

Northwestern Journal of Technology and Intellectual Property

Volume 9 | Issue 8

Article 2

Summer 2011

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Recommended Citation

David W. Barnes, *Congestible Intellectual Property and Impure Public Goods*, 9 NW. J. TECH. & INTELL. PROP. (2011).
<https://scholarlycommons.law.northwestern.edu/njtip/vol9/iss8/2>

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N O R T H W E S T E R N
JOURNAL OF TECHNOLOGY
AND
INTELLECTUAL PROPERTY

Congestible Intellectual Property and Impure Public Goods

David W. Barnes



Congestible Intellectual Property and Impure Public Goods

By David W. Barnes*

¶1 Public goods theory has for decades been the dominant economic foundation for intellectual property law. Recently, scholars have suggested that some intellectual property information possesses the characteristics of impure public goods—goods that *only to some extent* share the non-rivalry characteristics of public goods. Public goods theory was developed in the context of publically provided goods, and associated policy prescriptions provide little practical guidance for the regulating modern private market provision of intellectual property. Impure public goods theory is even less helpful in identifying the optimal balance between exclusive rights to creators and access by others who would benefit from that information. Informed by impure public goods theory, however, an approach comparing the net benefits of increasing incentives and increasing access can inform intellectual property policy.

¶2 This Article explores the non-rivalry characteristics of impure public goods and the associated policy implications for intellectual property law. It concludes that the consumption of information about the expressions of ideas protected by copyright law and about the sources and characteristics of goods and services embodied in symbols protected by trademark law can be partially rivalrous. This Article applies a net benefit test to examples of impure public goods suggested by various scholars. It concludes that, on balance, partial rivalry does not support proposals for strengthening exclusive rights.

I. INTRODUCTION

¶3 The conventional economics of intellectual property law is based on public goods theory. The information embodied in intellectual property has two characteristics that distinguish it from tangible property. Like other public goods, copyrighted expressions and patented inventions are non-rivalrous and non-excludable.¹ Recently, scholars have argued that trademarked symbols also share these properties.² If a good is non-rivalrous,

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¹ See James Boyle, *The Second Enclosure Movement and the Construction of the Public Domain*, 66 LAW & CONTEMP. PROBS. 33, 41–42 (2003) (arguing that the distinguishing features of information as property are non-rivalrousness and non-excludability); Richard A. Epstein, *The Disintegration of Intellectual Property? A Classical Liberal Response to a Premature Obituary*, 62 STAN. L. REV. 455, 457–58 (2010) (characterizing modern intellectual property scholars as rejecting traditional law associated with physical property because information is non-rivalrous and non-excludable);.

² There has been some scholarly disagreement on whether trademarks are public goods. Compare Stephen L. Carter, *The Trouble with Trademark*, 99 YALE L.J. 759, 762 (1990) (“A trademark is not a public good . . .”), William M. Landes & Richard A. Posner, *Trademark Law: An Economic Perspective*, 30 J.L. & ECON. 265, 268–74 (1987) (“A proper trademark is not a public good; it has social value only when used to designate a single brand.”), and Mark A. Lemley, *Ex Ante Versus Ex Post Justifications for Intellectual Property*, 71 U. CHI. L. REV. 129, 143 (2004) (stating, with respect to trademarks, that “there is no public

“it is costless to allow additional consumers simultaneously to enjoy the benefits of a public good once it has been produced.”³ If a good is “non-excludable,” it is difficult for producers to get consumers to pay for the privilege of using it.⁴

¶4 Intellectual property law is usefully conceptualized as promoting the development and dissemination of information. The information may concern new machines or compositions of matter in patent law, original ways to express ideas in copyright law, or the characteristics of goods and services in trademark law. If the information is non-rivalrous, it is desirable for many to have access to the benefits of public goods for free. Free access to non-rivalrous goods is desirable because, once the goods have been produced, they may be supplied without cost to additional consumers.

¶5 When public goods are provided by private enterprise, the free access goal conflicts with the need to encourage production of public goods. Competitive markets rely on incentives provided by profit-making opportunities and positive prices. Without the incentive provided by the potential to earn profits, competitive markets provide insufficient incentives for creative activity.⁵ Intellectual property law creates limited enforceable rights to charge users of patented innovations, copyrighted expressions, and trademarked symbols and thereby recoup the costs of supplying that information. Intellectual property law addresses the problem created by the lack of incentives, which would otherwise deprive the public of the benefits of information.

¶6 Complicating the analysis is the presence of “impure” public goods, goods that are partially rivalrous, partially excludable, or both. This Article focuses on partially rivalrous or “congestible” intellectual property, information for which some simultaneous uses by consumers interfere with the benefits consumers derive from their uses. A highway is partially rivalrous. But too much traffic congests the road and slows down everyone’s progress. Too many trucks make the journey less pleasant for occupants of

goods problem for intellectual property to solve”), with David W. Barnes, *A New Economics of Trademark*, 5 NW. J. TECH. & INTELL. PROP. 22 (2006) (arguing that the non-rivalrousness and non-excludability characteristics of copyrighted expressions and patented inventions applies to trademarked symbols as well). Among other recent scholarly works attributing public goods characteristics to trademarks are Sonia K. Katyal, *Trademark Intersectionality*, 57 UCLA L. REV. 1601, 1607 (2010); William M. Landes, *Posner on Beanie Babies*, 74 U. CHI. L. REV. 1761, 1772 (2007); Ian J. Block, Comment, *Hidden Whois and Infringing Domain Names: Making the Case for Registrar Liability*, 2008 U. CHI. LEGAL F. 431, 434 (2008); Margaret Ritzert, Comment, *Champagne Is from Champagne: An Economic Justification for Extending Trademark-Level Protection to Wine-Related Geographical Indicators*, 37 AIPLA Q.J. 191, 214 (2009). Yet scholars continue to treat copyright and patents as “public goods” while treating trademarks as, apparently, some other kind of information. See, e.g., Keith Aoki, *Food Forethought: Intergenerational Equity and Global Food Supply—Past, Present, and Future*, 2011 WIS. L. REV. 399, 421 (2011) (“Copyrights and patents have been reframed as ‘public goods’ and trademarks have been characterized as information proxies that reduce search costs to consumers.”).

³ David W. Barnes, *The Incentives/Access Tradeoff*, 9 NW. J. TECH. & INTELL. PROP. 96, 98–99 (2010). In addition, “[p]ublic goods are not classified as ‘public’ simply because they are supplied by the government. Rather, some goods are classified as ‘public’ because their characteristics of non-rivalrousness in consumption and non-excludability in production inevitably prevent efficient private market supply.” *Id.* at 99 n.16.

⁴ *Id.* at 99.

⁵ Barnes, *supra* note 2, at 39–40; Mark Cooper, *From Wifi to Wikis and Open Source: The Political Economy of Collaborative Production in the Digital Information Age*, 5 J. [TELECOMM. & HIGH TECH. L.] 125, 128–29 (2006); Ritzert, *supra* note 2, at 214–15.

cars. If there are few users, however, no one interferes with each other's travel. Could intellectual property information be at least partially rivalrous?

¶17 Recent scholarly literature has identified examples of congestibility in copyright and trademark law.⁶ Users who distort the meaning of a copyrighted figure, by casting the noble Mickey Mouse as a villain, for instance, or using the "Victoria's Secret" trademark for a sex shop, deprive the creator of the information and consumers of the clear message the expression or source-indicator once conveyed. This Article explores the policy implications of these and other claims that partial rivalry interferes with the proper functioning of intellectual property law.

¶18 Public finance economists recognize the pervasiveness of impure public goods in the world and have developed a theory of impure public goods that modifies the normative prescriptions of pure public goods theory.⁷ These normative prescriptions, however, have their roots in collective, rather than market, provision of goods. This Article expands the pure and impure public goods theory derived from public finance theory to private market supply of intellectual property. The policy implications of these "impurities" have not been systematically explored.

¶19 Because non-rivalry is the basis for the free access norm, it would seem that less free access is appropriate for more rivalrous goods. This means that a consumer whose consumption of information imposes costs on others *ought* to pay more than if his consumption were costless. In application to specific intellectual property issues, however, the analysis should consider the interrelationship between incentives and access. Increasing incentives may not produce creative work that is more valuable than what free access would produce. Analogously, expanded free access may not be more valuable than the creative work that foregone incentives would otherwise encourage.

¶10 Applying net benefit analysis to various contemporary intellectual property issues, this Article suggests that recent proposals for extensions of intellectual property rights on the assumption that information is an impure public good are ill founded. Some extensions of rights due to partially rivalrous uses of information, such as congestibility of copyright and dilution of trademark, are unlikely to improve incentives in any way that would result in greater creative activity.

¶11 Part II considers the extent to which intellectual property information falls short of the model of pure public goods. It concludes that there are good reasons for accepting that many types of intellectual property are partially rivalrous and, therefore, impure public goods. In particular, it concludes that uses of information about expressions of ideas protected by copyright law and about sources and characteristics of goods protected by trademark law may be partially rivalrous.

¶12 Part III compares prescriptive rules from pure and impure public goods theory. When applied to market provision of intellectual property information, these rules require

⁶ See, e.g., Barnes, *supra* note 2, at 25 (arguing trademarks are congestible impure public goods); Michele Boldrin & David K. Levine, *Market Structure and Property Rights in Open Source Industries*, 30 WASH. U. J.L. & POL'Y 325 (2005) (discussing congestible copyright); William M. Landes & Richard A. Posner, *Indefinitely Renewable Copyright*, 70 U. CHI. L. REV. 471 (2003); Christopher S. Yoo, *Copyright and Public Good Economics: A Misunderstood Relation*, 155 U. PA. L. REV. 635 (2007). See also *infra* notes 40–43 and accompanying text.

⁷ See generally RICHARD CORNES & TODD SANDLER, *THE THEORY OF EXTERNALITIES, PUBLIC GOODS, AND CLUB GOODS* 143–239 (2d ed. 1996).

comparing the incremental benefits arising from information creation resulting from increased rights with the incremental benefits arising from increased access. Part III-A describes the conventional rules for analyzing the optimal scope of intellectual property law as lacking practical utility. As an alternative, Part III-B offers a net benefit test first developed in the context of pure public goods⁸ to address the examples of impure public goods identified in Part II. Parts III-C and III-D explore the policy impact of relaxing the assumption that intellectual property information is partially rivalrous in copyright and trademark law, respectively. Public finance theory suggests that public provision of public goods optimally requires that users of resources pay for the costs they impose on others.⁹ Private market provision of intellectual property information, however, requires additional consideration of the effect on incentives because governmental expenditure provides necessary incentives in the public finance context. Applying the net benefit approach, there seems to be little support in impure public goods theory for expanding exclusive rights to account for partial rivalrousness in copyright or trademark.

¶13 Part III concludes that impurities identified by scholars as arising in copyright and trademark law are of no particular import to intellectual property policy. The notion of congestible copyright seems originally to have been suggested by Professor Landes and Judge Posner.¹⁰ There is little incentive-based justification for preventing expressions of ideas that have become famous cultural icons beyond the extent necessary to encourage their initial creation. Similarly, there is little support from a net benefits perspective for the protection of trademarks against congesting, non-confusing, diluting uses, as famously suggested by Frank Schechter¹¹ and recognized in the Lanham Act.¹² By contrast, protection against confusing source-indicating uses of trademarks, which is to say, *rivalrous* uses, is entirely and appropriately based on the negative incentive effects on creators and reduction in benefits to consumers from confusing simultaneous use of source-identifying information.

II. INTELLECTUAL PROPERTY INFORMATION AS IMPURE PUBLIC GOODS

¶14 Public goods theory provides a theoretical basis for determining how much of a non-rivalrous good the government should supply.¹³ It is part of a larger theory of public finance,¹⁴ which also explores how the government should pay for that production.¹⁵ The government could produce public goods itself, pay or subsidize others who would do the

⁸ See generally Barnes, *supra* note 3.

⁹ See sources cited *infra* note 70.

¹⁰ See Landes & Posner, *supra* note 6.

¹¹ Frank I. Schechter, *The Rational Basis of Trademark Protection*, 40 HARV. L. REV. 813, 831–32 (1927).

¹² 15 U.S.C. § 1125(c) (2009).

¹³ This work was first formalized by Professor Paul Samuelson in a famous trio of articles: Paul A. Samuelson, *Aspects of Public Expenditure Theories*, 40 REV. ECON. & STAT. 332 (1958); Paul A. Samuelson, *Diagrammatic Exposition of a Theory of Public Expenditure*, 37 REV. ECON. & STAT. 350 (1955); Paul A. Samuelson, *The Pure Theory of Public Expenditure*, 36 REV. ECON. & STAT. 387 (1954) [hereinafter Samuelson, *Pure Theory*].

¹⁴ For an overview of public finance economics in general and public goods theory as it relates to public finance, see RICHARD A. MUSGRAVE & PEGGY B. MUSGRAVE, *PUBLIC FINANCE IN THEORY AND PRACTICE* (5th ed. 1989).

¹⁵ See *id.* at 211–313.

work, or rely on independent economic actors to produce public goods. For the production of intellectual property, Western industrialized nations typically choose the third alternative and rely on the creative activity of independent economic actors prodded by economic incentives. A supplier of a good or service chooses among alternative trademark devices to indicate that it is the source of products bearing that mark. An author creates and fixes in a tangible medium her own expression. An inventor conceives of and describes his own novel process or composition of matter. Relying on individuals and competitive markets to supply public goods means that the government does not have to pay for the supply of intellectual property. Creators seek returns in the marketplace.

¶15 Opting for the private supply of public intellectual property goods presents a unique challenge to public goods theory. Government supply of public goods means the government will avoid markets and figure out the optimal level of government provision through the political process. Private supply requires that intellectual property rights be designed to yield the optimal supply of public goods through private markets. The challenge is to provide correct incentives that encourage production without unduly restricting consumption.

¶16 Even though public goods theory focuses on collective supply, it now dominates the economic theory of the private supply of intellectual property.¹⁶ Pure public goods, however they are supplied, are non-rivalrous in consumption and non-excludable in production.¹⁷ “Non-rivalrous” has been defined in a variety of ways converging on the following: a good is non-rivalrous “when a unit of the good can be consumed by one individual without detracting, in the slightest, from the consumption opportunities still available to others from that same unit.”¹⁸ Many can use information about how to build

¹⁶ The intellectual property literature is so rife with reference to public goods that it is difficult to collect them all, but for recent examples, see John P. Conley & Christopher S. Yoo, *Nonrivalry and Price Discrimination in Copyright Economics*, 157 U. PA. L. REV. 1801 (2009); Alan Devlin, *Indeterminism and the Property-Patent Equation*, 28 YALE L. & POL’Y REV. 61, 96 (2009); Alan Devlin & Neel Sukhatme, *Self-Realizing Inventions and the Utilitarian Foundation of Patent Law*, 51 WM. & MARY L. REV. 897, 952 (2009); Glynn S. Lunney, Jr., *Copyright, Private Copying, and Discrete Public Goods*, 12 TUL. J. TECH. & INTELL. PROP. 1 (2009); Ariel Simon, *Reinventing Discovery: Patent Law’s Characterizations of and Interventions upon Science*, 157 U. PA. L. REV. 2175, 2182 (2009). See sources collected at David W. Barnes, *One Trademark Per Source*, 18 TEX. INTELL. PROP. L.J. 1, 12 n.55 (2009) [hereinafter Barnes, *One Trademark*]; Barnes, *supra* note 2, at 23 n.2; see also sources cited *supra* note 2.

¹⁷ See Nina J. Crimm, *An Explanation of the Federal Income Tax Exemption for Charitable Organizations: A Theory of Risk Compensation*, 50 FLA. L. REV. 419, 440 (1998), and sources cited therein (“As a starting point, public or collective goods and services can be divided into two categories: pure public goods and services and impure, or mixed, public goods and services. Both categories are characterized by features of availability to an indefinite class of beneficiaries, and of the inability to force the public to directly pay a sufficient price to induce the production in the private marketplace. Pure public goods and services are characterized by nonrivalry—that is, ‘one person’s consumption of the good does not interfere with its availability to others’—and by nonexcludability—that is, no person can be excluded from consumption of the good or service even if unwilling to pay for it (a ‘free-rider’).”) (citations omitted); see also Joseph A. Franco, *Why Antifraud Prohibitions Are Not Enough: The Significance of Opportunism, Candor and Signaling in the Economic Case for Mandatory Securities Disclosure*, 2002 COLUM. BUS. L. REV. 223, 344 n.246 (2002) (“A public good is characterized by two features: non-rivalrous consumption (i.e., consumption by one person does not generally preclude or exhaust the ability of others to consume the good) and allocative non-excludability (i.e., an inability to capture the economic benefits of supplying the good after it is produced).”).

¹⁸ CORNES & SANDLER, *supra* note 7, at 8. By contrast, a good is non-excludable if it is impossible, extremely difficult, or prohibitively expensive to prevent people from using the good once it is produced.

a machine, to express an idea, or to identify goods from a particular source without interfering with each other's use in the slightest. The bit of information supplied by its creator, whether it is information about the source of goods, how to express an idea, or how to produce a new machine, is the public good. The public good in intellectual property is information—the idea transformed by the creative process into something from which people may benefit.

¶17 In other substantive areas, legal scholars have routinely objected to treating goods that are partially rivalrous and partially excludable as pure public goods. Mostly referring to the fact that goods are rivalrous to some extent, they have observed that “most of the real economy operate[s] in the messy world of impure public goods”¹⁹ and that “[p]ure public goods are uncommon.”²⁰ Some claim that no real-world good qualifies as a pure public good.²¹ Nevertheless, many goods have characteristics similar to pure public goods in that they are non-rivalrous to some extent or among some classes of users.²² It is useful to refer to all of these partially rivalrous goods as *impure* public goods.

¶18 Scholars identify a variety of reasons why some types of intellectual property are impure public goods. Parts II-A and II-B discuss those impurities arising from partially rivalrous use of copyright and trademark information. Congestible intellectual property goods are those where simultaneous use by others does detract, to some extent, from the benefits still available to others from the intellectual property information. Congestibility is occasionally mentioned in the intellectual property literature and allied fields²³ and is

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.”) (emphasis added); see also CORNES & SANDLER, *supra* note 7, at 9 (stating that goods are non-excludable if “once they are provided, it is difficult, if not impossible, to exclude individuals from their benefits”).

¹⁹ Peter Drahos, *The Regulation of Public Goods*, 7 J. INT’L ECON. L. 321, 321–22 (2004) (referring to congestibility in the context of international law and technology transfer).

²⁰ Tracey E. George & Chris Guthrie, *Induced Litigation*, 98 NW. U. L. REV. 545, 554 (2004) (referring to congestibility in the allocation of resources to courts and judges); see also Abraham Bell & Gideon Parchomovsky, *Of Property and Antiproperty*, 102 MICH. L. REV. 1 (2003) (referring to overexploitation, crowding, congestibility of private lands in the context of land conservation and preservation).

²¹ See Lee Anne Fennell, *Beyond Exit and Voice: User Participation in the Production of Local Public Goods*, 80 TEX. L. REV. 1, 7 n.16 (2001) (discussing the provision of education and neighborhood security) (“Strictly speaking, no good or service fits the extreme or polar definition in any genuinely descriptive sense. . . . The standard examples such as national defense come reasonably close to descriptive purity, but even here careful consideration normally dictates some relaxation of the strict polar assumption.”) (citing JAMES M. BUCHANAN, *THE DEMAND AND SUPPLY OF PUBLIC GOODS* 49–50 (1968)) (internal quotation marks omitted); KIERON WALSH, *PUBLIC SERVICES AND MARKET MECHANISMS* 7 (1995) (“noting that pure public goods are ‘difficult to discover’ and discussing the argument ‘that there is no such thing as a public good in an objective sense, and that it is a purely cultural construct’”) (citation omitted) (internal quotation marks omitted).

²² See Fennell, *supra* note 21, at 7 n.16 (stating that “goods clearly vary in their degree of ‘publicness’”). “Although it is not easy to think of examples of physically consumed, pure public goods, one can easily list goods that seem similar to public goods over some range of the number of customers.” *Id.* (quoting RUSSELL HARDIN, *COLLECTIVE ACTION* 19 (1982)) (internal quotation marks omitted).

²³ Scholars who rely heavily on the congestibility of intellectual property in their work include: Michael Abramowicz, *An Industrial Organization Approach to Copyright Law*, 46 WM. & MARY L. REV. 33 (2004); Michael Abramowicz, *A Theory of Copyright’s Derivative Right and Related Doctrines*, 90 MINN. L. REV. 317 (2005); Barnes, *supra* note 2; Brett M. Frischmann, *An Economic Theory of Infrastructure and*

much more common in environmental and natural resources scholarship.²⁴ From other areas of law, one sees examples such as Old Faithful,²⁵ the Washington Monument,²⁶ roads,²⁷ courts,²⁸ fisheries,²⁹ rivers,³⁰ pastures,³¹ and air³² as being congestible. Roads seem to be the best example of a congestible public good because the phenomenon resulting from too many people on the road is called “congestion.” Some small number of simultaneous users of a road may not diminish the utility of the road to others at all. A sufficiently large number, however, increases the chance of accidents, slows speeds, induces road rage, delays people, and imposes costs in terms of wasted productive time. The road example gives the basic idea of partially rivalrous simultaneous use by increasing numbers of people. Expressions of ideas and source-indicating symbols are potentially congestible if uses conflict by diminishing the expression or symbol’s ability to convey information. No one has suggested that information about novel inventions is

Commons Management, 89 MINN. L. REV. 917 (2005); Dennis S. Karjala, *Congestion Externalities and Extended Copyright Protection*, 94 GEO. L.J. 1065 (2006); Landes & Posner, *supra* note 6, at 484; Yoo, *supra* note 6; Christopher S. Yoo, *Network Neutrality, Consumers, and Innovation*, 2008 U. CHI. LEGAL F. 179 (2008); Christopher S. Yoo, *Network Neutrality and the Economics of Congestion*, 94 GEO. L.J. 1847 (2006). *C.f.* Lemley, *supra* note 2, at 142–43 (“The question here is why we should want to reduce the use and distribution of information when there is no public goods problem for intellectual property to solve.”).

²⁴ See, e.g., Michael A. Hyman, *Under the Danube Canopy: The Future of International Waterway Law*, 23 WM. & MARY ENVTL. L. & POL’Y REV. 355, 355–56 (1998) (“Purely public goods are goods that are non-excludable and non-rival. On the other end of the spectrum are private goods, which are fully excludable and rival. In between purely public and purely private goods, two other types of goods exist: impure public goods, which are non-excludable yet rival; and common-pool resources, which are partially excludable and rival.”) (footnotes omitted); Jan G. Laitos & Thomas A. Carr, *The Transformation on Public Lands*, 26 ECOLOGY L.Q. 140, 185, 185 n.261 (1999) (“A public good is characterized as congestible when so many people consume the same fixed quantity of that good simultaneously that they will interfere with the benefit derived by each user.”) (citing Robert P. Inman, *A Generalized Congestion Function for Highway Travel*, 5 J. URBAN ECON. 21 (1978)).

²⁵ Michael Braunstein, *Natural Environments and Natural Resources: An Economic Analysis and New Interpretation of the General Mining Law*, 32 UCLA L. REV. 1133, 1188 n.310 (1985). Professor Braunstein describes the geyser “Old Faithful” as being a mixed public good because one can only observe the geyser from the official viewing area, which can accommodate only a limited number of people. After a certain point, an additional person’s presence in the viewing area may prevent others from entering. From that perspective, Old Faithful is mixed in the sense that it is congestible.

²⁶ George & Guthrie, *supra* note 20, at 554–55.

²⁷ S.E. Holtermann, *Externalities and Public Goods*, 39 ECONOMICA 78, 81–83 (1972) (describing goods like roads and courts as mixed cases of public goods). Both roads and courts are congestible because, as more people use them, access to them and, particularly with roads, the benefits derived from them wane. These examples are mixed in the sense of being both congestible and offering a combination of private benefits (to the litigants, in the example of courts) and non-rivalrous benefits to the public (in the form of non-violent dispute resolution or legal precedents).

²⁸ *Id.*

²⁹ See, e.g., Claire Moore Dickerson, *Cycles and Pendulums: Good Faith, Norms, and the Commons*, 54 WASH. & LEE L. REV. 399, 433 n.131 (1997); Franz Xaver Perrez, *The Efficiency of Cooperation: A Functional Analysis of Sovereignty*, 15 ARIZ. J. INT’L & COMP. L. 515, 552 (1998).

³⁰ See, e.g., Perrez, *supra* note 29, at 552.

³¹ Bell & Parchomovsky, *supra* note 20, at 11.

³² Mark A. Hall & John D. Colombo, *The Charitable Status of Nonprofit Hospitals: Toward a Donative Theory of Tax Exemption*, 66 WASH. L. REV. 307, 391 (1991).

congestible.³³ The policy implications of treating intellectual property as pure or impure public goods are discussed in Part III.

A. Copyright Congestion

¶19 Copyrighted expression may be rivalrous in several ways. Professor William Landes and Judge Richard Posner famously described the problem of overuse of the Mickey Mouse character, which is copyrighted by the Walt Disney Company.³⁴ If anyone could use the Mickey Mouse character without Disney’s permission, “[n]ot only would the public rapidly tire of Mickey Mouse, but his image would be blurred, as some authors portrayed him as a Casanova, others as cat meat, others as an animal-rights advocate, still others as the henpecked husband of Minnie.”³⁵ Landes and Posner referred to this as a “congestion” or “copyright overuse” externality.³⁶

¶20 Analytically, it is useful to distinguish between the simple “over-reproduction” type of overuse that causes the public to tire of the image and “transformative” overuse that blurs the image. Consider a graphic artist whose unique style leads many to desire copies of her work. The artist may produce and sell an original, then artist’s proofs, then lithographic prints, and then unlimited posters of her work. Others may reproduce that work, adding to the supply. At some point, the ubiquity of the art resulting from “over-reproduction” may diminish its uniqueness and therefore its appeal—the utility a consumer derives from the copy. A consumer would likely derive less pleasure from wearing her Mickey Mouse watch if everyone wore one.

¶21 By contrast, the transformative, blurring use does not reproduce the image exactly; it transforms the image in a way that conveys a different idea. A consumer would be more reluctant to wear or buy a Mickey Mouse watch if another author had transformed the image into a mouse who physically abuses his romantic partner. Because there may be additional value in the creative work of transformation, the analysis of simple copying in Part III of this Article differs from the analysis of blurring.

¶22 In either case, however, the simultaneous use by additional users imposes a cost on other consumers, just as, after some point, additional cars on the highway cause congestion. The blurring use, however, may interfere more significantly with the benefits others derive from simple overuse, just as a convoy of tractor-trailer trucks interferes more with my use of a road than an equal number of other cars. Thus, it is quite possible that some types of users may be more congesting users (those who distort Mickey’s persona for their own commercial purposes) while others have less of an effect on another’s use (people who merely reproduce the expression).³⁷

³³ It has been suggested that the use of information about new inventions is rivalrous, Devlin & Sukhatme, *supra* note 16, at 915, but only because another person’s uncompensated use of the information deprives the creator of revenues. That is different from saying that the utility of the invention diminishes.

³⁴ Landes & Posner, *supra* note 6, at 483 (referring to Disney’s support for the Sonny Bono Act that extended its copyright on Mickey Mouse by twenty years); *see also* Boldrin & Levine, *supra* note 6; Karjala, *supra* note 23 (discussing congestibility in the context of copyright law and disagreeing with Landes and Posner’s conclusions).

³⁵ Landes & Posner, *supra* note 6, at 487–88.

³⁶ *Id.* at 486–88.

³⁷ There is some dissent from this view that congestion makes some public goods “impure.” Professor Christopher Yoo correctly observes that the original definition of a public good was one that appeared in

B. Trademark Congestion

¶23 It was long believed that trademarks were private rather than public goods.³⁸ This cannot be true, as many consumers can simultaneously use a supplier's trademark referentially (to refer to the trademark owner's goods) without diminishing the benefits each derives. On the other hand, simultaneous source-indicating use of a mark by a business competitor would diminish the utility derived by the mark owner and consumers, for whom locating the goods would be more difficult. The basis for dilution law is that source-indicating uses of a mark by non-competitors diminish the utility of a mark even if consumers are not confused. Because some uses of trademark information are non-rivalrous while others are partially rivalrous, trademarks are impure public goods rather than private goods.³⁹

¶24 A number of scholars have considered whether trademarks are subject to overuse. Some dismiss it as a concern,⁴⁰ while others associate "overuse" with non-source-indicating uses that lead to trademark genericide.⁴¹ Other scholars refer to a trademark problem related to congestion without distinguishing partially rivalrous uses with strictly

"the same quantity . . . in more than one person's consumption function." Yoo, *supra* note 6, at 638. While congestion may reduce the utility each consumer enjoys as the number of simultaneous users increases, as traditional economics of public goods recognizes, the same quantity of the good is still available. "Strictly speaking, then, congestion is not a relaxation of the assumption that goods are nonrival." *Id.* at 676. This approach is very useful to Yoo's models suggesting that "impure public goods are susceptible to efficient market production under a wide range of circumstances." *Id.* at 715. Nevertheless, the original definition also assumed that "each individual's consumption of [a pure public good] leads to no subtraction from any other individual's consumption of that good," Samuelson, *Pure Theory*, *supra* note 13, at 387, and the conditions for determining the optimal supply of public goods depend on the utility or benefit consumers derive from the goods, because all consumers' marginal rates of substitution between goods depends on the utility they derive from each. *Id.* (deriving optimal conditions based on the utility consumers derive from consumption and the costs of producing goods). Because the fundamental economic problem for intellectual property law is broadening exclusive rights until the additional benefits from greater creative activity no longer exceed the additional benefits from free access, see *infra* Part III, the magnitude of benefits obtained by consumers is relevant. While Yoo's focus may be productive in his analysis, it does not eliminate congestibility as a source of concern for intellectual property theory or policy, as Part III discusses. See Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031, 1051 n.82, 1055–56 (2005) (suggesting that while copyrights were pure public goods, the possibility that iconic images might be congested through blurring overuse might be an exception).

³⁸ See sources cited *supra* note 2.

³⁹ Elsewhere, I have written that competing source-indicating (proprietary) uses of trademark information are rivalrous in the way that private goods are rivalrous. This is not strictly correct. A business competitor's source-indicating use of a trademark does not completely destroy the utility of the mark to the mark owner or consumers. A trademark is not like the bite of an apple, which, once chewed and swallowed, is of no use to anyone else. Barnes, *supra* note 2, at 45–46 ("Competitors' proprietary uses of another's mark are likely to be incompatible, reflecting the characteristics of private, rivalrous goods. As public goods, trademarks are indeed mixed in character.").

⁴⁰ Karjala, *supra* note 23, at 1074–75, 1075 n.19.

⁴¹ ROSEMARY COOMBE, *THE CULTURAL LIFE OF INTELLECTUAL PROPERTIES: AUTHORSHIP, APPROPRIATION, AND THE LAW* 79–82 (1998); see also *Freecycle Network, Inc. v. Oey*, 505 F.3d 898, 905 (9th Cir. 2007) ("Where the majority of the relevant public appropriates a trademark term as the name of a product (or service), the mark is a victim of 'genericide' and trademark rights generally cease.").

rival uses⁴² or refer to trademarks as a public good subject to congestion without further analysis.⁴³ The congestion in the trademark context is analogous to congestion of copyrighted expressions in that the image—the information conveyed by the mark—might be blurred.

1. Confusing Proprietary Use

¶25 The trademark use that most directly interferes with the benefits others derive from trademarks is confusing proprietary use. Proprietary use of a trademark is use by a supplier of goods and services to indicate that it is the source of all goods of that type bearing that trademark. Both the mark owner and a trademark infringer engage in proprietary uses. The infringer's use is a confusing proprietary use; it deceptively indicates that the infringing supplier is the source of all goods of that type bearing that trademark. If an upstart cell phone company uses Apple's iPhone mark on its products, the utility of the information conveyed by that symbol, both to the mark owner and to consumers, diminishes.

¶26 The information conveyed by a trademark is usually not totally destroyed by confusing proprietary use but may be greatly diminished, depending on how many consumers are confused by the upstart's use. The information content of the symbol is diminished, changing from "this *is* the cell phone associated with a particular source" to "this *may be* the cell phone supplied by a particular source." There are few, if any, infringement cases where the infringer's use has totally destroyed consumers' ability to locate goods supplied by the owner of the mark. If the mislabeling is so pervasive that consumers can no longer fruitfully glean any information from the mark, however, the trademark is like a highway that is so congested that there is gridlock.

2. Non-Confusing Proprietary Use

¶27 The most well-known congestible uses of trademarks are associated with trademark dilution. In another work, I discussed the General Motors Cadillac mark and the Exxon mark as examples of situations in which the proprietary use by some others might be congesting, decreasing the source-indicating utility of the mark even if no confusion about the source resulted from use.⁴⁴ General Motors (GM) has successfully associated Cadillac with "luxury." A low quality dog food supplier's non-confusing proprietary use of "Cadillac" is unlikely to confuse consumers about the source of the goods and may give the dog food manufacturer some marketing advantage. But this use might blur the association of Cadillac with luxury, even if buyers knew that GM was not the source of the dog food. Consumers would have to consider context before understanding whether

⁴² See, e.g., Igor Dubinsky, *The Race to the Box Office Leads to Cinematic Déjà Vu: Modifying Copyright Law to Minimize Rent Dissipation and Copyright Redundancy at the Movies*, 29 WHITTIER L. REV. 405, 408 n.16 (2007).

⁴³ See, e.g., Shubha Ghosh, *Pills, Patents, and Power: State Creation of Gray Markets as a Limit on Patent Rights*, 53 FLA. L. REV. 789, 797 (2001) ("For example, trademarks are public goods, but if the trademark becomes overused it loses its value as an indicator of source and quality. Too much use imposes the equivalent of congestion costs that diminish the value of the good.")

⁴⁴ See Barnes, *supra* note 2, at 34–35 (discussing the General Motors and Exxon examples).

to associate the dog food with “luxury” and whether to associate it with General Motors. The term’s referential utility would be diminished.

¶28 A variation of this problem arises when suppliers of goods and services use their markets to build their goodwill without reference to their products. Exxon/Mobil Corporation promotes an association with a cleaner environment in advertisements that include the trademark but do not mention any particular product. Such advertising would no longer redound to its corporate image if an unrelated seller of shoes used the Exxon mark. The owner of the Schweppes mark used in connection with carbonated beverages ran a series of advertisements containing political cartoons with the following words written in the bottom corner on a yellow banner: “Sch . . . you know who.”⁴⁵ Because the mark was not used in connection with any particular product in that ad, readers might not have known (or would have had to work harder to appreciate) to whom the words in the yellow banner referred if suppliers of unrelated goods could use the mark. The referential meaning of the mark would again have been reduced despite the lack of competition or confusion about the source of a particular product. The utility of the mark to both the senior user of the mark and consumers would have been congested.

¶29 If blurring from either of these types of congesting uses is more than a theoretical possibility, the type of harm to the trademark owners is apparent. They might have to invest more in marketing to maintain the clarity of their signal or might lose trade, as consumers have to search harder to determine whether a particular use is indicating the manufacturer of the famous luxury vehicles or the “environment-friendly” petroleum products. The policy question arises when both producers and consumers need to be protected from these congesting uses in order to augment suppliers’ incentives to invest in trademarks.

3. Generic Use

¶30 Generic use of a trademark is the use of a symbol to indicate a type or class of goods rather than a source of goods.⁴⁶ Genericide is the process by which repeated use of one source’s trademarked term to label a class or type of good or service provided by a number of suppliers. Generic use of one source’s trademark diminishes its ability to identify that single source.⁴⁷ Chrysler Corporation, the owner of the Jeep trademark for off-road vehicles, and Xerox Corporation, owner of the Xerox mark for photocopiers,

⁴⁵ This advertisement appeared in a periodical published in the United Kingdom. THE TIMES, Apr. 1, 2009, at 8–9. It contained a cartoon illustrating the firing of the economic ministers of the member nations at the 2009 London Summit meetings of the G20 with the title “EXPERIENCE MATTERS: You’re all fired.”

⁴⁶ A “generic” term is the common descriptive name of a product or service. See *San Francisco Arts & Athletics, Inc. v. U.S. Olympic Comm.*, 483 U.S. 522, 531 n.7 (1987) (“Because a generic name by definition does not *distinguish* the identity of a particular product, it cannot be registered as a trademark under the Lanham Act.”); see also *Park ‘N Fly, Inc. v. Dollar Park & Fly, Inc.*, 469 U.S. 189, 194 (1985) (“A generic term is one that refers to the genus of which the particular product is a species.”).

⁴⁷ *Freecycle Network, Inc. v. Oey*, 505 F.3d 898, 905 (9th Cir. 2007) (“Where the majority of the relevant public appropriates a trademark term as the name of a product (or service), the mark is a victim of ‘genericide’ and trademark rights generally cease. Such genericide can occur ‘as a result of a trademark owner’s failure to police the mark, resulting in widespread usage by competitors leading to a perception of genericness among the public, who sees many sellers using the same term.’”) (citing 2 J. THOMAS MCCARTHY, MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION § 12:1 (2007)).

risked genericide by such generic uses of their symbols. As a policy matter, the issue is whether the law should extend exclusive rights to prevent generic uses of a mark.

¶31 The accumulation of individual generic uses is congesting. For example, simultaneous use by other suppliers of off-road vehicles diminishes the benefits Chrysler and consumers obtain from the source-indicating information associated with the Jeep symbol. Fortunately for these suppliers and perhaps due to their efforts, the term SUV came to be the generic name for lightweight, off-road vehicles and people increasingly use the verb “to photocopy” instead of “to Xerox.” TiVo Inc., which supplies the TiVo brand DVR, has a special section of its website devoted to preventing generic use by encouraging use of the mark as a singular adjective and discouraging use of the mark as a noun, as a verb, or in a possessive form.⁴⁸

4. Descriptive Use

¶32 Finally, there is potentially congesting descriptive use of a term. The symbol “Cadillac” conveys more information than simply the name of the supplier, General Motors. Due undoubtedly to GM’s marketing efforts, “Cadillac” also conveys information about the size and luxury of products bearing the mark. A consumer may, however, refer to his huge, shiny, stainless steel outdoor grill as “the Cadillac of grills,” characterizing it as being as big and fancy a grill as one can buy.

¶33 This would be a descriptive rather than referential use of the term. It does not refer to General Motors’ cars or to luxury cars generally, but rather follows a linguistic custom of using “Cadillac” in this adjectival way. General Motors has created a linguistic device that communicates luxury in general. This customary use is unlikely to blur the source-indicating meaning of “Cadillac” unless consumers used the mark to refer to the luxurious qualities of other luxury cars as well, which could potentially result in genericide.⁴⁹

⁴⁸ *Trademark Rules-US*, TIVO.COM,

http://www.tivo.com/assets/pdfs/policies/20101215_Trademark_Rules_Legal_Resource_US_FINAL.pdf (last visited Aug. 29, 2011). The website includes, *inter alia*, the following advice:

Trademarks are singular. Because a trademark is an adjective, it should never be used in the plural form. Instead, when necessary, the generic noun can be used as a plural.

Example: Correct: I want two TiVo® DVRs.
 Incorrect: I want two TiVos.

Trademarks are never verbs. It is never permissible to use any of our trademarks as verbs.

Example: Correct: I want to record “Desperate Housewives” on the TiVo® DVR.
 Incorrect: I want to TiVo “Desperate Housewives.”

Trademarks are never possessive.

Example: Correct: The TiVo® remote control
 Incorrect: TiVo’s remote control

⁴⁹ See Barnes, *supra* note 2, at 28–35 (discussing customary, referential, and proprietary uses of trademarks).

¶34 There are other well-known descriptive uses of trademarks. First, consider two examples of classic descriptive use. Suppliers of non-competing goods might use the word “apple” to describe their applesauce, cake, or fritters, despite Apple Inc.’s use of the mark in connection with computers and consumer electronics. Despite one company’s senior source-indicating use of “Micro Colors” in connection with its tattooing ink, a competing supplier of ink might use the term “micro colors” to describe the fine quality of its dyes.⁵⁰ Because the symbols are employed in both classic descriptive and source-indicating ways, the source-indicating meaning of any particular use becomes unclear.

¶35 Second, there is comparative descriptive use.⁵¹ Suppliers of competing goods might use the Apple mark comparatively, to inform consumers that their computers are cheaper, faster, and more beautiful than those supplied by Apple. A comparative descriptive user of another’s marks is using the mark to identify a competing source of goods with the ultimate objective of describing its own goods. Both the classic descriptive and the comparative descriptive uses of trademark have the potential to be congesting, to diminish the source-indicating benefit of the trademark information, particularly if the descriptive use also causes some confusion about the source of the goods. As a policy matter, the question is whether the law should permit free access to marks for descriptive purposes or extend exclusive rights to cover descriptive use.

III. POLICY PRESCRIPTIONS: CONVENTIONAL WISDOM AND THE NET BENEFIT APPROACH

¶36 Public goods theory and the theory of exchange of private goods offer normative and descriptive principles for determining the optimal level of supply of public goods. The first three of these principles are well known, apply to public goods generally, and are discussed only briefly here in order to set the background for a net benefit approach to policy analysis.⁵² They include the short-run allocative efficiency principle that the optimal level of output of private goods is where price equals marginal cost, the allocative efficiency principle for public goods that the optimal level of supply is where the summed value of all consumers’ values equal marginal cost, and the perfect price discrimination principle. Part III-A discusses these principles.

A. Conventional Economic Principles

¶37 Conventional economic principles provide little, if any, practical guidance for resolving questions about the proper scope of intellectual property law. As I have argued elsewhere in the pure public goods context,⁵³ a “net benefit” analysis provides a more useful tool. This approach looks at the incentive effects of changes in legal rules, in order to address the problem of insufficient incentives provided by marginal cost pricing for pure public goods. It also looks at the access benefits of changes in legal rules, in order to recognize the benefits simultaneously realized by many consumers sharing a public

⁵⁰ This example is taken from *KP Permanent Make-Up, Inc. v. Lasting Impression I, Inc.*, 543 U.S. 111 (2004).

⁵¹ This comparative use is also referred to as nominative use. See Mark P. McKenna, *Trademark Use and the Problem of Source*, 2009 U. ILL. L. REV. 773, 808 (2009).

⁵² For a more detailed treatment of these basic principles, see Barnes, *supra* note 3.

⁵³ *Id.*

good. Part III-B discusses that rule, while Parts III-C and III-D apply it. The conventional economic principles do, however, identify tradeoffs that form the foundation for intellectual property law analysis.

1. The “Price Equals Marginal Cost” Principle

¶38 From the theory of private exchange come normative and descriptive principles that identify the optimal prices consumers should pay in the short-run and the optimal level of revenues for competitive firms in the long run. The fundamental principle of allocative efficiency states that the price for a good should equal the marginal (incremental) cost of supplying a good to an additional consumer and that prices to all consumers should be uniform.⁵⁴ Following the price equals marginal cost rule promotes a normative objective. It states that all consumers who are willing and able to give up enough wealth to cover the value of the resources consumed in supplying the good should receive the good.⁵⁵

¶39 Consumers will actually receive the good supplied at a price equal to marginal cost, however, only if the suppliers earn enough revenue to cover their average costs of production in the long run.⁵⁶ Less revenue is insufficient to encourage firms to remain in the business. In competitive markets under conventional assumptions, a uniform price for private goods equal to the marginal cost of supplying the final consumer produces revenues sufficient to provide a normal economic profit and an efficient allocation of resources.⁵⁷

¶40 The economic model describing how markets can both supply all consumers who value the good at more than its cost of supply and provide sufficient return to encourage producers applies only to private goods, which, because they are rivalrous, have a positive marginal cost of supply. By contrast, the marginal cost of supplying another

⁵⁴ Marginal cost is the additional (marginal) cost of supplying another unit of a good. In a competitive equilibrium, all consumers pay a price equal to the marginal cost of supplying the final unit. JAMES F. RAGAN, JR. & LLOYD B. THOMAS, *PRINCIPLES OF ECONOMICS* 522 (1990).

⁵⁵ JACK HIRSHLEIFER, *PRICE THEORY AND APPLICATIONS* 481 (3d ed. 1984). In markets for private goods, a price equal to the marginal cost of supplying the good efficiently allocates resources to production of that good. Such a price results in a proper incentive to a supplier of goods because that price allows the supplier to cover its costs including a normal economic profit. Such a price also results in a proper level of supply as measured by a benefit/cost analysis. The benefit a buyer obtains from acquiring the good is measured by the buyers’ willingness and ability to pay for the good. The cost in the balance is the cost of the resources consumed by the supplier providing the good. The normative parts of this explanation are the assertions that revenues sufficient to cover costs provide a “proper” incentive and that the resulting level of supply of the good is the “proper” level. All of the economics of competitive markets for private goods is based on the price equals marginal cost equality and the assumptions about the desirability of allocative efficiency.

⁵⁶ See Barnes, *supra* note 3, at 111, 111 n.66 (“The marginal costs of supplying another consumer are generally positive for private goods. Marginal costs are generally positive, because sharing a unit of the good that has already been provided is not feasible, as it is for a non-rivalrous public good. Another unit must be produced. In a properly functioning, perfectly competitive market, those positive prices cover producers’ costs of production. The sum of marginal costs for all consumers and the fixed costs (costs that do not vary with the amount produced) equals the total cost of production. Because marginal costs are the addition costs of producing each unit, starting with the first, the additional costs of producing the first and all subsequent units plus the fixed costs incurred to start up in the first place equals the total costs. The costs of supplying each consumer with his or her own private goods mount up because consumption is rivalrous; each person consumes individually.”) (footnotes omitted).

⁵⁷ See *supra* note 55.

consumer with a non-rivalrous public good, such as intellectual property information, is zero.⁵⁸ Revenues earned at a price equal to the zero marginal cost will not be sufficient to cover costs and provide incentives to produce. The allocative efficiency objective and the goal of providing sufficient incentives to supply cannot both be met by market provision of intellectual property information.

¶41 This model is further complicated by consideration of impure public goods. The marginal cost *to consumers* of having a *partially rivalrous* good made available to another consumer is, at some point, positive because the additional consumer's use imposes costs on others by decreasing the utility of the good to them. While positive prices for purely private goods may be enough to provide incentives to suppliers, there is no similar assurance that pricing impure public goods at a level equal to marginal costs will do so. Thus, this first rule from exchange theory, that price should equal marginal cost, cannot alone determine the efficient amount of provision of pure or impure public goods to be supplied in a free market.

2. The "Summed Valuations" Principle

¶42 From public finance theory comes a variation on the price equals marginal cost rule describing the optimal level of supply of public goods. According to this rule an additional unit of a public good should be supplied as long as the sum of the total amounts all consumers are willing and able to pay for another unit of the good exceeds the cost of supplying that additional unit.⁵⁹ This summation principle reflects a change from considering the benefits a single additional consumer would be willing and able to pay for a rivalrous good to considering the willingness and ability of all consumers to benefit from a non-rivalrous good.

⁵⁸ Stan J. Liebowitz & Stephen E. Margolis, *Bundles of Joy: The Ubiquity and Efficiency of Bundles in New Technology Markets*, 5 J. COMPETITION L. & ECON. 1, 19–20 (2009) (recognizing that the zero marginal cost, normally thought to describe information goods, highlights the challenge of supplying information through a private market). Describing patent law, the authors state:

Inventions are nonrival goods. Trade secrets can make inventions private property and a patent can secure an invention as private property for a limited time. Either of these forms of protection provides incentives for inventors and a means of recovering the costs of inventing. Patent law further provides a context and an incentive for disclosure of an invention. Under either form of protection, an inventor will capture a return to invention by charging a price for its use that is greater than the marginal cost of using the idea, which generally would be zero. That price may be explicit, in the form of a royalty, or implicit in the form on an elevated price for a good that embodies the invention. Any price greater than zero creates a marginal welfare loss because some useful applications of the idea are not made. This tradeoff between incentives to invent and efficiency in use is well known.

Id. at 22.

⁵⁹ CORNES & SANDLER, *supra* note 7, at 23–24. The benefits one person derives from production of another unit is measured by the additional resources he 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 individual 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, equals 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.

¶43

Public finance theory was developed in the context of collective provision of public goods, where the government produced or paid for the production of goods from tax revenues and determined consumers' preferences through voting and the political process.⁶⁰ While the summation principle accurately describes the optimal level of collective supply, it fails to describe how private suppliers in a market determine the quantity for which people are willing and able to pay. If people can share non-rivalrously and cannot be excluded from consumption, they have an incentive to conceal their preferences and their demand for public goods.⁶¹ This was not a problem for public finance theory because the voting process was divorced from the consumption process. The summation principle is of limited utility to the private provision of public goods, generally, because of the demand revelation problem and to impure public goods, in particular, because equating the sum of people's willingness to pay and the marginal cost is inappropriate where the marginal cost varies as more users are added, that is, when goods are partially rivalrous.

3. The "Price Discrimination" Principle

¶44

Also from the theory of private exchange is the observation that if private suppliers could perfectly price discriminate, markets could supply an allocatively efficient level of public goods.⁶² Perfect price discrimination requires individualized pricing, with each consumer being charged a price reflecting his willingness and ability to pay.⁶³ It also

⁶⁰ Public finance theory is based on the assumption that tax revenues paid for provision, and voting and political process led to demand revelation. Professor Paul A. Samuelson, who first articulated the principles of public goods theory in the public finance context, viewed the political process as the way in which consumer preferences are revealed to fiscal authorities who would finance public goods expenditures from tax revenues. Samuelson, *Pure Theory*, *supra* note 13, at 387–89; *see also supra* note 13 and accompanying text.

⁶¹ *Id.* at 33; *see also* CORNES & SANDLER, *supra* note 7, at 24 (“The non-excludability property of pure public goods induces individuals to undercontribute to provision in the belief that they can rely on the contributions of others.”).

⁶² Harold Demsetz, *The Private Production of Public Goods*, 13 J.L. & ECON. 293, 293 (1970).

⁶³ Perfect price discrimination means individualized prices according to willingness and ability to pay. *See, e.g.,* Conley & Yoo, *supra* note 16, at 1815; F. Scott Kieff, *Coordination, Property, and Intellectual Property: An Unconventional Approach to Anticompetitive Effects and Downstream Access*, 56 EMORY L.J. 327, 422–23 (2006); F. Scott Kieff, *Property Rights and Property Rules for Commercializing Inventions*, 85 MINN. L. REV. 697, 727 (2001); Glynn S. Lunney, Jr., *Copyright's Price Discrimination Panacea*, 21 HARV. J.L. & TECH. 387, 451 (2008); Christopher S. Yoo, *Network Neutrality, Consumers, and Innovation*, 2008 U. CHI. LEGAL F. 179, 221 (2008). Variations on this rule suggest pricing mechanisms that enable suppliers to cover their average costs by allocating fixed costs among consumers according to their willingness and ability to pay for the total quantity supplied and their elasticities of demand. Public finance economists were concerned with how to structure taxation to pay for the production of public goods in the least distortionary way. *See* Erik Lindahl, *Just Taxation—A Positive Solution*, in CLASSICS IN THE THEORY OF PUBLIC FINANCE 168 (Elizabeth Henderson trans., Richard A. Musgrave & Alan T. Peacock eds., 1958) (describing a financing structure in which different consumers are charged different prices based on their marginal valuations of the total quantity, thus bearing a different proportion of the fixed costs); F.P. Ramsey, *A Contribution to the Theory of Taxation*, 37 ECON. J. 47, 58–59 (1927) (describing a pricing structure in which fixed costs are allocated among buyers based on the elasticity of their demand, with those buyers with the least elastic demand bearing the heaviest burden).

requires that public goods be perfectly excludable, which is usually not true; otherwise people who do not pay will enjoy the benefits of the non-rivalrous good without paying.⁶⁴

¶45 Individualized pricing theoretically resolves the problems of supplying an allocatively efficient amount of a non-rivalrous good and allowing the supplier to attempt to earn a profit by charging each user a price that corresponds to the amount that individual is willing and able to pay for the good. Thus, a user who values the good only slightly pays a small price, while a user who values it highly pays a high price. Everyone who attaches any positive value is provided access and the supplier earns revenues for providing the good. As a normative matter, the distribution of wealth changes dramatically under individualized pricing, compared to free access or uniform pricing; some find this change objectionable. This normative objection does not mean the allocation of resources is inefficient, however, as long as this type of price discrimination is more than a theoretic possibility.

¶46 The realities of the ways markets function, including the difficulty in preventing arbitrage, make price discrimination impractical. Information about works of art, how to build inventions, and the meaning of source-indicating symbols is easily exchanged. While there is some ability for suppliers to charge different consumers different prices (e.g., airlines, hotels, and wherever there is individualized bargaining as in intellectual property licensing), those prices may only imperfectly reflect the benefits people obtain from the supply because that information is generally unavailable to sellers.⁶⁵ A buyer may be willing and able to pay more for her airline tickets, for instance, but if she is a wealthy retired person who can plan ahead, she can still take advantage of discount fares. Even if a seller could accurately assess the maximum one buyer was willing to pay, it is difficult in many cases to prevent arbitrage, that is, resale from the buyer who valued it less to a buyer who values it more.⁶⁶ The price discrimination solution is impractical to implement where there is inability to exclude, to obtain accurate information about people's preferences, or to prevent resale.

¶47 Thus, none of the conventional approaches to determining the optimal output of intellectual property and, therefore, the optimal scope of intellectual property protection are helpful. The price equals marginal cost rule provides insufficient incentives for the production of public goods; insufficient information is available in a market (or perhaps

⁶⁴ See Demsetz, *supra* note 62, at 295.

⁶⁵ Professors Conley and Yoo conclude that "there is no practical, real-world, incentive-compatible way to induce consumers to use prices to signal the intensity of their preferences." Conley & Yoo, *supra* note 16, at 1810; see also Samuelson, *Pure Theory*, *supra* note 13, at 388 ("However, no decentralized pricing system can serve to determine optimally these levels of collective consumption. . . . [I]t is in the selfish interest of each person to give *false* signals, to pretend to have less interest in a collective consumption activity than he really has, etc.").

⁶⁶ See *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447, 1450 (7th Cir. 1996) ("To make price discrimination work, however, the seller must be able to control arbitrage. An air carrier sells tickets for less to vacationers than to business travelers, using advance purchase and Saturday-night-stay requirements to distinguish the categories. A producer of movies segments the market by time, releasing first to theaters, then to pay-per-view services, next to the videotape and laserdisc market, and finally to cable and commercial TV. Vendors of computer software have a harder task. Anyone can walk into a retail store and buy a box. Customers do not wear tags saying 'commercial user' or 'consumer user.' Anyway, even a commercial-user-detector at the door would not work, because a consumer could buy the software and resell to a commercial user.").

anywhere) to apply the summation rule; and the price discrimination rule is normatively objectionable and impractical. An alternative approach is necessary.

B. *The Net Benefit Approach Generally*

¶48

For the reasons discussed above, the three conventional principles from pure public goods theory and private exchange theory do not provide a rule for defining the scope, extent, and duration of rights so that a private market can supply the optimal level of impure public goods. To address the implications of potential impurities among intellectual property public goods, this Article uses a variation on a traditional cost-benefit analysis. Increased free access may be treated as a cost, because it decreases revenues available to encourage creative activity, or as a benefit, because it increases benefits people derive from information already produced, as well as derivative information, new information whose creation was made possible by the free access. Similarly, increasing exclusive rights may be viewed as a cost, in terms of diminished benefits derived by users, or a benefit, in terms of increased incentives to create new information.⁶⁷ The *net benefit* approach considers whether the benefits from choosing one alternative, increased free access, outweigh the benefits from choosing the other, increased exclusive rights.

¶49

The net benefit approach is an incrementalist or marginalist approach in that it evaluates the desirability of changes in legal rules—i.e., increases in rights or increases in free access. This type of evaluation is, of course, what courts do when they decide cases that impact rights and access, what Congress does when it amends intellectual property statutes, and what scholars do when deciding what legal policy is preferable from a public goods perspective. In application, the effect of increasing rights depends on whether the expanded rights increase incentives to create information. The effect of increasing access depends on whether the increased access results in increased benefits from consuming the information or using it to create new information. The “net benefit” approach recognizes that incentives and access both have the potential to produce benefits and both can be viewed as costs:

An increase in exclusive rights to intellectual property is justified only when the value of increased creative activity resulting from increased incentives is greater than the value of the benefits lost from reduced access.

⁶⁷ Intellectual property scholars who explicitly describe goals for the optimal structure of intellectual property law from a public goods perspective often use the language of cost/benefit analysis. Landes & Posner, *supra* note 6, at 476; see Barnes, *supra* note 3, at 120 (“Paraphrasing and generalizing from Professor Landes and Judge Posner’s description of the optimal term of copyright protection, the rule for balancing incentives could be as follows: [*T*]he optimal level of intellectual property protection is determined by balancing at the margin the incentive effects of broader rights against the administrative and access costs arising from the public goods aspect of intellectual property. Landes and Posner were focusing on the incremental advantages of increasing incentives. They argue that benefits arose from increased creative activity while the costs resulted from decreased access. One could equally balance at the margin the benefits from increased access against the costs of broader rights.”) (citing Landes & Posner, *supra* note 6, at 476) (footnotes omitted).

An increase in access to intellectual property is justified only when the value of the benefits resulting from increased access is greater than the value of decreased creative activity resulting from decreased incentives.⁶⁸

¶50 A balance that is suitable for pure public goods may be inappropriate for impure public goods. Increased access may, by definition, diminish the utility others obtain from provision of the intellectual property information if the information is partially rivalrous. Increased rights may not lead to increased incentives to create information if the intellectual property is partially excludable without formal protection, and existing revenues are sufficient to cover costs.⁶⁹ This Part III discusses and applies rules for applying the net benefit test to impure public goods.

¶51 The incentives/access question involves a balance. If goods are partially rivalrous, increasing exclusive rights is justified only if the value of creative activity resulting from doing so exceeds the value of the benefits arising from retaining access. The following Sections C and D apply this general conclusion to intellectual property issues arising in copyright and trademark law, respectively, and find that partial rivalrousness only sometimes requires stronger intellectual property protections.

C. Applying the Net Benefit Approach to Congestible Copyrights

¶52 The net benefit approach usefully addresses the policy implications of strengthening rights to prevent congestion externalities in copyright. When an individual's consumption of a good *does* detract, even in the slightest, from the consumption opportunities available for others, the cost of extending access to that individual is greater than zero. This is potentially true for all of the congestible goods examples discussed in Part II. The economics literature on impure public goods concludes that, for an efficient allocation of resources, the price an individual should pay for the opportunity to consume a good depends on the costs her consumption imposes on others.⁷⁰ This concept limits the free-access norm, which claims that if the marginal cost of supply is zero, the price should be zero.⁷¹ In markets for private goods, the marginal cost is the cost of additional resources needed to supply the good to an additional consumer. In markets for impure public goods, marginal cost is the cost imposed on others "in terms of the reduced benefits due to congestion or incompatibility"⁷² resulting from the supply to an additional consumer.

⁶⁸ Barnes, *supra* note 3, at 122.

⁶⁹ Jeffrey L. Harrison offers an analysis of incentives from the creator's perspective stating that "as long as the creative effort is put forward, there is no need to incur costs to protect benefits beyond this minimum [necessary to cover costs]." Jeffrey L. Harrison, *A Positive Externalities Approach to Copyright Law: Theory and Application*, 13 J. INTELL. PROP. L. 1, 14 (2005). He argues that the creator's earnings above average cost do not inspire extra creative effort so they are "irrelevant to the author's decision-making." *Id.*

⁷⁰ See generally Todd Sandler & John T. Tschirhart, *The Economic Theory of Clubs: An Evaluative Survey*, 18 J. ECON. LITERATURE 1481, 1487–88 (1980). The model presented by these authors permits the amount of congestion to vary by the intensity of each person's use. *Id.* at 1488 n.14; see also Demsetz, *supra* note 62, at 293 ("[T]he payment of different prices for the same good is consistent with competitive equilibrium if the good is a public good.").

⁷¹ See discussion *supra* Part III-A.

⁷² Sandler & Tschirhart, *supra* note 70, at 1487.

¶53 In the intellectual property context, the general rule of charging prices according to costs users impose on others⁷³ means different access rules for different types of users.⁷⁴ Because non-rivalrous users of information impose no costs on others, they *ought* to have free access to the information. According to economic theory, partially rivalrous users *ought* to pay for the costs their use imposes.⁷⁵ Because intellectual property is provided by markets, however, the net benefit rule applies, rather than the public finance rule of charging different prices to different consumers.

¶54 The idea of different access rules for different users is familiar to intellectual property law where fair use doctrines apply.⁷⁶ But intellectual property law supports, rather than penalizes, such uses. People who use another's copyrighted expression to criticize, parodize, or transform it or use another's trademark in unfavorable comparative advertising interfere with the value of the expression or symbol. Intellectual property law protects those uses because the law values access more than the benefits that would result from stronger exclusive rights.

¶55 In the public finance context, suppliers' costs of production are covered by tax revenues rather than market prices. In the public finance context, the government could, theoretically, set the optimal amount of production by paying for it out of tax revenues. There is no interplay between incentives and access as in a competitive market in which increased revenues might or might not produce greater output of creativity and any increased output might have great or little social value. Taking incentive effects into account may alter the simple policy prescription of increasing rights to get more creativity.

¶56 Users of well-known original and creative expressions of ideas may dilute the impression created by author in ways both beneficial and harmful to both the creator and the public. From an impure public goods perspective, the net benefit of any such congesting use ought to be assessed in terms of its impact on the benefits derived by other users and in terms of its impact on authors' incentives to produce intellectual property information. The two impacts reflect the benefits of free access and of exclusive rights to

⁷³ See *supra* text accompanying note 70.

⁷⁴ See Sandler & Tschirhart, *supra* note 70, at 1488 (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). 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.* at 1489. 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. 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. 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). These would be examples of "potentially" congestible goods.

⁷⁵ *Id.* at 1489.

⁷⁶ See 15 U.S.C. § 1115(b)(4) (2009) (establishing the fair use rules applied in trademark); 17 U.S.C. § 107 (2006) (establishing the United States' copyright law's fair use principles). Both the trademark and copyright fair use rules permit some types of users free access to information even during the duration of exclusive rights.

partially rivalrous goods, respectively. This section considers first the policy treatment of congestion of famous, iconic works.

1. Incentive Effects

¶57 It is hard to envision any harm to incentives from blurring, congesting uses of famous, iconic, copyrighted works. Any effect of congestibility on the creator's income from blurring iconic images from literature, film, or the arts is likely to come only after the creator has received more than sufficient return on investment to have induced the effort. Professor Mark Lemley considered the potential blurring of the iconic images of Mickey Mouse, Barbie, and Scarlett O'Hara.⁷⁷ While the Disney Corporation, the Mattel Corporation, and the estate of Margaret Mitchell would naturally prefer more revenue from their creations, there is no reason to think that the revenues obtained during the evolution and duration of the fame was insufficient from an incentives viewpoint. The fame itself suggests the likelihood that there was sufficient return.⁷⁸ While the incentive to create the work in the first place may require exclusive rights of limited duration, copyright congestibility offers no incentives-based justification for extending the term.

¶58 The analysis of congestibility in the simple overuse case, without the blurring that results from transformative changes in image, is somewhat different. The availability of multiple copies of a work may diminish the uniqueness of the original. The appeal of the artist may diminish from overuse, limiting demand for his work. But during the copyright term, the artist already has the right to control reproduction. While the artist must be able to exclude copiers to prevent overuse during the copyright term, the potential of overuse resulting from his own reproduction is the creator's problem, similar to the problem of any producer trying to maximize profits in a competitive market. The creator's complaint that he reproduced too many copies and over-exposed his own work does not engender sympathy. The possibility that copiers will "congest" the image after that period has expired provides no incentives justification for extending the duration of exclusive rights if the term has been set properly in the first instance.

¶59 Thus, in the case of both iconic and other creative works, there must be an opportunity to earn a sufficient return in the first place. In terms of the net benefit rule, increases in exclusive rights are appropriate to encourage additional creative activity as long as the social value of that additional activity exceeds benefits that would flow from free access. If incentives resulting from exclusive rights are needed to spur the initial creative activity, there would be no information to access without some initial exclusive rights. Thus, there is a justification for exclusive reproduction, distribution, and derivative works rights for a limited copyright term, as current law provides.⁷⁹ The incentives explanation provides no justification for extending exclusive rights beyond that minimum, particularly not for iconic, congestible copyrightable expressions.

⁷⁷ Lemley, *supra* note 2, at 145–46.

⁷⁸ Mark Lemley observes that demand for such figures is likely to be reduced only for that "subset of works that are so extremely well known that they have become cultural icons around which public expectations have crystallized." *Id* at 145.

⁷⁹ 17 U.S.C. §§ 106, 302–305.

2. Effects on Consumption

¶60 The original congestibility argument of Landes and Posner was based, however, on harm to users rather than detrimental incentives effects on creators. They argued that the image created by the expression could be better maintained by extending the duration of exclusive rights, thereby protecting consumers who rely on the stability of the meaning of cultural icons.⁸⁰ Consumers' willingness to pay for iconic symbols may be reduced if their meaning is blurred. Here, we are not concerned with the potential decline in revenues to the Disney Corporation, but with the potential detriment to a consumer, one who seeks a benefit from simultaneous use of the expression of an endearing and heroic mouse.

¶61 Initially, observe that even if harm to users results from alternative expressions that blur the meaning of the original author's work, the stability of expression argument applies only to the extent and duration of derivative rights, rather than to reproduction and distribution rights *per se*.⁸¹ By transforming or altering the expression, the alteration is based on or derived from the copyrighted work. If copyright law prescriptively should and descriptively does acknowledge the interest in stability of expression, we might see evidence of this acknowledgment in fair use cases involving transformative works. We do not. The argument that authors ought to be able to control public interpretation of their expressions is so contrary to our understanding of the benefits from free access that it is difficult to accept. It implies that the social value of effective critical commentary, comment, reporting, teaching, scholarship, or research⁸² is outweighed by the importance of the stable interpretation of a cultural expression. Transformative use of another's work is more likely to be considered fair use when courts apply the four factors of the fair use test.⁸³ The stability of cultural expression does not favorably compare with altering cultural expression as part of the balancing process.

¶62 In balancing the benefits of access and exclusion, stability is a legitimate value if there is evidence that users prefer it. There is, however, no *a priori* reason to suspect that the social benefit of stability exceeds the social benefit of change. Professor Thomas Cotter observed:

It may be true that some consumers derive pleasure from stability of meaning, but others are just as likely to derive pleasure from changeability, or from future adaptations that cannot even be imagined at present. . . . In much the same way,

⁸⁰ See Landes & Posner, *supra* note 6, at 487–88.

⁸¹ See Lemley, *supra* note 2, at 145–46 (criticizing Landes and Posner's reasoning).

⁸² These values are reflected in the fair use provision of the Copyright Act. See 17 U.S.C. § 107.

⁸³ *Id.*; see *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 578–79 (1994) (“The first factor in a fair use enquiry is ‘the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes.’ . . . The central purpose of this investigation is to see, in Justice Story's words, whether the new work merely ‘supersede[s] the objects’ of the original creation or instead adds something new, with a further purpose or different character, altering the first with new expression, meaning, or message; it asks, in other words, whether and to what extent the new work is ‘transformative.’ Although such transformative use is not absolutely necessary for a finding of fair use, the goal of copyright, to promote science and the arts, is generally furthered by the creation of transformative works. Such works thus lie at the heart of the fair use doctrine's guarantee of breathing space within the confines of copyright, and the more transformative the new work, the less will be the significance of other factors, like commercialism, that may weigh against a finding of fair use.”) (citations omitted).

the world may be a more interesting place and may offer a more diverse array of choices for consumers, if there are a variety of works available offering fresh perspectives on old characters and genres.⁸⁴

¶63 Suggesting a preference for a diverse array of fresh perspectives, Professor Lemley observed in this context that “there is substantial social value to allowing people to criticize and subvert cultural icons.”⁸⁵ From either the incentives or access perspective, therefore, there seems little support for the congestion justification for extending copyright terms.

D. Relaxing the Non-Rivalrousness Assumption: Trademark Congestibility

¶64 Evaluating the significance of trademark congestibility similarly requires consideration of the net benefit of restricting any such rivalrous use. Again, this balance ought to be assessed in terms of its impact on the benefits derived by other users and in terms of its impact on authors’ incentives to produce intellectual property information. Given the differences among the four types of trademark uses that might affect incentives to produce and benefits from using trademark information discussed in Part II, separate analysis of each is appropriate.

¶65 The net benefit rule applies to congestible uses of trademarks. Analysis begins with the rule from the economics of impure public goods that the price an individual should pay for the opportunity to consume a good depends on the costs her consumption imposes on others. But that rule must be tempered to apply to the intellectual property context, where a tradeoff considers the value of benefits resulting from stronger exclusive rights and associated increased incentives, on one hand, and the value of benefits resulting from weaker exclusive rights and associated increased access, on the other.

1. Confusing Proprietary Use

¶66 The analyses of congestible copyright and congestible trademark uses differ because the harm resulting from some congestible uses of trademark is greater than congestible uses of copyright and the argument for legal intervention is clearer. Infringers of copyrights and patents may interfere with the revenues rights holders earn, but the information is likely to retain its utility. Confusing proprietary users of another’s trademark, on the other hand, may interfere greatly with the utility of the information conveyed by the mark. The mark owner has greater difficulty using the mark to indicate that she is the exclusive supplier of goods bearing that mark. Consumers have greater difficulty identifying goods from that supplier by reference to the mark. In addition to the adverse incentive effect on the mark owner from permitting congestible proprietary uses, there is a diminution in the utility of the mark to consumers as other competing suppliers use it as a source-indicator. Thus, the focus of trademark law is properly on preventing confusing simultaneous source-indicating uses of marks.

⁸⁴ Thomas F. Cotter, *Memes and Copyright*, 80 TUL. L. REV. 331, 400–01 (2005).

⁸⁵ Lemley, *supra* note 2, at 145–46. Lemley also argues that, if the availability of alternative expression limits demand for the author’s expression, it might be because people prefer the alternative expression, *id.*, which would be evidence of the greater value of free access.

¶67 The law responds to this potentially severe congestion by imposing a cost on trademark infringers in accord with the economic theory of impure public goods. This cost is, in some measure, tailored to the costs imposed by the congesting, confusing proprietary use. Trademark monetary awards include, *inter alia*, revenues diverted from the trademark owner by the trademark infringer and profits earned by the infringer.⁸⁶ These damages reflect revenues the infringer earned from diminishing the utility of the intellectual property by its congesting use. The infringer's profits resulted from deceiving consumers, the first of two parties whose benefit from referential use of a clearer trademark symbol is lessened by the congesting use. The reductions in revenues earned by the mark owner reflect harm to the second party, whose benefit from proprietary use of the trademark symbol is diminished.

¶68 The award of injunctive relief⁸⁷ against confusing proprietary use is also supported by the net benefit analysis. The only benefits resulting from permitting free access to another's mark by confusing proprietary users are likely to result from misrepresentations of the sources of goods. The benefits resulting from exclusive rights to trademarks are the production of more information about sources, characteristics, and qualities of goods. Injunctions appropriately consider the costs and benefits of enjoining conduct, focusing on net benefits to society as well as to the parties.⁸⁸ Trademark law reflects the prescriptive recommendations of the net benefit rule applied to impure public goods theory's treatment of congestible public goods by allowing for recovery of lost profits, an accounting, and injunctive relief.

2. Non-Confusing Proprietary Use

¶69 Non-confusing proprietary use of another's trademark has potential for blurring of the source-indicating power of a trademark. Non-confusing proprietary uses might make it more expensive for the trademark owner to clarify its association with the mark, affecting incentives to create information. Blurring might also decrease the utility of the information to consumers.

¶70 Trademark protection of marks from non-confusing proprietary uses falls under the dilution provision of the Lanham Act, which is designed to prevent "the lessening of the capacity of a famous mark to identify and distinguish goods or services."⁸⁹ The Supreme Court,⁹⁰ Congress,⁹¹ and scholars⁹² traditionally conclude that the purpose of the dilution

⁸⁶ See 15 U.S.C. § 1117(a)(1) (2006) (allowing recovery of defendant's profits); *id.* § 1117(a)(2) (allowing recovery of plaintiff's losses).

⁸⁷ See *id.* § 1116 (allowing injunctive relief).

⁸⁸ See *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006) ("According to well-established principles of equity, a plaintiff seeking a permanent injunction must satisfy a four-factor test before a court may grant such relief. A plaintiff must demonstrate: (1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.").

⁸⁹ 15 U.S.C. § 1127.

⁹⁰ *Moseley v. V Secret Catalogue, Inc.*, 537 U.S. 418, 429 (2003) ("Unlike traditional infringement law, the prohibitions against trademark dilution . . . are not motivated by an interest in protecting consumers.").

⁹¹ The legislative history of the Lanham Act dilution provisions 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."

provision is to protect mark owners' investments rather than to protect consumers. From this tradition, we might infer an interest in protecting a creator's return on investment per se, rather than in promoting incentives or maintaining the benefits consumers obtain from the information, which are the concerns of public goods theory.

i) *Benefits of Exclusive Rights to Preventing Non-Confusing Uses*

¶71 To find an incentives argument for dilution law, there must be social value in any incentive effects created by the extension of exclusive rights. Like the iconic expressions discussed in the section on copyright congestibility,⁹³ however, the famous marks to which dilution law applies are likely already to have had significant return on their investment and to have significant incentive to continue to invest in the mark without regard to protection against blurring. This suggests that the incentive effects of increased protection are likely to be small. Marks that are not famous are, by definition, unlikely to be adopted by others with intent to benefit from the notoriety of the mark or to be blurred by others' use. The beneficial incentives effects of dilution law have not been considered in depth in the intellectual property literature.

¶72 Any benefits to consumers from increasing exclusive rights should also be weighed in arguments supporting dilution protection. Protection against *confusing* use in a traditional infringement action benefits consumers by ensuring that only one provider of a type of goods or services can use the mark proprietarily. This exclusive use lowers consumers' costs of locating desirable goods and may be an indication of the qualities and characteristics of the goods bearing the mark.⁹⁴ Dilution law might have a similar salutary benefit. Schechter's focus was on arbitrary marks that had "added to rather than withdraw[n] from the human vocabulary,"⁹⁵ marks that have social value. Schechter believed that laws protecting against dilution would only apply to such marks: words that

CARLOS MOORHEAD, COMMITTEE ON THE JUDICIARY, FEDERAL TRADEMARK DILUTION ACT OF 1995, H.R. Rep. No. 104-374, at 3 (1995) (quoting report prepared by Congressman Morehead, Chair of the Committee on the Judiciary).

⁹² Frank Schechter, an early proponent of the dilution theory, asserted that "the vast expenditures 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, 68, 68 n.48 (1999) (quoting Schechter, *supra* note 11, at 830).

⁹³ See *supra* Part III-C.

⁹⁴ See Stacey L. Dogan & Mark A. Lemley, *A Search-Costs Theory of Limiting Doctrines in Trademark Law*, 97 TRADEMARK REP. 1223, 1225–26 (2007) ("In economic terms, trademarks contribute to economic efficiency by reducing consumer search costs. Rather than having to inquire into the provenance and qualities of every potential purchase, consumers can look to trademarks as shorthand indicators. Because this short-hand information is less expensive than detailed inquiries, consumers can more easily obtain and process it and will arguably become better informed, resulting in a more competitive market. This system works, of course, only if consumers can trust the accuracy of trademarks, and this is where the law comes in. By protecting established trademarks against confusing imitation, the law ensures a reliable vocabulary for communications between producers and consumers. Both sellers and buyers benefit from the ability to trust this vocabulary to mean what it says. Sellers benefit because they can invest in goodwill with the knowledge that others will not appropriate it. Consumers benefit because they do not have to do exhaustive research or even spend extra time looking at labels before making a purchase; they can know, based on a brand name, that a product has the features they are seeking.") (footnotes omitted).

⁹⁵ *Moseley*, 537 U.S. at 429 (quoting Schechter, *supra* note 11, at 829) (internal quotation marks omitted).

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.”⁹⁶

¶73 The benefit to consumers of an exclusive right to prevent non-confusing proprietary uses may depend on how the trademark owner markets its goods. Part II-B identified two situations in which blurring might occur, uses of famous marks to convey product information (the Cadillac mark conveying the message of luxury) and uses of famous marks to publicize the suppliers’ identity generally (Exxon and Schweppes ads promoting the suppliers themselves). Consumer perceptions are relevant to measuring the benefits from exclusive use.

¶74 If there are unlikely to be incentive effects from preventing diluting uses, the focus of dilution law must be on harm to consumers. For there to be harm to consumers from non-confusing proprietary uses, there must be a diminution in the trademark/source association in consumers’ minds.⁹⁷ Consumers’ benefit from trademarks is from that association. For there to be a benefit from extending exclusive rights to prohibiting non-confusing proprietary uses, the use must both create an association in consumers’ minds *and* diminish the association. The boundaries of dilution protection might be set by considering the effect of a supplier’s non-confusing proprietary use on consumers’ referential use of the mark.

¶75 The theoretical potential for a detrimental effect on consumers from dilution through non-confusing proprietary use has been discussed but the likelihood of an actual effect has not been well established. Professor Lemley observed that “[t]he information consumers can obtain and process is in part a function of how clear the association between mark and product remains in their minds; ‘clutter’ therefore imposes real costs on consumers.”⁹⁸ While he recognized that “the loss of the informational value of a famous trademark through crowding” is a real harm,⁹⁹ Lemley observed that expansions in other trademark doctrines may already address this problem.¹⁰⁰ According to Professor J. Thomas McCarthy, the economic argument that consumers could be harmed by congesting, blurring non-confusing uses of trademarks is that “this makes it harder for consumers to link that designation with a single source—the hallmark of a strong trademark. Under this theory, dilution increases the consumer’s search costs by diffusing

⁹⁶ *Id.* at 429 n.10 (quoting Schechter, *supra* note 11, at 828–29) (internal quotation mark omitted). *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).

⁹⁷ *See Moseley*, 537 U.S. at 433 (“As the facts of that case demonstrate, such mental association will not necessarily reduce the capacity of the famous mark to identify the goods of its owner, the statutory requirement for dilution under the FTDA.”). Although the holding in *Moseley* was superseded by statute, *see* Trademark Dilution Revision Act of 2006, Pub. L. No. 109-312, 120 Stat. 1730 (amending 15 U.S.C. § 1125(c) (1946)), the statutory amendment only changed the requirement of proof of “actual dilution” to a proof of a “likelihood of dilution,” not affecting the Supreme Court’s statement that dilution itself requires more than a mere association between the marks of the alleged infringer and the trademark owner.

⁹⁸ Mark A. Lemley, *The Modern Lanham Act and the Death of Common Sense*, 108 YALE L.J. 1687, 1704 n.90 (1999).

⁹⁹ *Id.* at 1705 n.91.

¹⁰⁰ *Id.* at 1704 n.90 (citing Jessica Litman, *Breakfast with Batman: The Public Interest in the Advertising Age*, 108 YALE L.J. 1717, 1722 (1999)) (internal quotation marks omitted).

the identification power of that designation.”¹⁰¹ McCarthy concludes, however, that “[w]hether this is a significant risk in the real world is unknown and unproven.”¹⁰² Some scholars question whether a trademark has ever actually been diluted.¹⁰³

¶76 The Exxon and Schweppes examples demonstrate corporate marketing of the supplier itself rather than marketing in connection with a product.¹⁰⁴ While the supplier’s motivation is to market itself by making its famous name even more well known, corporate marketing is likely to be less informative than advertising that says something about the characteristics and qualities of a particular product or associates a source-indicating device with a particular source. No one argues that trademark law is designed to protect marketing devices per se, but rather it protects only the power of source-indicating symbols.¹⁰⁵ The lack of evidence of significant benefit to exclusion suggests little benefit to the dilution cause of action.

a) Benefits from Free Access

¶77 To consider the benefit to people, other than the mark owner, from free access, we might consider the impact of free access by non-confusing proprietary users on those users and on consumers who would use the non-confusing proprietary user’s mark referentially. Non-competitors might adopt a famous mark so that some of the élan associated with the mark (luxury goods such as Cadillac cars or Wedgwood china) or recognizability of the mark (such as Victoria’s Secret) would rub off on them or increase their own visibility in the market for their goods.

¶78 By free-riding on the investments of the mark owner, non-competitors might gain a market advantage and usefully inform consumers if the goods they are selling do indeed have the characteristics (e.g., luxury) of the mark owner’s goods. This may be true for a seller of luxury homes using the Wedgwood mark, famously used in connection with fine china, though perhaps not for sellers of Cadillac dog food. A rule prohibiting only misleading non-confusing proprietary uses might be desirable, but the Lanham Act prohibition on false advertising already covers those uses.¹⁰⁶ Moreover, success in the

¹⁰¹ J. Thomas McCarthy, *Proving a Trademark has Been Diluted: Theories or Facts?*, 41 HOUS. L. REV. 713, 727–28, 728 n.59 (2004) (“The economy is less when, because the trademark has other associations, a person seeing it must think for a moment before recognizing it as the mark of the product or service.”) (quoting Richard A. Posner, *When Is Parody Fair Use*, 21 J. LEGAL STUD. 67, 75 (1992)).

¹⁰² *Id.* at 728.

¹⁰³ Kenneth L. Port, *The “Unnatural” Expansion of Trademark Rights: Is a Federal Dilution Statute Necessary?*, 18 SETON HALL LEGIS. J. 433, 447–48 (1994) (“[T]he proponents of dilution have not established that trademarks are even susceptible to dilution. No mark has ever actually, quantitatively been established to have been diluted. If it had, we should be able to point to a specific trademark that was worth *X* before the entry of a newcomer but worth *X minus Y* after the entry of a non-competing and diluting newcomer. Because there is none leads me to doubt even the existence of the idea of dilution.”) (footnote omitted).

¹⁰⁴ Scholars object to trademark rights in the absence of connection to a product or market. *See, e.g., id.* at 466–67 (discussing trademark rights to words outside of their use indicating a particular product).

¹⁰⁵ *See Barnes, One Trademark*, *supra* note 16, at 3 (discussing the desirability of limiting the use of trademarks as marketing devices by suppliers of goods and services and emphasizing the use of marks to inform consumers about the source, qualities, and characteristics of goods).

¹⁰⁶ *See* 15 U.S.C. § 1125(a)(1) (2006) (establishing a cause of action against any person “who . . . uses in commerce any word, term, name, symbol, or device, or any combination thereof, or any false designation of origin, false or misleading description of fact, or false or misleading representation of fact, which . . . in

market ought perhaps to depend on the merits of the suppliers' goods and services themselves, rather than the spurious attachment of a label. Also, courts regularly observe that the trademark owner's reputation ought not to be under the control of others whose product quality may not be maintained.¹⁰⁷ These considerations suggest that the benefits of free access to others' famous marks are small.

¶79 From a public goods perspective, allowing free-riding on a famous mark to obtain increased visibility does not create great social value and may have social detriments, especially if such free-riding is misleading. If non-confusing adoption of another's famous mark causes little harm and provides little benefit, it might still be a problem if it has negative incentive effects. Negative effects of free-riding from non-confusing proprietary use have not been well-established in cases or commentary, however, and positive free access effects are minor, hypothetical, and questionable. These positive effects from non-confusing proprietary use by suppliers and consumers have also not been considered in any detail in the scholarly or judicial literature.

¶80 Balancing the incentive and access arguments leaves a weak and unproven case for trademark law protection against dilution of famous marks. There is no reported decision in which any actual negative blurring effects of non-confusing proprietary use have been proved, except by circumstantial evidence, such as the exact identity of the owners mark and the mark the alleged diluter used.¹⁰⁸ There are few, if any, dilution cases in which the plaintiff has failed to show that confusion was likely, with respect to the accompanying infringement claim, but successfully obtained an injunction based on evidence that blurring was likely. The lack of evidence in situations where the plaintiff has incentive to produce evidence supports the conclusion that trademark congestion from blurring may be more of a hypothetical than real problem from a public goods perspective. Blurring does not appear to be a problem from an impure public goods/net benefits perspective.

3. Generic Use

¶81 From a net benefits perspective, the question is whether a trademark owner should have an exclusive right to obtain or retain trademark rights in a generic term. Generic use means use of a term to indicate a class or type of products or services.¹⁰⁹ The benefits from allowing free access to generic terms are well established. Suppliers who compete in the market created by or dominated by the mark owner need a way to identify the class of goods into which their products fall. This situation was particularly clear in the

commercial advertising or promotion, misrepresents the nature, characteristics, qualities, or geographic origin of his or her or another person's goods, services, or commercial activities").

¹⁰⁷ See generally *Quality Inns Int'l, Inc. v. McDonald's Corp.*, 695 F. Supp. 198 (D. Md. 1988) (citing other relevant cases) (internal quotation marks omitted).

¹⁰⁸ *Moseley v. V Secret Catalogue, Inc.*, 537 U.S. 418, 434 (2003) (recognizing that direct proof of actual dilution (through consumer surveys) might be difficult, dilution might be proved through circumstantial evidence, as in cases where the junior and senior marks are identical); see also, e.g., *Horphag Research Ltd. v. Garcia*, 475 F.3d 1029, 1036 (9th Cir. 2007) (applying that standard to find that the defendant had actually blurred the plaintiff's trademark). There is at least one recent case in which the court held that the diluting use was likely to cause consumers to have an unfavorable view of the mark because it was used in connection with a sex shop.

¹⁰⁹ See *supra* note 46 and accompanying text.

Shredded Wheat case, where the expiration of patents left competitors and consumers at a competitive disadvantage if they could not use the term “shredded wheat,” theretofore used only by the plaintiff.¹¹⁰ The benefits from exclusive rights are only anti-competitive because the mark is, by definition, a product-class-identifier rather than a source-identifier and, thus, can only prevent consumer choice. Because the net benefits of access outweigh the net benefits of exclusive rights, the law should, and does, deny exclusive rights to generic terms.

¶82 Trademark law prohibits source-indicating uses that may lead to genericide if they are likely to cause confusion,¹¹¹ but does not prohibit “class-of-products-indicating” uses.¹¹² Trademark law prohibits trademark rights in generic terms because they are not terms by which the goods of the applicant may be distinguished from the goods of others,¹¹³ and it permits cancellation of registered marks that have become generic.¹¹⁴ The Lanham Act’s incontestability provisions,¹¹⁵ which provide a conclusive presumption of validity for other types of marks that have lost their source-indicating ability,¹¹⁶ deny this benefit to marks that have become generic.¹¹⁷ A trademark owner may object to source-indicating uses that lead to genericide, but once the mark is generic the owner loses its exclusive rights and, from a net benefits perspective, with good reason.

4. Customary/Descriptive Use

¶83 Some customary and descriptive uses may have identifiable negative effects on incentives, but for all such uses there are well-established and more significant benefits from free access. A supplier who has chosen a term with some descriptive value as a source-indicator must demonstrate that the term has a primarily source-indicating meaning, rather than a product/service describing meaning to the public.¹¹⁸ Once the term is primarily source indicating, further descriptive use, particularly of the sort that

¹¹⁰ *Kellogg Co. v. Nat’l Biscuit Co.*, 305 U.S. 111, 117–18 (1938).

¹¹¹ See 15 U.S.C. §§ 1114, 1125(a) (establishing causes of action for infringement of registered and unregistered trademarks, respectively); *Park ’N Fly, Inc. v. Dollar Park & Fly, Inc.*, 469 U.S. 189, 193–94 (1985) (discussing lack of protection for generic terms or terms that had become generic).

¹¹² See *Freecycle Network, Inc. v. Oey*, 505 F.3d 898, 906 (9th Cir. 2007) (“Of course, trademark owners are free (and perhaps wise) to take action to prevent their marks from becoming generic and entering the public domain—e.g., through a public relations campaign or active policing of the mark’s use. The Lanham Act itself, however, contains no provision preventing the use of a trademarked term in its generic sense.”); *id.* (citing *Ty Inc. v. Perryman*, 306 F.3d 509, 513–14 (7th Cir. 2002), for rejecting an attempt to extend the Lanham Act’s anti-dilution provisions “to enjoin uses of their mark that, while not confusing, threaten to render the mark generic”).

¹¹³ See 15 U.S.C. § 1052 (denying registration to such marks); *id.* § 1127 (defining “trademark” and “service mark”).

¹¹⁴ *Id.* § 1064(3).

¹¹⁵ *Id.* § 1065.

¹¹⁶ *Park ’N Fly*, 469 U.S. at 196 (holding that merely descriptive terms registered because they had acquired distinctiveness that had become incontestable could not be challenged on the basis that they were merely descriptive).

¹¹⁷ *Id.* at 193–94.

¹¹⁸ *Id.* at 211 (discussing trademark user’s obligation to demonstrate secondary meaning, i.e., that the descriptive term has come to refer to the user’s goods); 15 U.S.C. § 1052(f) (permitting registration of marks that have become distinctive of the applicant’s goods in commerce).

describes a competitor's product (such as "micro colors") has the potential to tip the primary significance of the term back towards its pre-source-indicating descriptive meaning. This descriptive use diminishes the mark owner's return on investment, potentially affecting incentives, and diminishes the benefits consumers might otherwise reap using the mark referentially.

¶84 This diminution in incentives, however, only discourages suppliers from investing in descriptive source-indicating marks and favors investment in stronger suggestive, fanciful, or arbitrary marks. Descriptive marks are advantageous from a marketing perspective because the mark immediately brings to the consumer's mind a characteristic or quality of products or services of the type being supplied. No one suggests that trademark law ought to protect marketing devices independently from their power as source-indicating devices.¹¹⁹ The law gives more protection to the stronger marks¹²⁰ because they have greater natural source-indicating potential and detract less from the natural meaning of words. In sum, there is not much lost by discouraging the adoption of descriptive trademarks that others need to use in order to identify their goods.

¶85 The gains associated with free access to descriptive terms are well known. Competitors must be able to describe their goods in order to inform consumers about the availability of alternatives to the mark owner's goods, and consumers benefit from increased competition.¹²¹ The benefits from free access outweigh the benefits that would be obtained by extending exclusive rights to cover descriptive uses. In descriptive use cases, courts have opined that suppliers who elect to use a descriptive term as a source-indicator take the risk that others' descriptive use will water down the source-indicating power of the symbol.¹²²

¶86 The arguments favoring permissive descriptive use may apply even more forcefully to comparative uses. A competitor's comparative use is descriptive because it uses another's mark to describe the mark owner's product for the purpose of comparison¹²³ (e.g., "our computers are faster than Apple computers"). If it is clear whose products are

¹¹⁹ *Virgin Enters. v. Nawab*, 335 F.3d 141, 148 (2d Cir. 2003) ("The trademark right does not protect the exclusive right to an advertising message—only the exclusive right to an identifier, to protect against confusion in the marketplace."); *see also*, *Barnes, One Trademark*, *supra* note 16, at 3 (proposing limitations on trademark protection to minimize competitive harms resulting from unnecessary protection of marketing devices).

¹²⁰ *Virgin Enters.*, 335 F.3d at 147–48 ("Thus, as a matter of policy, the trademark law accords broader protection to marks that serve exclusively as identifiers and lesser protection where a grant of exclusiveness would tend to diminish the access of others to the full range of discourse relating to their goods.").

¹²¹ *KP Permanent Make-Up, Inc. v. Lasting Impression I, Inc.*, 543 U.S. 111, 122 (2004) ("The common law's tolerance of a certain degree of confusion on the part of consumers followed from the very fact that in cases like this one an originally descriptive term was selected to be used as a mark, not to mention the undesirability of allowing anyone to obtain a complete monopoly on use of a descriptive term simply by grabbing it first.").

¹²² *Cosmetically Sealed Indus. v. Chesebrough-Pond's USA Co.*, 125 F.3d 28, 31 (2d Cir. 1997) ("So long as the defendants in good faith are using the phrase in its descriptive sense and prominently identifying the product with the defendants' marks, the defendants incur no liability simply because the materials containing the descriptive phrase are so widely disseminated as to form some degree of association in the public's mind between the phrase and the product. That too is a risk the plaintiff took in selecting as its mark a phrase that was not only descriptive but readily recognized by consumers.").

¹²³ *Waco Int'l, Inc. v. KHK Scaffolding Houston Inc.*, 278 F.3d 523, 534 (5th Cir. 2002) ("Clearly, use of a mark for comparison or reference purposes falls under the category 'descriptive' as defined in 15 U.S.C. § 1115(b)(4) . . .").

being compared, the source-indicating power of the mark owner's symbol (Apple) is not weakened, competition is enhanced, and consumers' ability to locate satisfactory goods is enhanced. While the mark owner's revenues may suffer from an unfavorable comparison, comparative use does not diminish the clarity of the signal; the informational benefit is not congested. Similarly, customary descriptive use, such as "the Cadillac of BBQ grills," is unlikely to impair and may enhance the source-indicating power of a mark when it provides informational content that transcends its use as a trademark. The net benefit test confirms the logic of legal rules protecting descriptive and comparative uses of trademarks.¹²⁴

IV. CONCLUSION

¶87 The economics of public goods suggests that, when intellectual property information is provided by the market, weak exclusive rights may result in insufficient incentives to supply information, while strong exclusive rights may result in insufficient access to the information that is created. The customary tools of public finance theory, from which public goods theory arose, and the economics of private markets do not provide practical guidance in resolving this balance when goods are non-rivalrous. Conventional theory does identify norms guiding our understanding of what needs to be considered in establishing private markets for non-rivalrous public goods. The challenge for intellectual property law is to find the optimal balance between incentives and access.

¶88 When applied to intellectual property law, it is apparent that some goods are not pure public goods at all, but are instead partially rivalrous. Whatever policy prescriptions are appropriate for pure public goods must be modified to reflect that characterization, because the free access norm based on allocative efficiency does not apply. The general theory of pure and impure public goods, having been developed in the context of public provision of goods paid for by taxes and demanded through the political process, has little direct relevance to market provision of pure or impure public goods. A net benefit test weighs the benefits from strengthening exclusive rights and, alternatively, increasing public access to intellectual property information.

¶89 The net benefit test can be used to evaluate policy prescriptions made by scholars who recognize that some intellectual property information has the characteristics of impure rather than pure public goods. Scholarly discussions of copyright and trademark congestibility, for instance, suggest that some uses of copyrighted expressions and trademarked source-indicating symbols are partially rivalrous, apparently justifying increased exclusive rights, such as a lengthening of the term of copyright exclusivity or recognizing the right to prevent diluting trademark uses. Applying the net benefits test to cases of congestible copyrights and famous trademarks, however, shows that the benefits of strengthening exclusive rights is small and, in any case, likely to be outweighed by the benefits of permitting free use. On the other hand, where the potential for congestion is particularly high, such as when descriptive and generic terms are used as trademarks, the law already implicitly recognizes that the net benefits from access, allowing congesting uses, outweighs the net benefits from increasing exclusive rights.

¹²⁴ 15 U.S.C. § 1115 (2006) (codifying the right to use of terms descriptively, fairly, and in good faith, even if those terms are trademarks of others).