTONI, PUBLIC ECONOMICS: POLITICIANS, PROPERTY RIGHTS, AND EXCHANGE 32 (1979) (“A characteristic of *some* public goods (and some private goods) is that, once the good is produced, it is extremely costly to prevent individuals from consuming the good.”). Economists sometimes classify public goods that are excludable as “club goods” and define public goods as those possessing characteristics of both rivalry and non-excludability. See, e.g., CORNES & SANDLER, *supra* note 6, at 23. Professor Brennan observes that “whether the attribute of non-excludability is necessary for a good to be classified as a ‘public good’ has been a matter of controversy in economics,” but points to increasing acceptance of the conclusion that non-rivalry is the defining distinction between public and private goods and the practice of categorizing public goods as either excludable or non-excludable. Brennan, *supra* note 2, at 350.

1. Non-excludability and Dynamic Inefficiency

¶57 In a lawless society,⁷⁰ people who invest in resources face greater costs of excluding those who do not pay from the benefits of their productive activity, whether the investors are growing corn, enjoying the exclusive possession of their land, writing songs, or inventing. Without the ability to exclude others, producers of any type of good cannot fully internalize the benefits associated with their investments by charging consumers for it and excluding those who do not pay.⁷¹ This may prevent producers from earning sufficient returns on their investment in producing resources, whether those resources are public or private in character. This dynamic efficiency concern is traditionally addressed by recognizing exclusive property rights to the goods produced. Private property rights facilitate enforcement by establishing who may exclude whom. Backed by the government's enforcement powers (courts and cops), the law addresses the non-excludability problems for private goods such as crops and land.

¶58 Some intellectual property is excludable, suggesting that it is the non-rivalry characteristic that distinguishes public goods such as ideas from private goods. Valuable ideas and information can sometimes be kept secret by their creators. No one has ever seen the many novels that people start but never finish. Charles Darwin kept his theory that natural selection was the mechanism for evolutionary adaptation secret for twenty years before publishing *On the Origin of Species*.⁷² Businesses keep commercial processes and formulas secret and exclude others from the benefits of that information.

¶59 For trade secrets, the dynamic inefficiency created by people using their ideas without paying is reduced by state trade secret law's prohibitions against improper means of discovering secret ideas and information. Trade secrets may be intellectual property's best example of an excludable public good. While the excludability of trade secrets may solve the dynamic inefficiency problem, keeping ideas and information secret interferes with the static efficiency goal of making it freely available to all whose use imposes no costs on others.

¶60 The example of Darwin's secret both illustrates impediments to the advance of science arising from non-disclosure of ideas and the non-rivalry of uses of ideas. Copyright, patent, and trademark law encourage the disclosure of information by granting limited legal monopolies⁷³ and disclosure aids static efficiency if use is free. Dynamic efficiency is enhanced by the monopolies, but static efficiency may suffer from the

⁷⁰ Brennan, *supra* note 2, at 356 (describing non-excludability as a function of the cultural milieu more than the inherent characteristics of a good: "It may be prevailing laws and social norms dictate characterization as excludable or non-excludable, and if excludable, the nature or degree of excludability.").

⁷¹ GIFFORD & SANTONI, *supra* note 69, at 33.

⁷² Charles Darwin, *ON THE ORIGIN OF SPECIES* (1859). See also Charles Darwin, *The Autobiography of Charles Darwin 1809-1882* 7 (Nora Barlow, ed. W.W. Norton & Co. 1993) (1958), available at http://www.darwin-literature.com/The_Autobiography_of_Charles_Darwin/7.html. The author thanks evolutionary ecologist Dr. Sylvan R. Kaufman for this illustration.

⁷³ Copyright law requires registration before an infringement suit can be instituted. 17 U.S.C. § 411 (2000). Patent law has an explicit requirement that the application contain an enabling specification that discloses the invention, 35 U.S.C. § 112 (2000). By these actions, authors and inventors make the information available to the public, even if full and free access by the public is not available until the copyright or patent term expires. Similarly, without a bona fide use in commerce in connection with specific goods, a trademark cannot contribute to the stockpile of communicative devices by establishing a referential meaning or be protected by common law or statutory trademark law. 15 U.S.C. § 1051 (2000 & Supp. 2005) (requiring use in commerce).

monopoly rights, particular in copyright and patents, because free use of expression of ideas is prohibited for limited terms.

2. Non-excludability and Demand Revelation

¶61 Where it is possible to determine how much people are willing to pay for various amounts of a good and the cost of supplying different quantities, policy makers (or the market) can determine the allocatively efficient amount to supply and provide appropriate incentives. But this is impossible if people respond to the fact that they cannot or are not excluded from the use of ideas and information by concealing their willingness to pay. Non-excludability discourages people from revealing their demand for goods or their willingness to pay. Samuelson expressed the incentive of people to conceal their preferences as follows:

¶62 One could imagine every person in the community being indoctrinated to behave like a “parametric decentralized bureaucrat” who *reveals* his preferences by signaling in response to price parameters or Lagrangean multipliers, to questionnaires, or to other devices. But . . . by departing from his indoctrinated rules, any one person can hope to snatch some selfish benefit in a way not possible under the self-policing competitive pricing of private goods⁷⁴

¶63 People have an incentive to give false signals of the value they associate with receiving goods to get a personal advantage.⁷⁵

¶64 From an allocative efficiency perspective, someone (a supplier, the government, or a market) must figure out how much people value the good. They need that information so they can keep producing the good until the benefit from an additional unit no longer exceeds the cost of a particular unit. If a good is non-excludable, people’s incentive to tell the truth about how much they value something is diminished. If they did tell, one could charge them accordingly (e.g., the government by taxation, a supplier by pricing accordingly). If they do not, they can get the good anyway because it is non-

⁷⁴ Samuelson, *Pure Theory*, *supra* note 50, at 389. The term “Lagrangean multiplier” “refers to a mathematical optimization technique which in this context could give information about true preferences.” See Head, *supra* note 9, at 179.

⁷⁵ This motivation is similar to people’s incentive to be free riders, taking advantage of others’ creative activity without incurring the associated costs, which some scholars find to be particularly troubling in the case of trademarks. Professor Vincent Chiappetta observes:

Regarding relative amounts of free riding, trademarks carry an exceptionally high exposure to free riding, being extraordinarily susceptible to quick, easy, cheap, and effective appropriation. As they are intentionally broadcast to the general market, the marks and their relative power are readily identifiable. Appropriation requires only the insignificant cost of copying the mark. Finally, the inherent communication function of a trademark means that no additional effort is required to divert the consumer’s attention to the appropriator’s alternative offering. These characteristics will not only generally favor the take option in “take versus make” decisions, but when increased creator investment positively correlates with resulting communicative ability, will affirmatively induce appropriation of those marks whose creation most depends upon incentives.

Vincent Chiappetta, *Trademarks: More than Meets the Eye*, 2003 U. ILL. J.L. TECH. & POL’Y 35, 61-62 (2003). Both the demand revelation problem and the need to create incentives for suppliers of the source and product information contained in trademarks arise from the inability of suppliers to exclude users of a resource.

excludable.⁷⁶ Without a mechanism for revealing demand, the optimal quantity of a good cannot be determined. This market failure is independent of the static/dynamic dilemma.

D. Market Failures and Copyright and Patent Law

¶65 Looking at copyright and patent law, which are recognized as responding to public goods problems, permits one to consider how intellectual property law responds to market failures. Copyright and patent regimes recognize and address the market failures associated with non-rivalry and non-excludability in four ways. First, producers of valuable ideas and information may attempt to recoup costs by excluding those who do not pay during the term of limited monopoly. This advances the dynamic efficiency goal by creating incentives to supply public goods, though only during the term of limited monopoly. The amount may be insufficient to cover the costs of creation if the public does not value the creation highly enough and may not reflect the total benefits obtained from the creation.

¶66 Second, users of ideas get free access to the ideas and information after the period of limited legal monopoly expires. This addresses the static efficiency concern arising from non-rivalry, though not until seventy years after the life of the author in the case of copyright and twenty years from the filing date in the case of patent. This is the trade-off between dynamic and static efficiency that copyright and patent laws have chosen. By compromising between the goals, the law addresses but does not solve the market failures.

¶67 Third, during the period of limited monopoly, copyright and patent holders may, though are not required to, acquiesce in others' use of their expressions and innovations. Providing for transferability and licensing of rights reduces but does not eliminate the static efficiency loss during the period of limited monopoly. The static efficiency goal is ensuring that all those willing to pay at least the marginal cost of production (zero) have access to the creative work. By meeting the intellectual property owner's asking price, some who assign a positive value to the creation have access. The short-run deadweight loss that remains is the result of exclusion of those who attach a positive value to access but are denied access because no deal can be struck with the rights owner. Thus copyright and patent law address but do not solve the static efficiency concern during the patent term.

¶68 Fourth, copyright and patent law address but do not solve the demand revelation problem associated with non-excludability. A person's willingness to pay is revealed by charging him or her prices and excluding those who do not pay. A patent or copyright owner may at least attempt to enforce its exclusive rights against anyone who does not pay. This reveals the willingness to pay of those whose exclusion the law permits, which means all but "fair users" of copyrighted expressions⁷⁷ and those who engage in "philosophic experimentation" with patented innovations.⁷⁸ The law provides no means

⁷⁶ On the valuation problems associated with public goods and non-excludability, see Brennan, *supra* note 2, at 367.

⁷⁷ 17 U.S.C. § 106 (2000).

⁷⁸ *Madey v. Duke Univ.*, 307 F.3d 1632 (Fed. Cir. 2002) ("[S]o long as the act is in furtherance of the alleged infringer's legitimate business and is not solely for amusement, to satisfy idle curiosity, or for strictly philosophical inquiry, the act does not qualify for the very narrow and strictly limited experimental use defense.").

for revealing the demand for those users, concealing from the market the optimal amount of creative activity.

¶69 Could the public goods logic possibly apply to trademarks? Does the market failure resulting from the conflict between static and dynamic efficiency apply to trademarks? Are trademarks non-excludable? Does trademark law create a mechanism by which the demand for search information is revealed? Does a limited grant of exclusive rights solve these problems, if they do exist? Because trademarks are a hybrid of public and private goods, it is necessary to explore the theory of impure public goods before answering these questions.

E. Impure Public Goods

¶70 Even the simple examples of non-rivalrous public goods are suspect. A factory emitting smog diminishes others' pleasure in the sunny day, which is supposedly a public good. Several friends may share an apple, which is supposedly a private good. It is difficult to think of examples of pure public and private goods that are not quite contrived. Accordingly, public goods theory recognizes that most goods thought of as public goods are not perfectly non-rivalrous.⁷⁹ A more general description of public goods is that, once a public good is produced, it can be made *at least partially available* to more than one individual.⁸⁰

¶71 The "impurities" in a public good may take two forms relevant to trademark law: congestion by increasing numbers of homogeneous users and the co-existence of both rivalrous and non-rivalrous heterogeneous users.⁸¹ In the first form, the sheer number of users, even if they are homogeneous (identical in the way they use the good) results in congestion of a resource. The more people using a swimming pool, the more congested it gets. The term congestion can be taken literally, to mean more crowded, though in economic terms it means that the addition of another person to the pool or to a highway at rush hour imposes costs on other users (in terms of reducing speed and increased risk of collisions).⁸²

¶72 Congestion may not occur until after some threshold number of users is reached (the congestion point) beyond which marginal costs cease being zero and gradually or suddenly increase. It is pleasant to have some other people on the beach while sunning, just for the viewing pleasure or sociability,⁸³ but including too many people gradually increases the unpleasant noise level. By contrast, adding a fourth person to the back seat of even a large car has an immediate crowding impact. The detrimental effect of more

⁷⁹ See Head, *supra* note 9, at 180.

⁸⁰ *Id.*

⁸¹ See CORNES & SANDLER, *supra* note 6, at 272-73. Cornes and Sandler offer the example of the level of congestion of a highway, which is dependent on the total amount of driving and the level of highway services provided. *Id.* at 273. See also Frischman, *supra* note 52, at 951-52 (discussing both number of users and types of users as influencing the benefit people derive from their simultaneous consumption of a good).

⁸² See Todd Sandler & John T. Tschirhart, *The Economic Theory of Clubs: An Evaluative Survey*, 18 J. ECON. LITERATURE 1481, 1488 (1980) (describing crowding as producing a reduction in the good's quality, which may assume a variety of forms, such as poorer views, lost time, and less comfortable conditions).

⁸³ In models of impure or "club" goods, economists take into account that there may be positive benefits of increasing the numbers of homogenous users over some range to reflect "a pure taste for association." *Id.* at 1491.

intensive use of a congestible public good may be cumulative (gradually increasing congestion as more simultaneous homogeneous users appear) or cataclysmic (no effect until the number of simultaneous homogeneous users reaches a critical size).⁸⁴

¶73 Alternatively, it may be that certain *types* of uses are incompatible. Many skiers feel that snowy slopes are ruined by snowboarders and nature-loving cross country skiers feel that they cannot share forest trails with loggers. These heterogeneous uses are at least partially rivalrous.⁸⁵ When one person's use utterly destroys the value of the resource to another, the uses are rivalrous and the good is purely private in character with respect to those users.

¶74 Goods come in an infinite variety along the dimensions of publicness. A good may be a mixed public good, one type of "impurity," in the sense that it is congestible or even private with respect to some uses and non-rivalrous with respect to other uses. The forest itself is a congestible public good with respect to some uses and a rivalrous good as between incompatible uses. Increasing numbers of skiers diminish each other's pleasure in the forest after some point while clear cut logging and bird watching may be rivalrous uses of the forest. Because the definition of public goods depends on the effect of one person's use on another, the homogeneity or heterogeneity of uses is critical to the question of how to resolve the static and dynamic efficiency concerns associated with public goods. If trademarks are impure public goods, we might expect trademark law to treat different uses differently.

¶75 Expressions and innovations fit the pure public goods model better than trademarks. Many may simultaneously exploit the ideas embodied in creative expressions and inventions without diminishing the ability of others to exploit them, though scholars have suggested that simultaneous use may diminish the uniqueness of expression and the pleasure derived therefrom by making the expression hackneyed or clichéd.⁸⁶ Similarly, the competitive advantage of using a more efficient machine may be diminished if others use the same cost-saving technology. Nevertheless, consumers' referential uses of trademarks do not generally interfere with one another and therefore reflect a purely public character. Non-competitors' proprietary uses may interfere with the attractive uniqueness of an owner's mark, reflecting the characteristic of a congestible public good. Competitors' proprietary uses of another's mark are likely to be

⁸⁴ It may also be that there are unlikely to be enough simultaneous users of a particular good that the point of congestion is ever reached (in effect, giving the good the character of a pure public good). While roads are congestible public goods, the two-lane road through rural Post Mills, Vermont may never get congested because there are too few residents or tourists to interfere with one another's use. The twelve-lane beltway surrounding Washington DC is congested daily because of the expanding suburban population. These are both examples of potentially congestible public goods.

⁸⁵ For an economic analysis of heterogeneous clubs, see *id.* at 1491-92.

⁸⁶ See William M. Landes & Richard A. Posner, *Indefinitely Renewable Copyright*, 70 U. CHI. L. REV. 471, 486-87 (2003) (suggesting that if the Disney character "Mickey Mouse" were available for many to use without cost, the value of the character would decline because the public would rapidly tire of the image). Thus, one person's enjoyment of a print of a certain artist's work might diminish if everyone had such a print. Similarly, the additional profit a supplier of goods makes as a result of using a particularly efficient patented production method would decline if competitors were allowed to use the technology without charge. These are generally considered to be matters of only distributional consequence rather than allocative efficiency consequence, though in imperfectly competitive markets, the distinction between the distributional effects (pecuniary externalities) and allocative efficiency effects is less clear. See Michael Abramowicz, *An Industrial Organization Approach to Copyright Law*, 46 WM. & MARY L. REV. 33, 55-56 (2004).

incompatible, reflecting the characteristics of private, rivalrous goods. As public goods, trademarks are indeed mixed in character.

¶76 The nature of use of an impure public good is critical to understanding how to encourage and manage its production and consumption. If trademarks are mixed public goods, public goods theory suggests that consumers' non-rivalrous referential uses *should* be encouraged, some non-competitors' proprietary uses *should* be prohibited if they are congesting, and incompatible competitors' uses *should* be prohibited. Trademark law might be understood as responding to the degree to which various types of uses interfere with one another.

F. Market Failure and Impure Public Goods.

¶77 Economists have considered the efficiency implications of market provisions of impure public goods.⁸⁷ Of particular interest to trademark law are conclusions related to the market failures identified in Parts III.A and B, above. Trademarks are used by a heterogeneous group of consumers and businesses, who vary in their consumption characteristics. Referential users do not diminish the source-indicating power of marks while competitors' quickly distort the mark's source-indicating meaning. Non-competitors who use the mark proprietarily may whittle away at the distinctiveness of the mark as a source-indicator. Each type of use affects the communicative significance of a trademark differently.

¶78 While mathematically more complicated, the generalized conclusion from the analysis of heterogeneous groups is that the price a user should pay depends on the cost he or she imposes on others, in terms of the reduced benefits due to congestion or incompatibility.⁸⁸ This reflects the fundamental principle that price should equal the marginal cost imposed by each user on other users. Non-rivalrous users impose no costs and *ought* to have free access to the mark. Rivalrous and partially rivalrous users *ought* to pay for the costs their use creates.

¶79 The benefits of trademark derive from the informational content of marks. For trademark, an appropriate price for a competitor whose proprietary use of another's mark results in a diversion of trade (an incompatible or highly congesting use) might be the value of that trade (actual damages). Referential users may be harmed by actual source confusion. The mark owner may be harmed by a conflicting proprietary use. Actual damages is one measure of that harm. An appropriate fee for the consumer whose use in searching for goods does not diminish the communicative value of the mark would, by comparison, be zero. Referential use should be freely permitted. Non-competitors whose congesting use dilutes the informational content of the mark impose costs somewhere in

⁸⁷ For a review and summary of the economic literature in this area, see Sandler & Tschirhart, *supra* note 82.

⁸⁸ *Id.* at 1489. When the level of provision of a good is constant, increases in the utilization of the good by an additional member increases congestion or crowding, thereby imposing costs on others that must be considered in balancing whether the additional contribution to the provision of the good by that additional member is worthwhile. *Id.* The model presented by these authors permits the amount of congestion to vary by the intensity of heterogeneous users' use (the amount of crowding may differ among individuals), a class of cases of which incompatible uses is an extreme. *Id.* at 1488 n.14.

between these two extremes, though the difficulty of proving actual congestion is well known.⁸⁹ Different prices are appropriate for different types of users.

¶80 As long as there are non-rivalrous users, as there are for trademarks viewed as mixed public goods, the static/dynamic dilemma associated with non-rivalry remains. And, without legal protection, the dynamic efficiency and demand revelation problems associated with non-excludability remain. Public goods theory suggests that the provision of search information to referential users through trademarks may be inefficient due to a potential conflict between static and dynamic efficiency and inadequate demand revelation.

¶81 The ability of some creators of intellectual property to internalize some of the benefits from their productive activity reduces the dynamic efficiency concerns even if there is no legal protection. There are two reasons why the dynamic market failures may not be as great as the preceding discussion suggests. They relate to the creators' private incentives to create, to "first mover" advantages, and to the returns those incentives and advantages provide.

¶82 First, the inability of suppliers to recoup their investment by excluding others from use is mitigated by the fact that creators have some private incentive to create. It is reasonable to assume there will be some level of creative activity even if the resulting ideas are made freely available to all. If poets write to satisfy an inner muse, if songwriters are motivated by a desire to express themselves, if inventors cannot resist tinkering, there would be some level of creative activity without external incentives. These examples are not frivolous. Professor Ray Ku argues that protection of musicians' rights to prevent copying of their works is unnecessary to provide sufficient incentives because musicians actually earn their livelihoods from live performances and alternative sources of revenue.⁹⁰ Similarly, it is a fundamental assumption of economics that manufacturers have internal incentives to devise new processes that lower their costs of production because that allows them to charge a lower price than their competitors or to make a greater profit at the same price and to invent new products.⁹¹ The extent to which this internal incentive covers the investment in creation surely varies from case to case.

¶83 Internal incentives may be sufficient to cover the costs of creation even while permitting others access to the intellectual property without charge. Even where internal incentives are sufficient, however, this provides no relief to the problem of demand revelation. There is still no way to know the sum of the benefits that individuals, including those who are not charged, derive from production of the public good to determine the optimal amount of supply. Because trademarks are created to signal others, internal incentive to create trademarks is unlikely. Because many referential users never reveal their willingness to pay for the search information,⁹² the optimal supply of search information cannot be determined.

⁸⁹ *Moseley v. V Secret Catalogue, Inc.*, 537 U.S. 418, 434 (2003) ("Whatever difficulties of proof may be entailed, they are not an acceptable reason for dispensing with proof of an essential element of a statutory violation.").

⁹⁰ Ku, *Consumers*, *supra* note 2, at 567. See also Ku, *Creative Destruction*, *supra* note 2, at 308-11.

⁹¹ See Glynn S. Lunney, Jr., *Patent Law, The Federal Circuit, and the Supreme Court: A Quiet Revolution*, 11 SUP. CT. ECON. REV. 1, 56 (2004) (discussing the incentives of innovators in the absence of a patent regime).

⁹² See Part V.C., *infra*.

¶84

Second, there are “first mover” advantages. The first to express an idea in a certain way, to exploit an innovative cost-saving process, or sell a new machine or manufacture may have an advantage simply by virtue of being first.⁹³ They may translate this advantage into high enough prices to cover their costs of creation, thereby solving the dynamic concern. Some question whether patent monopolies are required at all, given the advantages available to the first to produce a new product.⁹⁴ Even without patent protection, the first firm to produce a good may build economies of scale, arrange for an assured source of supplies of raw materials, establish marketing channels, and build consumer loyalty.⁹⁵ The first to record a song may similarly build an established following among those who accustom themselves to the sound of the original artist.

¶85

Professor Chiappetta argues that first mover advantages are not significant for trademark owners:

[L]ead-time, first-mover advantages are drastically minimized [for trademark owners], if not entirely eliminated. Competition by appropriation of advantageous product or service characteristics requires creating production capability and capacity and developing customer awareness of the substitute good. As a result, the competition’s “ramp up” period permits the originator’s capture of substantial rents as well as the opportunity to build lock-in advantages, both of which can produce substantial market incentives to investment. Appropriating a trademark involves a taking at the developer’s point of “peak return,” with virtually no production ramp-up and all of the marketing work done automatically, with the mark signaling the appropriate customer base that this is the desired product or service. Consequently, lead-time advantage in trademark law is largely limited to the period of time of investment in creating the mark’s signaling ability, hardly a recipe for relying on market-based incentives.⁹⁶

⁹³ See Abramowicz, *Derivative Rights*, *supra* note 2, at 352 (discussing the first-mover advantages from innovation).

⁹⁴ See Rebecca S. Eisenberg, *Patents and the Progress of Science: Exclusive Rights and Experimental Use*, 56 U. CHI. L. REV. 1017, 1026-27 (1989) (“It is open to question whether it is necessary to endure the output-restricting effects of patent monopolies in order to stimulate invention. In some cases the head start advantage gained by being first in the market with a new invention may provide a sufficient incentive to promote investment in research. Similarly, the need to keep up with the technological progress of market rivals might stimulate invention without further incentives, or non-patent barriers to market entry may give enough protection from competition to make research and development profitable without patents.”) (citing FREDERIC M. SCHERER, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 384-87 (1970); Fritz Machlup, *An Economic Review of the Patent System*, Subcomm. on Patents, Trademarks, and Copyrights of the Senate Comm. on the Judiciary, Study No 15, 85th Cong, 2d Sess at 23 n. 121, 24 n. 128, 38-39 (1958); Jack Hirshleifer, *The Private and Social Value of Information and the Reward to Inventive Activity*, 61 AM. ECON. REV. 561 (1971)).

⁹⁵ Dale D. Murphy, *Interjurisdictional Competition and Regulatory Advantage*, 8 J. INT’L ECON. L. 891, 917-18 (2005) (describing first mover advantages).

⁹⁶ Vincent Chiappetta, *Trademarks: More than Meets the Eye*, 2003 U. ILL. J.L. TECH. & POL’Y 35, 62 (2003). *But see* Robert P. Merges, *One Hundred Years of Solitude: Intellectual Property Law, 1900-2000*, 88 CAL. L. REV. 2187, 2207-08 (2000) (discussing the work of business historian Alfred Chandler, who studied how late nineteenth century consumer products firms exploited their first-mover advantage to dominate their industries).

¶86 Thus, there is some reason to believe that the advantages first movers have in other areas of intellectual property are less likely to apply to trademarks as long as trademarks are non-excludable.

¶87 Ensuring that creators of intellectual property will recoup their costs through being the first mover does not ensure that others benefit from the idea at zero cost. Buyers of the new product or song pay for the investment, although future suppliers do not. Nor does the first mover advantage address the demand revelation question. It provides no way of measuring the benefit to other suppliers (and future consumers) gained from the innovation, the condition necessary to ensure production of optimal quantities of innovation. In other words, an innovator may, for some goods and services, recoup its costs, but that provides no measure of the sum of the benefits created by the innovation across society.

¶88 None of these mitigating factors resolve the market failures in the supply of intellectual property. In particular, even though creators may recoup costs, users whose consumption does not diminish the value of the idea to others do not obtain the good at a price equal to marginal cost and there is no mechanism for determining the optimal quantity of intellectual property to produce, as there is for private goods. The static efficiency and demand revelation issues remain.

IV. MODERN THEORIES OF TRADEMARK

¶89 This part discusses two modern approaches to trademark law. Both theories reflect the dominant theory of trademarks, which is organized around the goals of promoting competition and reducing search costs by fostering the flow of information in markets.⁹⁷ The Lanham Act appears in the United States Code Title 15, Trade and Commerce,⁹⁸ so it is hardly surprising to find scholars concluding that trademark law's goal is to promote rigorous, truthful competition in the marketplace.⁹⁹

¶90 By protecting established trademarks against confusing uses, trademark law aids consumers in their search for satisfactory goods and suppliers in their search for customers.¹⁰⁰ Too little protection obscures the signals that trademark users send to consumers and prevents consumers from finding products that meet their needs. Too much protection stifles competition. It creates barriers to entry by denying competitors access to trademarked words and product features necessary to compete in the market.¹⁰¹

According to Chandler, “[a]ll the new enterprises reinforced their first-mover advantages by spending much of the income resulting from the cost advantages of scale on massive national advertising campaigns.” And so were born many of the brands still recognized by consumers today: Quaker Oats, Campbell Soup, Heinz Ketchup, Libby canned vegetables, Proctor & Gamble soap products, Colgate products, Swift meats, and Pabst, Schlitz, and Anheuser Brewing beers. *Id.* (citations omitted).

These first movers presumably were able to exploit their advantages precisely because trademark law enabled them to exclude competitors from proprietary uses of their marks.

⁹⁷ Dogan & Lemley, *supra* note 14, at 778; *see also* Economides, *supra* note 1 (providing an earlier articulation of the search-cost approach).

⁹⁸ 15 U.S.C. §§ 1051-1127 (2000).

⁹⁹ Dogan & Lemley, *supra* note 14, at 787.

¹⁰⁰ *Id.*

¹⁰¹ *Id.* at 788.

The challenge is to find the degree of protection that maximizes information while minimizing the anticompetitive effects of exclusive rights.

¶91 This goal sounds quite different from the goal of producing the optimal amount of trademarks described in the previous discussion of public goods theory. Like the search cost/competition theory, the public goods approach is concerned about the production and use of information about products and sources of products. Public goods theory, however, provides a deeper level of understanding of the failure of markets to produce the appropriate quantity and quality of information.

¶92 From a public goods perspective, the ultimate goal of trademark law is to provide the optimal amount of information about products and their sources. Underlying the static efficiency (price equal to marginal cost) goal is the principle of ensuring that sufficient information (the optimal amount of information) is supplied to satisfy all those non-rivalrous users who value it more than it costs to supply them (zero). The objective of determining what value people place on this information underlies the demand revelation problem, and the objective of ensuring that those supplying the optimal amount of information have an incentive to do so underlies the dynamic efficiency goal. From an economic perspective, then, the objective is to supply the optimal level of information to the users of information while rewarding the suppliers of that information. As the following sections reveal, modern trademark scholars do not recognize this difficulty. Some go so far as to deny it exists.

¶93 Modern trademark theories ignore these concerns because they treat trademarks as private goods. If trademarks are treated as private goods, none of these problems exist because private goods may be efficiently allocated by competitive markets. That search cost/competition model is illustrated in two variations that dominate modern trademark scholarship, typified by the writings of Professor Landes and Judge Posner, and of Professor Lemley.¹⁰²

A. *Landes and Posner*

¶94 The first variation in modern trademark scholarship is represented by the work of William Landes and Richard Posner.¹⁰³ Their work is based on an economic model of property rights and the static and dynamic benefits of creating exclusive rights to source-indicating devices.¹⁰⁴ For private goods, these include the ability to recoup costs of innovation and efficient use of resources devoted to production of the resource.¹⁰⁵ They also recognize that, for intellectual property, non-excludability makes recouping costs difficult and that excluding any non-rivalrous users of intellectual property by charging a

¹⁰² Expanding this genre is a recent thoughtful article by Professor Robert Bone, Robert G. Bone, *Enforcement Costs and Trademark Puzzles*, 90 VA. L. REV. 2099 (2004), which offers an enforcement cost explanation for the structure of trademark law that is built on the assumptions of the search-cost model. Bone offers insightful procedural explanations for the structure of trademark law explaining how the doctrine has developed in a way that minimizes enforcement costs. Professor Bone's creative enforcement cost theory lays procedural explanations for various doctrines on top of the standard "search-costs" account of trademark. *Id.* at 2101. Bone's article does not discuss market failures or the public goods nature of trademarks directly.

¹⁰³ LANDES & POSNER, *ECONOMIC STRUCTURE*, *supra* note 1, at 167-68; Landes & Posner, *Economics of Trademark*, *supra* note 1, at 276; Landes & Posner, *Economic Perspective*, *supra* note 1, at 268-70.

¹⁰⁴ Landes & Posner, *Economic Perspective*, *supra* note 1, at 266-68.

¹⁰⁵ *Id.* at 266.

positive price creates a deadweight loss.¹⁰⁶ Finally, they recognize that, because the cost of copying a trademark is small, free riders will capture some of the profits a trademark owner created through investment in its mark, destroying the information capital embodied in a trademark and the incentive to develop the mark in the first place.¹⁰⁷

¶95 Landes and Posner do not recognize the difficulty in determining the optimal supply of source and product information. Generally following the public goods theory applied to intellectual property, Landes and Posner recognize the static/dynamic dilemma associated with non-rivalry¹⁰⁸ and the dynamic problem associated with non-excludability.¹⁰⁹ Applied to trademark, however, they recognize only the dynamic problem associated with non-excludability. They ignore the demand revelation problem and give short shrift to the static efficiency concern. They are not alone in this approach. Professor Stephen Carter fails to recognize the issue of optimal supply of trademarks. “One might conceive of an optimal supply of copyrighted works or patented inventions,” he states, “but it makes no sense to refer to an optimal supply of marks as such.”¹¹⁰

¶96 The obvious explanation for Landes and Posner and Carter ignoring the demand revelation problem is their view of the fundamental nature of trademarks: “A proper trademark is not a public good; it has social value only when used to designate a single brand.”¹¹¹ The social value of a trademark, however, is its non-rivalrous referential use. Trademarks are mixed public goods with rivalrous, proprietary users, to whom Landes and Posner apparently refer, and non-rivalrous, referential users for whose benefit, according to the search cost theory, trademark law ought to be based. While recognizing that “adding users will not impose costs on previous users of [other types of] intellectual property,”¹¹² they fail to recognize that the multitude of referential users who benefit from trademarks are also non-rivalrous. Their reasoning leads to treatment of trademarks as distinctly different from copyright and patent.

¶97 Landes and Posner, by ignoring the non-rivalrous nature of referential trademark use, underestimate the effect of exclusive rights to trademarks on static efficiency. Their model of a firm’s profit function,¹¹³ used to predict a firm’s trademarking behavior, assumes that the full price of the firm’s product is its money price plus the search costs incurred by the consumer in determining the attributes of that product.¹¹⁴ Firms with stronger trademarks, defined as those that convey more information,¹¹⁵ will be able to command higher prices because branding saves consumers the search costs.¹¹⁶ Landes and Posner assume that consumers pay for the information provided by suppliers of purchased products when consumers pay these higher prices.¹¹⁷

¹⁰⁶ *Id.* at 267-68.

¹⁰⁷ *Id.* at 270.

¹⁰⁸ *Id.* at 267-268.

¹⁰⁹ *Id.* at 267.

¹¹⁰ Stephen L. Carter, *The Trouble with Trademark*, 99 *YALE L.J.* 759, 768 (1990).

¹¹¹ Landes & Posner, *Economic Perspective*, *supra* note 1, at 274; Carter, *supra* note 110, at 762 (“A trademark is not a public good . . .”).

¹¹² Landes & Posner, *Economic Perspective*, *supra* note 1, at 267.

¹¹³ *Id.* at 275-80.

¹¹⁴ *Id.* at 275.

¹¹⁵ *Id.* at 277.

¹¹⁶ *Id.*

¹¹⁷ See Landes & Posner, *Economics of Trademark*, *supra* note 1, at 277 (“The fact that two goods have the same chemical formula does not make them of equal quality to even the most coolly rational consumer.”)

¶98 Given the normative static efficiency goal that non-rivalrous users should pay a zero price, the reasonable assumption that purchasing consumers pay for search information when they purchase goods should raise eyebrows. Theoretically, we could forbid firms from charging higher prices that exploit the advantages of providing product information through their trademark. This practice, however, might lead to the exact static/dynamic dilemma associated with non-rivalrous goods, as firms would be unable to cover the cost of producing public goods. The next section reveals that the practice of purchasing consumers paying for the trademarking activity turns out not to be a concern. However, the fact that there are some consumers who would buy the good at a lower price that did not include trademarking costs does create a deadweight loss – the static efficiency problem identified in Part III.

¶99 Landes and Posner’s consideration of the deadweight loss associated with static inefficiency is limited to a discussion of the two extremes of monopoly and excessive competition in the sale of the underlying product. First, monopoly profits and inefficiently small supplies of goods may result from trademarks creating a spurious image of high quality, diverting consumers from lower-price substitutes of equal quality (e.g., Bayer aspirin and Clorox bleach).¹¹⁸ Second, excessive competition for customers might lead to expenditure on attention-grabbing advertising by competing firms that cancel each other out, leaving consumers no better informed while presenting costs to the firms.¹¹⁹ Landes and Posner reject both possibilities: first, because they simply *assume* that trademark law lowers search costs rather than creating social waste and consumer deception (!) and, second, because economics reject this negative view of advertising.¹²⁰

¶100 Other than proprietary uses, Professor Landes and Judge Posner refer only to customary uses of marks. These are uses of trademarks that transcend their source indicating referential and proprietary uses. The English language is enriched, for instance, by our ability to convey an impression of luxury totally unrelated to automobiles by using the term “Rolls Royce” or “Cadillac.” Recognizing that these terms have descriptive meaning in addition to their source-indicating meaning helps Landes and Posner explain why terms that become generic names for products lose their protection as source indicators.¹²¹ Allowing unrestricted access to generic terms protects customary language. The Landes and Posner model’s narrowness prevents recognition of the contributions trademarks make to referential use. They dismiss this creative contribution by observing that “we do not need trademark protection just to be sure of having enough words” as we need patent and copyright protection to be sure that we have enough inventions and artistic works.¹²²

¶101 Finally, the Landes/Posner model ignores the demand revelation problem associated with non-excludability. Purchasers reveal their preferences for trademarked goods by paying more for goods with marks that convey information about source and product, but other referential users are not excluded from the benefits of trademarking

That consumer will be interested not in the formula but in the manufactured product and may therefore be willing to pay a premium for greater assurance that the good will actually be manufactured to the specifications of the formula.”).

¹¹⁸ *Id.* at 276.

¹¹⁹ *Id.*

¹²⁰ *Id.* at 276-77.

¹²¹ *Id.* at 274.

¹²² *Id.* at 275.

activity. Consumers who use the mark to reject the goods or simply to discuss the goods or the source, competitors who use the mark to compare their own goods to the other's goods, and commentators who use the mark to refer to the goods all enjoy the benefits of trademarking activity. The benefit these users get from the mark is never taken into account by trademark suppliers. Because they ignore the demand of these non-purchasing users, suppliers of trademarks may provide too little information. In economic terms, the provision of this public good may be sub-optimal.

B. Lemley, Lunney, and Burk

¶102 One of the most distinguished and prolific of intellectual property scholars, Professor Mark Lemley, regularly applies public goods theory in his writings. For instance, an article on copyright and patent law with David O'Brien¹²³ recognizes that intellectual property public goods share the “distinguishing features of non-excludability and non-rivalrousness.”¹²⁴ In an article about encouraging innovation in copyright and patent law, Professor Lemley states that “the intellectual property laws can be justified by the public goods argument only to the extent that they do on balance encourage enough creation and dissemination of new works to offset those costs [associated with higher prices resulting from legal patent and copyright monopolies].”¹²⁵ One might suspect that the optimal level of creation and dissemination of source and product information through trademarks would be a natural application of public goods theory in Lemley's work. This is not the case.

¶103 Professor Lemley describes the “standard economic explanation” for intellectual property protection in the United States.¹²⁶ He recognizes that ideas are public goods that can be used non-rivalrously but are expensive to create and keep to one's self so “most would prefer to copy rather than create ideas, and inefficiently few new ideas would be created.”¹²⁷ Yet referring to trademark infringement and other unfair competition causes of actions, he states that “there is no public goods problem for intellectual property to solve.”¹²⁸

Unlike patents and copyrights, trademark law and the right of publicity do not exist to encourage the creation of new brand names, personal names, or likenesses. There is no affirmative social interest in encouraging their proliferation, and, in any event, the fixed costs invested in creating a new name are so minimal that it is hard to imagine that creating one would require incentives.¹²⁹

¹²³ Mark A. Lemley & David W. O'Brien, *Encouraging Software Reuse*, 49 STAN. L. REV. 255 (1997).

¹²⁴ *Id.* at 268. *But see* Part III.C., *supra* (suggesting that non-excludability does not distinguish public and private goods).

¹²⁵ Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 997 (1997).

¹²⁶ Mark A. Lemley, *Ex Ante Versus Ex Post Justifications for Intellectual Property*, 71 U. CHI. L. REV. 129, 129-30 (2004).

¹²⁷ *Id.* at 129.

¹²⁸ *Id.* at 143.

¹²⁹ *Id.* at 143 n.50.

¶104 The focus on referential use suggests that there is an affirmative social interest in encouraging the creation of search information. Moreover, those who intentionally adopt another's mark for their own proprietary use in order to defraud prefer to copy marks in which the owner has invested substantially in creating a recognizable name. Creating a new, equally powerful name is expensive.

¶105 Professor Lemley and Stacey Dogan succinctly describe the modern foundations of the mainstream search-cost theory of trademark law.¹³⁰ They focus on how trademarks encourage competition by reducing consumers' costs of searching for suitable products and services.¹³¹ In their model, trademarks are not like other forms of intellectual property;¹³² they are private rather than public goods so trademark corrects no market failure;¹³³ and trademark law provides incentives for investments in goodwill.¹³⁴ While patent and copyright laws are necessary to encourage the creation of innovative articles, processes, and works of authorship, "there is no similar need to encourage the creation of brands."¹³⁵ They focus on the benefits to consumers and competition of permitting suppliers to reap an appropriate level of rewards in exchange for promoting their marks. It seems odd that, while the search-cost theory is focused on non-rivalrous use of marks, it treats trademarks as private goods and denies the existence of market failure.

¶106 Not all intellectual property scholars are so dismissive of the public goods characteristics of marks. Like Professor Lemley, Professor Glynn Lunney¹³⁶ recognizes that trademarks facilitate consumers' search for goods that match their desires.¹³⁷ While hinting at the public goods character of trademarks,¹³⁸ his focus is on the fact that unlike physical goods, where use by one physically prevents use by another, trademarks are not physical and not excludable. He asserts that "absent legal protection, a trademark is a public good."¹³⁹

¶107 Lunney seems to be suggesting that non-excludability distinguishes public from private goods, ignoring non-rivalry.¹⁴⁰ By ignoring the non-rivalrous nature of referential use, he seems to assume that legal protection can "cure" the public goods nature of

¹³⁰ See *supra* note 93 and accompanying text.

¹³¹ Dogan & Lemley, *supra* note 14, at 786.

¹³² *Id.* at 801.

¹³³ *Id.* at 791-92.

¹³⁴ *Id.* at 791.

¹³⁵ *Id.* at 801. In a related article, Professor Lemley concludes that "while incentives may be necessary in the case of copyrighted and patented creations, and even trade secrets and databases, incentives cannot justify intellectual property rights in trademarks The economic support for those laws must be found elsewhere." Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031, 1058 (2004).

¹³⁶ Lunney, *supra* note 5.

¹³⁷ *Id.* at 370.

¹³⁸ *Id.* at 462.

¹³⁹ *Id.* at 462-63. See also Gary Myers, *Statutory Interpretation, Property Rights, and Boundaries: The Nature and Limits of Protection in Trademark Dilution, Trade Dress, and Product Configuration Cases*, 23 COLUM.-VLA J.L. & ARTS 241, 259 (2000) (suggesting that trade dress and product design have public goods characteristics and recognizing the need to balance the need for competitive access to those product features against the need to preserve any search-information contained in them).

¹⁴⁰ The problem does not arise simply from the issue of whether non-excludability is an inherent character of a public good; it is primarily from ignoring the characteristic of non-rivalry.

trademarks.¹⁴¹ Nevertheless, in the copyright context, Professor Lunney has emphasized that it is the non-rivalrous character of public goods that creates the market failure:

In terms of economic analysis, [the] suggestion that addressing the issue of excludability is alone sufficient to ensure an efficient market for copyrighted works is simply wrong. Even if copyright law enabled a copyright owner to exclude non-payers perfectly, the ability to exclude would not establish the efficiency of the resulting markets. So long as consumption of works of authorship remains nonrivalrous--that is, so long as "one man's consumption does not reduce some other man's consumption," the first fundamental theorem of welfare economics does not apply. As a result, even if the assumptions necessary for the theorem's application are otherwise satisfied, a competitive equilibrium through private markets will not generally achieve a Pareto optimal allocation of copyrighted works or the resources necessary to create them.¹⁴²

¶108 What is true for copyright is true for trademarks.

¶109 It is not unusual for intellectual property scholars to focus on the non-excludable character of intellectual property and treat this as a defining characteristic of a public good.¹⁴³ Nor is it unusual to read that the public good characteristics can be eliminated by protecting legal rights.¹⁴⁴ Whether a good is a public or private good does not, however, depend on whether it has legal protection. Legal protection is justified as a way of ameliorating the consequences of the public goods characteristics but does not change the non-rivalry characteristics. Moreover, it is non-rivalry combined with non-excludability that distinguishes public from private goods and legal protection could not eliminate that inherent property. With adequate enforcement, law can solve the problems of non-excludability, but can only attempt to address the implications of non-rivalry because of the irreconcilable conflict between static and dynamic efficiency.

¶110 An example of the common fallacy of assuming that facilitating exclusion eliminates the public goods nature of goods can be seen in the writings of respected intellectual property scholar Dan Burk. He asserts, for instance, that technological digital rights management that prevents copying essentially transforms public goods into private goods.¹⁴⁵ In an earlier article, he had described digital rights management systems as

¹⁴¹ Professor Lunney's concern, however, is with the possibility that a commentator's parodic use of a mark will, by casting the mark in a humorous light, reduce the selling power of the mark and, to that extent, be rivalrous. Lunney, *supra* note 5, at 462-63. Professor Lunney ultimately concludes that protection of mark owners against such rivalrous uses is not justified. *Id.* at 463-64. Because he is focused on other issues, he does not address the implications of other (non-artistic) referential uses being non-rivalrous.

¹⁴² Lunney, *Fair Use*, *supra* note 2, at 994 (quoting Samuelson, *Pure Theory*, *supra* note 50, at 387) (citations omitted).

¹⁴³ See Nard, *supra* note 2 (discussing the unwillingness of inventors to disclose inventions without patent protection).

¹⁴⁴ Shubha Ghosh, *Copyright as Privatization: The Case of Model Codes*, 78 TUL. L. REV. 653, 660 (2004) ("Theorists use the concepts of rivalry and excludability to create a taxonomy of goods that aid the policymaker in determining the appropriate institutional arrangement for the allocation of a commodity. The categorization of a commodity as private means that a decentralized market mechanism is appropriate. Categorization as public supports government provision.") (citations omitted).

¹⁴⁵ Burk, *supra* note 57, at 538-39.

“technological fences, designed to convert *some* of the ‘public goods’ aspects of intellectual property back to ‘private goods’.”¹⁴⁶ This statement comes closer to being a correct characterization of intellectual property because it recognizes that non-excludability is only one aspect that gives rise to market failure. But non-excludability does not distinguish public and private goods.

¶111 Professor Burk’s focus on non-excludability as the defining characteristic of public goods is also apparent in an article on trade secrets in which he claims that, because they cannot easily be reverse engineered and need not be disclosed in order to receive protection, “trade secrets are by definition private goods rather than public goods.”¹⁴⁷ The ideas that are the substance of trade secrets are non-rivalrous. They are, therefore, inherently public goods, even though other people can be excluded from using them.

¶112 Public goods cannot be “converted” into private goods. Rather, the market failures associated with non-rivalry may simply be addressed by public policy just as market failure associated with free riding is addressed by creating exclusive rights. It is primarily the view that non-excludability provides the single justification for trademark law that leads intellectual property scholars to believe there is no market failure associated with the provision of trademarks.

¶113 Legal protection of trademarks addresses both the free-rider, dynamic efficiency concern associated with the non-excludability problem and the inability to recoup costs associated with the static/dynamic dilemma. It does not, however, address either the static efficiency concern or the demand revelation problem. Search cost theories ignore the potential for a richer theory of trademarks based in the public goods nature of referential use.

¶114 The importance of referential uses can be no surprise to Professors Lemley and Dogan. They recognize that the importance of preserving the clarity of language¹⁴⁸ and that one goal of trademark law is “to preserve the informative role of trademarks.”¹⁴⁹ They recognize that trademarks are “limited entitlements to protect against uses that diminish the informational value of marks.”¹⁵⁰ They recognize that “[p]eople and businesses use trademarks every day, in conversation, in news reporting, in songs, and in books” and that “[i]ndividuals and companies may make reference to, or use of, a trademark without fear of liability unless they are making a trademark use.”¹⁵¹ The informational value of marks resides in the richness of language used to search for goods, the stock of referential and non-rivalrous communication devices.

¶115 The focus on non-rivalrous uses is a natural outgrowth of the search cost theory. It is as if search-cost theorists were focusing on non-rivalrous uses without recognizing it. Landes and Posner state that the search cost model helps analyze specific issues and

¹⁴⁶ Burk, *supra* note 2, at 168 (emphasis added). A statement that is closer to being an accurate description, though still focusing on non-excludability and ignoring the fact that both private and public goods may be non-excludable, is an even earlier reference in which Professor Burk states that “information goods of all types could perhaps be imbued with private goods aspects via technological barriers.” Dan L. Burk, *Virtual Exit in the Global Information Economy*, 73 CHI.-KENT L. REV. 943, 993 (1998) (emphasis added).

¹⁴⁷ Dan L. Burk, *Misappropriation of Trade Secrets in Biotechnology Licensing*, 4 ALB. L.J. SCI. & TECH. 121, 131 (1994).

¹⁴⁸ Dogan & Lemley, *supra* note 14, at 788.

¹⁴⁹ *Id.*

¹⁵⁰ *Id.*

¹⁵¹ *Id.* at 805-06.

doctrines in trademark law,¹⁵² and their actual explanations are replete with references to how consumers respond to various practices. In their section on trademark acquisition, transfer, and duration, for instance, their explanation of the structure of trademark law refers to doctrines that foreclose mark owners from transferring marks for deceptive purposes that “so change the nature of the thing symbolized that the mark becomes fraudulent.”¹⁵³ From a public goods perspective, this rationale is easily recognized as conduct that interferes with the referential utility of the term.

¶116 Implicit focus on referential use appears in their explanation of the rule prohibiting “in gross” transfers of trademarks (transfers of rights to marks unaccompanied by the right to make the goods in connection with which the mark is used). Landes and Posner explain that the rule relates to the function of trademarks as signals and the potential for consumers to be misled when the transferor’s signal is used by an unrelated party.¹⁵⁴ From a public goods perspective, this is a rivalrous proprietary use of a resource that may interfere with the benefits people may derive from the public stock of referential meanings of source-indicating devices.

V. MARKET FAILURE IN THE DEMAND AND SUPPLY OF TRADEMARKS.

¶117 The discussion of market failures rests on theoretical assumptions about whether competitive markets produce desirable results. In economic theory, those results are described in terms of whether a competitive market produces the optimal amount of goods. Applied to trademarks, the question is whether government intervention in the market for the provision of trademarks is necessary to provide the optimal amount of search information.

¶118 Traditional scholars agree that trademark law addresses some of the concerns associated with unregulated competitive markets. Without some degree of government protection of trademark rights, the free riding associated with non-excludability will result in the underprovision of search information. This market failure is associated with public and private goods and is not central to the analysis of market failure associated with the non-rivalrous nature of referential use. Without some ability of mark owners to recoup their investment in marks, which strengthens either the source or product information content of the mark, the dynamic efficiency half of the static/dynamic dilemma is not addressed. Mark owners’ ability to charge a price that includes the cost of trademarking activity addresses this concern. Whether the price is sufficient to cover costs is determined by consumer preferences properly revealed in a competitive market once trademark rights become enforceable. The unaddressed market failures are the static efficiency concern associated with non-rivalry and the demand revelation problem associated with non-excludability.

¹⁵² LANDES & POSNER, *ECONOMIC STRUCTURE*, *supra* note 1, at 179.

¹⁵³ *Id.* at 185 (quoting 2 J. THOMAS MCCARTHY, *MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION* § 17.24 (4th ed. 2002) (footnotes omitted)).

¹⁵⁴ Landes & Posner, *Economic Perspective*, *supra* note 1, at 285-86.

A. *Static Efficiency and Deadweight Loss from Trademark Rights.*

¶119 The previous Part III.B described the static/dynamic dilemma as inherently insoluble. If consumers must pay for search information so that suppliers can recoup their costs of supply, those who would have purchased the good had its price not included the cost of search-information are excluded, creating a deadweight loss. If suppliers are somehow forbidden from including their advertising and branding costs in their prices, their incentive to provide search information is diminished resulting in a deadweight loss associated with underprovision. Intellectual property law addresses this dilemma.

¶120 Trademark law's solution is identical to the solution employed in copyright and patent law. Authors and inventors are given the right to prevent others from exploiting their inventions. Ignoring unrelated rules that limit sales of some items (e.g., obscenity and gun control laws), authors and inventors are entitled to try to sell their creations for a price that includes not only the cost of supplying the item but also their costs of creation. Trademark owners similarly may charge a price for their products to cover the costs of supply plus the costs of trademarking. For each type of intellectual property, if the demand for their products is sufficient, the creators may recoup their costs and more.

¶121 These exclusive rights result in *some* deadweight loss. The buyers of those works of authorship, inventions, and products with prices that include the cost of information are not excluded by the rights given to the creator, so no deadweight loss follows from the fact that the price of the information *should* be zero. There is a wealth transfer from consumers to suppliers, in the sense that each consumer who buys the product is paying more for the information than the marginal cost of supplying it to that consumer. But this is not an allocative efficiency loss.¹⁵⁵

¶122 Deadweight loss results from the failure to supply search information to people who would be willing to pay some amount greater than the marginal cost of supplying a good to them but less than the price with a mark-up to cover the cost of producing search information. These are the people who buy a generic cola rather than Pepsi, even though they prefer Pepsi. Imagine that producing and delivering a can of any type of cola costs the supplier 10 cents and that a consumer would be willing to pay 40 cents to buy a Pepsi and 10 cents to buy the generic. If Pepsi adds 50 cents to the price to cover the cost of providing search information, the consumer will buy the generic. The deadweight loss is the lost 30 cents the consumer would have been willing to pay for the Pepsi. The sum of such losses for each consumer excluded from the market by this pricing policy is the loss resulting from the search information not being provided for free. This is the deadweight loss associated with trademark law's permitting mark owners to charge consumers for the cost of creating information.

¶123 This market failure is not isolated to trademark law and it might be worthwhile to suffer this deadweight loss. Scholars recognize that, in copyright and patent law, suffering these losses may be justified if they are offset by the increase in creativity and dissemination of new works.¹⁵⁶ The incentive is provided by permitting trademark, copyright, and patent owners to charge others for the use of their ideas. The benefit is the

¹⁵⁵ See DAVID W. BARNES & LYNN A. STOUT, CASES AND MATERIALS ON LAW AND ECONOMICS 379-87 (1992) (distinguishing between allocative efficiency and deadweight losses arising from monopoly pricing and the wealth transfer effects of monopoly pricing).

¹⁵⁶ Mark A. Lemley, *supra* note 125, at 997.

reduction of search costs. The cost imposed is the deadweight loss. Just as some consumers are denied access to the trademarked product in order to provide search information, some users are denied access to the means of expression or the innovation in order to encourage creativity and innovation. These may be acceptable tradeoffs, but in patent and copyright the market failure and associated losses are well-recognized. The copyright, patent, and trademark laws attempt to minimize the costs associated with each problem but do not eliminate the market failure.

B. Demand Revelation and Deadweight Loss From Trademark Rights

¶124 The deadweight loss associated with exclusion may be the smaller portion of the allocative efficiency loss associated with private provision of search information. Because the copyright and patent laws accept the tradeoff, there may be little sympathy for excluded consumers who do not value the trademarked goods highly enough to pay for the cost of search information. A loss of greater magnitude is the failure of the system of trademark to reveal the optimal amount of search information desired by referential users.

¶125 Again, consider the various types of users of marks. These include consumers, competitive suppliers, non-competitors, and commentators. Among those consumers using search-information, there are consumers who rely on the information and ultimately buy the product, those who rely on the information and reject the product, and those who refer to the product in the context of non-purchasing discourse such as the use of Pepsi as an example in the previous section. Buyers reveal something about their willingness to pay for the information by paying a higher price for the product. Rejecting consumers reveal nothing about their demand for the information, just as people listening to a street performer may reveal nothing to the artists about their willingness to pay for the performance. As a matter of policy, we would not want to exclude rejecting consumers from referential use, but there is no system for charging them or getting them to reveal their demand.

¶126 Competitive suppliers might have rivalrous proprietary uses. We can ignore their demand because the market failures associated with public goods do not apply. A competitive supplier's proprietary use is rivalrous. It would interfere with both the owner's use by reducing the owner's ability to recoup costs and consumers' referential use by raising search costs.

¶127 Competitive suppliers might also have non-rivalrous referential uses for the owner's mark. In trademark law, there are several types of relevant, tolerated, non-rivalrous uses of others' marks by competitors. First, there are comparative referential uses. In these examples, the competitive supplier uses the owner's mark to refer to the owner's product, with the ultimate goal of describing its own goods. In comparative advertising, LIFESAVERS candy is "25% lower in calories than WERTHER'S" candies,¹⁵⁷ courts recognize the pro-competitive benefits due to the greater information provided to consumers. As long as it does not create source confusion that outweighs its value, comparative advertising adds to the supply of search information. But the demand by competitors for comparative use is not revealed by any market mechanism.

¹⁵⁷ See *August Storek K.G. v. Nabisco, Inc.*, 59 F.3d 616, 617 (7th Cir. 1995) (describing comparative advertising as a form of competition that is highly beneficial to consumers).

¶128 Second, use of a mark by someone who restores, refurbishes or reconstructs used goods originally bearing the mark to describe its origins is a referential use for which demand is not revealed. Being able to say that my washed and repainted golf balls were originally sold under the TITLEIST mark conveys information to consumers, so long as their restored character is also disclosed.¹⁵⁸ Such uses are non-rivalrous and, like comparative uses, beneficial, as far as consumers are concerned. So the law allows them.¹⁵⁹

¶129 These uses by competitors are rivalrous in Professor Lunney's sense¹⁶⁰ that an unfavorable comparison may reduce the value of the owner's mark. If trademark law's proper focus is on referential use, trademark law should protect such comparative use or use on reconstructed goods even if it diminishes the profits the mark owner derives, just as copyright law protects parodic use of copyrightable elements of a musical work even when that use diminishes the appeal of the original.¹⁶¹ In both cases, the focus is the benefit from access to public goods. Competitive suppliers' demand for the referential use of the mark is never revealed through any mechanism.

¶130 The category of "nominative use" includes examples where using the owner's mark is the only feasible way for another person, either a competitor or non-competitor, to refer to the mark owner's product.¹⁶² The only feasible way for a newspaper conducting a public opinion poll on the popularity of a product or service, such as a musical group, to identify the product or service is by its name.¹⁶³ The demand for these non-rivalrous uses is not revealed by any mechanism.

¶131 Finally, there is demand for referential use of marks by commentators and artists. A magazine publisher discussing the relative merits of Fords and Chevys and a musician making fun of Barbie dolls value the use of those marks in their work. Their willingness to pay for the communicative value of the marks in their referential use is never revealed.

¶132 Trademark law contains no mechanism for revealing the demand of each of these types of referential users, except those consumers who purchase the goods in connection with which trademarks are used. Thus, the optimal supply of trademarks is unknowable.

C. *The Optimal Supply of Trademarks*

¶133 The implication of the demand revelation problem is the potential undersupply of search information. The optimal supply of a public good is determined by equating *the sum of the benefits obtained* by producing another unit of information about a product with the costs of doing so.¹⁶⁴ If some users' valuations of benefits are ignored, the public good will be undersupplied. For a private good, each buyer must obtain his or her own

¹⁵⁸ See *Nitro Leisure Prods., L.L.C. v. Acushnet Co.*, 341 F.3d 1356, 1362-63 (Fed. Cir. 2003) (applying the refurbished goods rule to used golf balls).

¹⁵⁹ *Id.*

¹⁶⁰ See *supra* note 141.

¹⁶¹ See *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 591-92 (1994) ("We do not, of course, suggest that a parody may not harm the market at all, but when a lethal parody, like a scathing theatre review, kills demand for the original, it does not produce a harm cognizable under the Copyright Act.")

¹⁶² See, e.g., *Century 21 Real Estate Corp. v. Lendingtree, Inc.*, 425 F.3d 211 (3d Cir. 2005) (applying the Third Circuit's nominative use test); *New Kids on the Block v. News Am. Publ'g., Inc.*, 971 F.2d 302 (9th Cir. 1992) (applying the Ninth Circuit's nominative use test).

¹⁶³ See *New Kids*, 971 F.2d at 308.

¹⁶⁴ See *supra* note 62.

units of the good because they are rivalrous. The optimal supply of a private good is determined by equating the *sum of the units of a good demanded* at a particular price with the marginal costs.¹⁶⁵

¶134 Figure 1 illustrates a supplier's response to the demand signals conveyed to it by consumers. The hypothetical demand curve indicates the responsiveness of would-be purchasers to additional product and source information the mark owner associates with its mark. The marginal cost curve reflects the additional cost of providing incrementally more information. With this information, the mark owner will find it optimal to supply the quantity of information indicated by Q_{PC} .

¶135 The potential purchasing consumers are non-rivalrous referential users. Their demand curve reflects the valuations of all those who would be willing and able to pay the cost of producing the good, though not necessarily the additional cost of trademarking. Because information is a public good (non-rivalrous once produced) all of the purchasing consumers can simultaneously benefit from provision of each unit of information. Thus, the supply of information provided at Q_{PC} reflects the willingness of all purchasing consumers to pay for the additional bit of information, which they can simultaneously and non-rivalrously consume. Technically, that supply appears where the marginal rates of substitution for all of the purchasing consumers (the total of their willingness to pay for an additional unit) equals the marginal rate of transformation (the marginal cost of supplying that additional unit).¹⁶⁶

¶136 Figure 2 depicts the total demand of all referential and non-rivalrous users, which cannot be determined in the market context because many of these users are not excluded from their use of the mark. While rejecting consumers, competitors, and commentators each would be willing to pay some amount for the information because they attach some value to it, they are not excluded from use and never reveal that information.¹⁶⁷ Because these referential users are also non-rivalrous, each demand curve also reflects the sum of each type of users' willingness to pay for the information.

¶137 Because one unit of information can simultaneously be made available to all consumers without one's use interfering with another, the quantity demanded by each of them should be summed across all types of non-rivalrous users to determine the total amount of information all people taken together are willing to pay for at various prices. The Total Demand curve in Figure 2, which remains unrevealed to the mark owner, indicates that the optimal supply of information is at a higher level than Q_{PC} , specifically, Q^* . The market fails to disclose to the mark owner, or to any would-be regulator of the market, the optimal quantity of search information that should be produced. The implication is that trademarks contain too little information about products and their sources.

¹⁶⁵ *Id.*

¹⁶⁶ *Id.*

¹⁶⁷ The demand curves for each type are randomly located with respect to one another in this Figure, merely to illustrate that each type of user derives some benefit from the information. To the extent any demand curve exaggerates a type of referential user's willingness to pay for search information, the purpose is to emphasize the potential for under-supply of information.

Figure 1

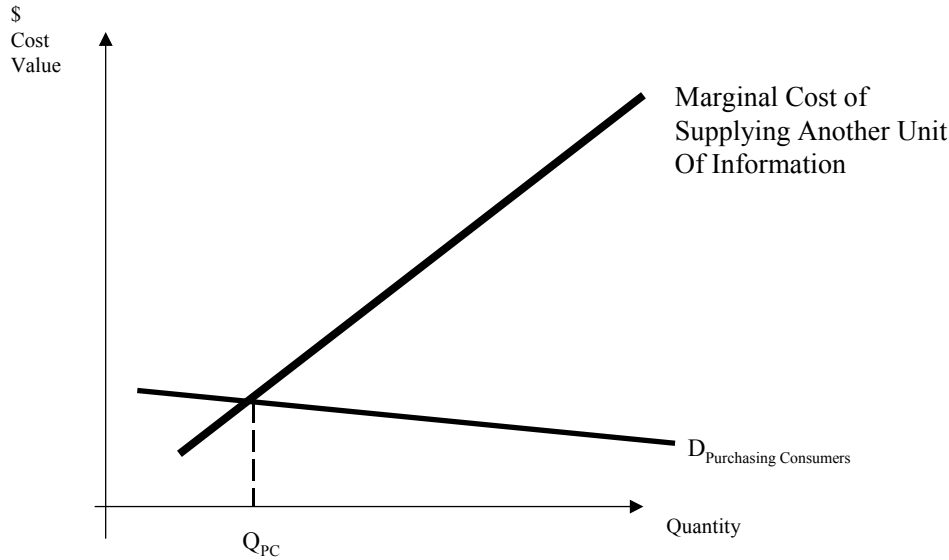
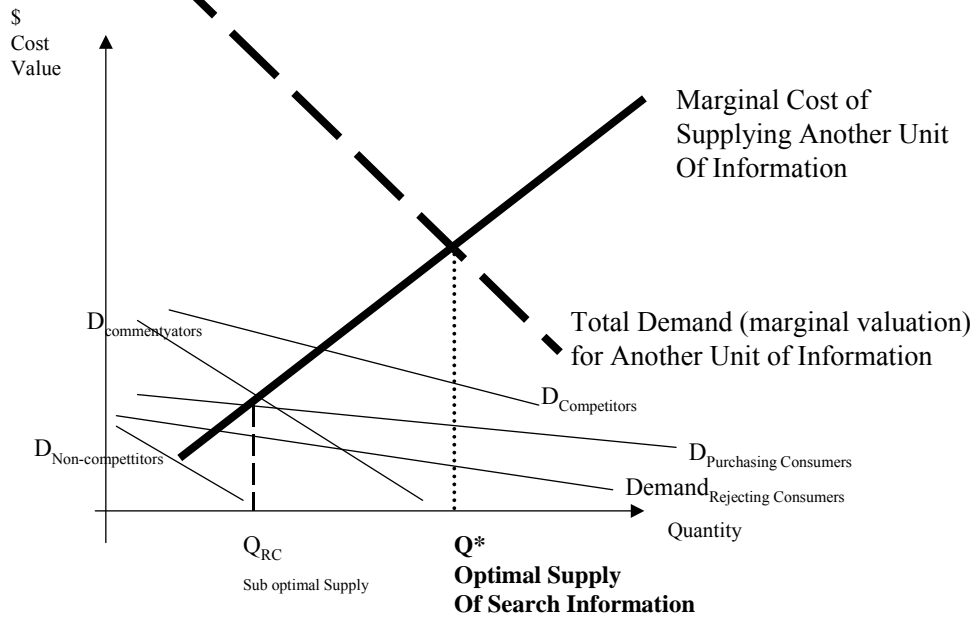


Figure 2



¶138 In sum, there are three market failures associated with trademarks. First is a market failure created by non-excludability, free riding that interferes with the ability to recoup costs, which is addressed by creating exclusive rights. Second, there is a market failure created by the static/dynamic dilemma, the deadweight loss associated with excluding some would-be purchasers due to higher price that includes costs of trademarking. This is unaddressed by trademark law, but may be considered a worthy tradeoff for providing incentives to suppliers of search information. Third, there is the market failure created by lack of demand revelation, which is unaddressed by trademark law.

¶139 These market failures are similarly associated with copyrights and patents. First, free riding on authors' expressions and inventors' innovations is addressed by limited

terms of exclusive rights. Second, the deadweight loss resulting from denying access to ideas about expression and innovation to those who will not pay is recognized in copyright and patent theory as a trade-off for promoting science and the useful arts.¹⁶⁸ Third, in copyright, the value of an author's expression to people who may use the expression without payment under the fair use provisions of the copyright law¹⁶⁹ suggests a somewhat limited class of people whose willingness to pay is not internalized by the author. In patent law, there are very few who can exploit the invention without payment during the patent term because the philosophical experiment exception is so narrowly interpreted,¹⁷⁰ so the demand revelation problem may be least significant in that area. In fact, the market failure associated with demand revelation may be greatest in trademark law, which allows so much uncompensated use.

¶140 What does the existence of market failures mean in practical terms? First, scholars should recognize that trademark law faces the same inherent conceptual difficulty as copyright and patent law. All involve the sacrifice of short-run static efficiency (widespread access to non-rivalrous public goods) for long term dynamic efficiency (exclusive rights to charge some users for the costs of supplying the idea).

¶141 The existence of this trade-off raises the issue of the optimal degree of protection of all types of intellectual property. In copyright and patent, this issue is confronted primarily when deciding how long the legal monopoly should last. In trademark, the issue is implicitly involved in the debate over privatization of trademark, which refers to the trend towards judicial protection of trademarks against uses that do not affect consumers adversely but free ride on the efforts of the trademark owner.¹⁷¹ This debate involves the extent to which trade dress and product designs,¹⁷² domain names,¹⁷³ uses of marks by search engines on the Internet that cause initial interest confusion,¹⁷⁴ and generic marks¹⁷⁵ should be protected, and the scope of sponsorship confusion¹⁷⁶ and dilution protection.¹⁷⁷ Each part of the debate pits free access against monopoly exclusion. Some scholars recognize a trade-off between protection and access, without recognizing its public goods roots.¹⁷⁸

¹⁶⁸ This tradeoff is recognized in both copyright and patent law. *See, e.g.*, Liebowitz & Margolis, *supra* note 57, at 438-39 (copyright); James Boyle, *Cruel, Mean, or Lavish? Economic Analysis, Price Discrimination and Digital Intellectual Property*, 53 VAND. L. REV. 2007, 2013 (2000) (copyright); Abramowicz, *Perfecting*, *supra* note 2, at 128-30 (patents); Gideon Parchomovsky & Peter Siegelman, *Towards an Integrated Theory of Intellectual Property*, 88 VA. L. REV. 1455, 1506 (2002) (patents).

¹⁶⁹ 17 U.S.C. § 107 (2000).

¹⁷⁰ *See supra* note 31.

¹⁷¹ *See* Bone, *supra* note 102, at 2121-22. *See generally* Lunney, *supra* note 5; Vincent Chiappetta, *Trademarks: More Than Meets the Eye*, 2003 U. ILL. J.L. TECH. & POL'Y 35 (2003); Mark A. Lemley, *The Modern Lanham Act and the Death of Common Sense*, 108 YALE L.J. 1687 (1999).

¹⁷² *Id.*

¹⁷³ Juliet M. Moringiello, *Seizing Domain Names to Enforce Judgments: Looking Back to the Future*, 72 U. CIN. L. REV. 95 (2003).

¹⁷⁴ *See* Dogan & Lemley, *supra* note 14 at 780-81.

¹⁷⁵ Xuan-Thao N. Nguyen, *Nationalizing Trademarks: A New International Trademark Jurisprudence?*, 39 WAKE FOREST L. REV. 729, 730-31 (2004).

¹⁷⁶ Viva R. Moffat, *Mutant Copyrights and Backdoor Patents: The Problem of Overlapping Intellectual Property Protection*, 19 BERKELEY TECH. L.J. 1473, 1495 (2004) (noting that the trademarks have, in some instances, become the product).

¹⁷⁷ Michael A. Carrier, *Cabining Intellectual Property Through a Property Paradigm*, 54 DUKE L.J. 1, 20 (2004).

¹⁷⁸ *See, e.g.*, Harvey S. Perlman, *Taking the Protection-Access Tradeoff Seriously*, 53 VAND. L. REV. 1831

¶142 The inevitability that suppliers charge buyers of their products for the search information associated with their trademarks means that others are inefficiently excluded from buying goods whose cost of production they can afford. From a static efficiency perspective, resources are misallocated, not enough DIET PEPSI¹⁷⁹ is produced. Scholars have typically analyzed this “pricing power” by focusing on higher prices due to artificial product differentiation and excessive spending on name recognition.¹⁸⁰ The static efficiency concern is, however, broader than these issues. Just as there is a deadweight loss when the public is denied free access for the limited period of legal copyright and patent monopoly, there is deadweight loss associated with the lack of free access to search-information. As for copyright and patent, the trade-off of static inefficiency for dynamic efficiency may be acceptable, but at least in copyright and patent the issue is one that is open for consideration.

¶143 Second, the failure of many referential users to reveal their demand for search information suggests an undersupply of search information. In particular, potential customers as well as competitors engaged in comparative advertising rely on the search information associated with marks to determine whether the product will meet their needs and/or to make qualitative comparisons between competing products.

¶144 Because the demand of only a portion of the potential customers and none of other suppliers is revealed, their demand can only be estimated and may be overlooked. That is not to say that we would expect trademark owners to produce more information simply to accommodate their competitors. Rather society would benefit from more information. Intuitively, it is hard to argue that the advertising used to attach information to marks is overly informative. The millions paid for product placement in movies suggests that mark owners are more interested in creating name recognition than supplying search information.¹⁸¹

¶145 More formally, we might say that the failure of advertising to be more informative results from imperfect information about the demand for information. Economists studying trademarking activity and advertising recognize that trademarks can cause consumers to associate the advertised characteristics of a product with a brand.¹⁸² In that way, trademark owners with sufficient incentive could provide informational advertising that helps consumers to identify the merits and demerits of products. There is no such incentive and trademark law does not seem to address the problem at all.

VI. CONCLUSION.

¶146 Public goods theory emphasizes the non-rivalrous character of the uses of some goods. Trademarks have both rivalrous and non-rivalrous uses. The rivalrous proprietary uses are suppliers’ conflicting source-indicating uses that are likely to divert trade, cause

(2000).

¹⁷⁹ U.S. Trademark Registration No. 0824152 (Feb. 14, 1967).

¹⁸⁰ See, e.g., Landes & Posner, *Economic Perspective*, *supra* note 1, at 274-75.

¹⁸¹ Burger King reportedly paid \$15 million for product placement in the movie *Men in Black II*. See Smoke Free Movies, http://smokefreemovies.ucsf.edu/ourads/textonly_superman_var.html (last visited Oct. 18, 2006). By one estimation, product placements in 2004 were valued at \$360 million. See Supermarket Guru, <http://www.supermarketguru.com/page.cfm/25367?CurrentPage=9&archive=1¤tdate=2006-05-20> (last visited Oct. 18, 2006).

¹⁸² Lemley, *supra* note 171, at 1690.

confusion, and dilute the link between the trademark and the mark owner's products or services. The non-rivalrous referential and customary uses are by consumers, competitors, non-competitors, and commentators who exploit the communicative value of the device without using it as their own mark. Despite trademark law's implicit emphasis on the importance of protecting non-rivalrous uses in both infringement and dilution claims, the market failures arising from non-rivalrous uses of a mark are not recognized in the trademark literature.

¶147 Appreciating the mixed public goods nature of trademarks fills gaps in trademark theory and highlights gaps in the analysis of trademark law's structure. The following outline suggests how public goods theory relates to the current search cost/competition theory of trademarks. The starred portions reflect the contribution of public goods theory.

*1. Non-rivalry creates a static/dynamic dilemma. Charging non-rivalrous users of a public good creates a deadweight loss by excluding some users, but not charging them diminishes suppliers' incentives to supply, potentially creating a deadweight loss due to underprovision of the good.

*2. Non-excludability diminishes suppliers' incentives and obscures users' demand for the good.

3. Trademark law allows suppliers to charge for search information by raising the price of their goods to cover associated costs, reducing dynamic inefficiency.

4. By granting exclusive proprietary rights, trademark law increases the provision of search information, goods of consistent quality, and goods of high quality, reducing the deadweight loss associated with dynamic inefficiency.

5. Trademark law increases competition by providing access to words and terms needed for competition and facilitating entry by competitors.

*6. By permitting unrestricted, free referential and customary use, trademark law increases the non-rivalrous use of search information, reducing but not eliminating the deadweight loss associated with static inefficiency.

*7. Trademark law does nothing to reveal the value many referential and customary users place on search information so does little to ensure that the optimal amount of search information is provided.

¶148 The two initial observations from public goods theory (points *1 and *2) summarize the market failures associated with public goods. Trademarks are mixed public goods because they have rivalrous, non-rivalrous, and congesting uses. The indented portions of this outline (points 3-5) reflect the conventional wisdom about trademark's economic role from search cost and competition theory. The two final observations (points *6 and *7) indicate both the literature's failure to recognize and the law's failure to address market failures associated with the supply of trademarks.

¶149 This economic theory of trademarks has numerous applications. As this paper has shown, it reveals the shortcomings of both modern trademark scholarship and modern

trademark law. Scholars do not recognize the impure public goods nature of trademark or appreciate the associated market failures.

¶150 The focus on referential use might also be used to explain the structure of trademark law. In Part II, this article explored the close connection between infringement and dilution claims and non-rivalrous referential use. The scope of geographic rights might also be viewed from this perspective. Without registration, mark owners' rights are geographically limited to the area within which the mark owner has attempted to establish a referential meaning for the source-indicating device.¹⁸³ Similarly, courts give stronger protection to marks with a clearer referential meaning, i.e. arbitrary and fanciful devices with no preexisting link to the product.¹⁸⁴

¶151 In addition, focusing on the public goods nature of trademarks highlights the similarities among trademark, copyright, and patent. Part III identified the analytic parallels between trademarks and other forms of intellectual property, emphasizing that it is the non-rivalrous character of the uses of information contained in all forms of intellectual property that leads to a need for government involvement in the market for supplying information. Those parallels suggest further comparisons between intellectual property regimes.

¶152 One such similarity is the focus of all intellectual property regimes on encouraging creative contributions to the public domain. Trademark law gives stronger protection to marks that contribute more to the stock of linguistic devices, fanciful and arbitrary marks. Copyright and patent law also extends protection in proportion to authors' creative contributions to the public domain. Authors receive protection only for the copyrightable elements of their works,¹⁸⁵ and patent owners receive protection only for their novel claims.¹⁸⁶ Generic marks, by analogy to copyright law, "merge" with the names of the products in connection with which they are used.¹⁸⁷ Descriptive terms are, by analogy, "thin" marks in the copyright law sense.¹⁸⁸ Fanciful terms are, by analogy, "non-obvious" in the patent law sense.¹⁸⁹ Each of these types of intellectual property has a similar fundamental reason for protection, its contribution to the public stock of ideas and information.

¹⁸³ There are no trademark rights in those areas where an unregistered senior user's activities created no significant commercial impression as a source-indicator because it was "so small, sporadic, and inconsequential" that it had failed to establish a referential meaning. *Sweetarts v. Sunline, Inc.*, 380 F.2d 923, 929 (8th Cir. 1967), *and* 436 F.2d 705 (8th Cir. 1971).

¹⁸⁴ *See, e.g.*, *Virgin Enters. Ltd. v. Nawab*, 335 F.3d 141, 148 (2d Cir. 2003) ("The goal of avoiding consumer confusion thus dictates that the inherently distinctive, arbitrary, or fanciful marks, i.e., strong marks, receive broader protection than weak marks, those that are descriptive or suggestive of the products on which they are used.").

¹⁸⁵ *See, e.g.*, *Warner Bros. Inc. v. Am. Broad. Cos.*, 720 F.2d 231, 240 (2d Cir. 1983) (permitting summary judgment in favor of an infringement defendant if the similarity between the works involves only non-copyrightable elements).

¹⁸⁶ *See* 35 U.S.C. §§ 101, 102 (2000) (imposing a requirement that a patentable invention be "new" and defining "novelty").

¹⁸⁷ *See, e.g.*, *Kay Berry, Inc. v. Taylor Gifts, Inc.*, 421 F.3d 199, 209 (3d Cir. 2005) (stating that, when "an author's expression becomes indistinguishable from the idea he seeks to convey," the expression and idea are said to merge and the expression is not protectable).

¹⁸⁸ *See* *Feist Publ'ns., Inc. v. Rural Tel. Serv. Co., Inc.*, 499 U.S. 340, 349 (1991) (applying the concept of "thin" copyright to factual compilation with few creative elements and deserving little protection).

¹⁸⁹ *See* 35 U.S.C. § 103 (2000) (denying patents to inventions obvious to a person having ordinary skill in the relevant art).

¶153

Finally, the theory is a useful analytical tool in the propertization debate. Part IV focused attention on the market failures attending the supply of trademarks as public goods and Part V related the static/dynamic dilemma to the balance between protection of marks and access to marks. In doing so, the theory identifies a need to allow suppliers to recoup expenses that is limited by the need to allow widespread non-rivalrous use. But it does not support rewarding the creation of goodwill or preventing free riding unless the exclusive rights created by expanding protection of trademarks on balance enriches the public domain. The referential use perspective potentially applies to controversial issues such as the extent of protection of trade dress and product design, what it means to “use a mark” in Internet advertising, the significance of post-sale and initial interest confusion, and, as illustrated, dilution law. These applications of the theory are, of course, beyond the scope of this article.