

# SCRIPT-ed

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## **The Intellectual Property Incentive: Not So Natural As To Warrant Strong Exclusivity**

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### **Abstract**

*This article is an excerpt from a longer work in progress, tentatively titled “Decoding and Recoding Natural Monopoly Theory in the Intellectual Property Debate.” A copy of the longer manuscript can be obtained directly from the author at [sgosh@smu.edu](mailto:sgosh@smu.edu). All comments on this excerpt are appreciated.*

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## 1. Introduction

The language of incentives pervades intellectual property law. Some courts and commentators describe the intellectual property grant as a reward for publicizing the fruits of one's creative efforts.<sup>1</sup> Others characterize intellectual property as a *quid pro quo* whereby exclusivity is granted in exchange for disclosure and dissemination to the public of valuable new technologies and expressive works, both informative and entertaining.<sup>2</sup> Even proponents of intellectual property that start from a natural rights perspective, grounding the grant in the rights of authors and inventors in the personality of the creator, emphasize the need for legal protection to channel energies towards creative activities.<sup>3</sup> Given how pervasive the incentive rationale is, one would conclude that the foundations of intellectual property are settled, and the big debates are over the application to controversies raised by new technologies and economic and social changes.

But there are big problems with the justification of intellectual property through a story about incentives. The most obvious, that invention and creation occurs absent the grant of intellectual property, is perhaps the least interesting. The problem with the incentives story is that it predicts very little about the structure of intellectual property rights, except for the implication that intellectual property rights need to be strong as possible in order to maximize the incentives. While there may be some limits on rights in order to protect cumulative innovation and improvements, consistent with the incentives story, these limits are, in practice, introduced as an afterthought and as *ad hoc* exceptions to the assumption that intellectual property rights need to be as strong as possible.

Empiricism, however, belies the justification of strong rights. The development of Western economies, for example, is marked with instances of appropriation of know-how and books that facilitated the transfer of knowledge and the growth of Western industries.<sup>4</sup> Even if strong intellectual property rights do promote more creation, there is a question of whether strong rights effectively promote the distribution and consumption of the fruits of intellectual property.<sup>5</sup> Because of these limitations, the incentives story is either completely false or at least misguided in shaping our understanding of intellectual property systems.

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<sup>1</sup> See, e.g., *Figueroa v. United States*, 66 Fed. Cl. 139 (Fed. Cl. 2005)(discussing patent as a system of reward).

<sup>2</sup> See *Eldred v. Ashcroft*, 537 U.S. 186 (2003)(justifying retroactive intellectual property protection as an incentive to disseminate works).

<sup>3</sup> See, e.g., *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239 (1903)(granting protection to even "low works" of creation, such as an advertising poster).

<sup>4</sup> See Doron S. Ben-Atar, *Trade Secrets: Intellectual Property and the Origins of American Industrial Power* 137-138 (2004)(discussing the intellectual property provisions of the U.S. Constitution against background of international industrial espionage).

<sup>5</sup> See William Cornish, *Intellectual Property: Omnipresent, Distracting, Irrelevant?* 5-6 (2004)(presenting growth of strong IP agenda by developed world in the context of trade and competition with developing countries); Eric von Hippel, *Democratizing Innovation* 113-114 (2005)(questioning need for strong intellectual property protection in light of distributional effects).

This article focuses on one of the errors in the incentive story. The error is that intellectual property protection is needed in order to correct the market failures arising from the combination of the high fixed costs of creating and the low marginal costs of distributing the new products that are the subject of intellectual property.<sup>6</sup> My argument is that this error appears in many critical intellectual property cases and academic commentary. When strong intellectual property rights are justified in terms of the prevention of free riding, a version of this error is made. The error is also made when intellectual property is limited in order to give the owner enough of an incentive to create the work initially. In both instances, intellectual property rights are being determined by the costs of creating and distributing the work. I am not denying that industries in which intellectual property rights are common (e.g. pharmaceuticals, entertainment, software) have unusual cost structures that make competition difficult to implement and hence intellectual property necessary. My point is that cost structure by itself tells us very little about the details of how to structure intellectual property systems and implement policies. An emphasis on cost structure alone ignores the broader market and institutional arrangements which intellectual property helps to shape. Basing intellectual property law on a consideration of cost overemphasizes the importance of cost and trivializes the role of distribution and consumption.

Dissecting this error further uncovers an interesting parallel with the debate over the proper legal regulation of natural monopolies, markets in which only one producer can exist because of the existence of what economists call increasing returns to scale. Although no one sensibly would make that case that a market created by intellectual property is a natural monopoly, nonetheless there is a similar argument arising in both contexts. Railroads and utilities were argued to be natural monopolies because large firms could take advantage of declining average costs that resulted from the benefits of scale.<sup>7</sup> Because of declining average costs, one large firm could service the market more effectively than several small ones. In the case of railroads and utilities, scale begets a form of exclusivity for natural monopolies. Similarly, the high fixed costs of production and low marginal costs of distribution result in declining average costs in the market for inventive and expressive works. This cost structure, similar to what is seen in natural monopolies, begets the exclusivity of intellectual property.

This parallel is important because the theory of natural monopoly is controversial and has been under attack for the past fifty years, culminating in the deregulation movement of the Seventies and Eighties, in whose shadow the citizens of many

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<sup>6</sup> One illustration of the relationship between average costs and incentives is seen in the debate over the free riding rationale in intellectual property. See Mark Lemley, Property, Intellectual Property, and Free Riding, 83 *Tex. L. Rev.* 1031, 1059 (2005)(suggesting the intellectual property protection should be set “to the extent necessary to enable [creators and inventors] to cover their average fixed costs”); John Duffy, Intellectual Property Isolationism and the Average Cost Thesis, 83 *Tex. L. Rev.* 1077, 1093 (2005)(explicitly adopting approach to intellectual property based on natural monopoly theory). For a discussion of the crosscurrents of intellectual property and natural monopoly, see Douglas G. Baird, The Story of *INS v. AP*: Property, Natural Monopoly, and the Uneasy Legacy of a Concocted Controversy (Unfair Competition), in Jane C. Ginsburg & Rochelle Cooper Dreyfuss, eds., *Intellectual Property Stories* 9-35 (2006).

<sup>7</sup> For a historical discussion of natural monopoly theory, see Richard T. Ely, The Future of Corporations, 75 (446) *Harper’s New Monthly Magazine* 259-266 (1887)(an early discussion of the problem of natural monopoly); Herbert Hovenkamp, *Enterprise and American Law 1836-1937* 308-322 (1991).

countries, both developed and developing, live now, whenever they make a phone call, turn on the light, or heat their homes. I contend that the arguments against natural monopolies also applies to the intellectual property debate. At a superficial level, the implication that intellectual property needs to be deregulated will sound odd. The deregulation movement in public utilities is considered to be a conservative one, steering the public sphere in a private, laissez-faire direction. While the push to limit strong intellectual property rights certainly has a pro-competition dimension, the stance is most often taken by those who either self-identify or are labeled as being on the left. Nonetheless, the critique launched against natural monopoly theory by conservatives does apply to intellectual property as well. The parallel reflects in part an appeal to freedom. For conservatives who criticize public utility regulation, the goal is freedom from government bureaucracy that hampers consumer choice and the technological developments of the marketplace. For liberals who criticize strong intellectual property rights, the goal is freedom from the stranglehold of rights owners on users that hampers inventive, creative, and expressive processes. More subtly, however, the parallel reflects that the deregulatory move, whether involving utilities or intellectual property, is actually a “re-regulatory” one, entailing the transformation of regulatory structures rather than their extinction.

As a practical matter, what can be learned from the critique of natural monopoly theory to reform intellectual property? While the literature challenging natural monopoly theory is diverse and complicated, a key lesson is that markets exhibiting declining average costs do not have to be ones with strong exclusivity. Instead, the structure can take many forms, and the analysis requires careful consideration of the incentives affecting many players in the industry, the firm, consumers, potential firms, and the government agency that is overseeing the industry. The incorporation of more players and a broader context, however, does not necessarily sacrifice insight into the problem. Instead, the debates in intellectual property over strong rights, full appropriation, and property protection now can be informed by recognizing how the institutions of intellectual property operate and are affected by the doctrine. I illustrate the applicability of this theory to intellectual property through the case of pharmaceuticals and databases. Each of these contexts show how the new economic theory of regulation can help to enrich current intellectual property debates.

This article is organized as follows. Section Two presents the critique of natural monopoly theory as applied to intellectual property. Section Three illustrates the applications with a discussion of the intellectual property protection of databases. Section Four briefly concludes.

## ***2. Parallel Lines Converging: How Critiques of Natural Monopoly Theory Can Inform Intellectual Property***

What is a natural monopoly? What is wrong with the concept? What does any of this have to do with intellectual property? These three questions are answered in this section.

## 2.1 When Only One Supplier Can Fit in the Market<sup>8</sup>

A monopoly is a market with one supplier and many demanders of a product or service. Very few markets are actual monopolies since economies are so linked geographically and technologically. Nonetheless, the concept of monopoly is a useful construct to analyze tendencies in markets as firms become more concentrated through mergers, acquisitions, and other forces. A natural monopoly is a construct used to identify certain market conditions that support only one supplier in order to promote efficiency. This construct is used to recognize that in some situations, the norm of competition may not lead to the most socially desirable result from the perspective of efficiency. In the case of natural monopoly, market competition may even be destructive to social goals. As a result, some corrective is needed to protect society from the consequences of unchecked natural monopoly.

When understood this way, the construct of natural monopoly is very similar to that of externality, another condition that leads to the failure of market competition. An externality occurs when individual buying or selling decisions creates benefits and costs that fall on third parties whose interests are not reflected in the buying or selling transaction. The existence of an externality can result in too little or too much of the activity that produces the externality. This situation can be cured by either taxing or subsidizing the transaction or by incorporating the interests of the third party into the transaction in order to “internalize the externality.” The concept of natural monopoly also guides the regulation of market transactions and justifications for various policy interventions. However, the concept of natural monopoly is as problematic as that of externality. The heart of this paper is the exploration of problems with the natural monopoly construct, especially as the construct arises with intellectual property. Before addressing the problem, let me present the basic structure of the natural monopoly argument.

The natural monopoly argument begins with a particular understanding of firm behavior and competition. Firms, first of all, are assumed to maximize profits, which is defined as the difference between total revenue and total costs. The analysis is formulated in terms of profits per unit sold. Since total revenue is the price multiplied by the units sold, profits per unit sold can be measured by comparing the market price with the average total cost of producing those units sold. If firms operate in an environment of competition, the market price will tend to be pushed down to the marginal cost of producing the last unit sold in the marketplace. If competitive conditions are at work, then prices should also be driven down to the average total cost of producing the last unit sold in the marketplace. This last statement is crucial to the argument in favor of competition. If the market price were above average total cost, firms would have the incentive to supply more goods to the market, driving the market price down until it equaled average total cost. Competition leads to a long run equilibrium in which the market price equals both the marginal cost and the average total cost of production. In this long run equilibrium, firms have no incentive to either enter or leave the market, and market demand is satisfied.

The natural monopoly situation arises when average total cost declines as a firm produces more output. In such a situation, the relationship between market price for

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<sup>8</sup> For an extended discussion of the themes in this subsection, see Sanford V. Berg & John Tschirhart, *Natural Monopoly Regulation: Principles and Practice* 1-34 (1988).

the good, the marginal cost of production, and the average total cost are not in the necessary alignment for the long run equilibrium required for competition. When average total cost is declining, several elements work against the forces of competition. First, a single firm can expand production while average total costs are falling and meet more of the market demand. As average costs fall, the single firm can afford to lower the price it charges and take demand away from other firms. Second, if firms try to compete in this way by expanding output and lowering price, the market price will be forced down until it becomes unprofitable for firms to continue in the marketplace. This downward pressure on price arises from the increased supply of product in the marketplace and the tendency of competition to force price down to marginal cost. These forces together result in, what has been labeled, destructive competition. Because of the destructive tendencies of competition, the argument goes, only one firm can profitably survive in the marketplace. In markets where average total costs are declining dramatically, the preferred structure is having a single firm that is regulated in a way that meets the demand of consumers.

There is a superficial similarity between the natural monopoly story and the stories often told about intellectual property. This similarity is explored, in more detail, below. But at the outset, one common element is that a natural monopoly entails granting strong exclusivity to the firm that operates in the marketplace. This exclusivity is established with legal regulations that make it impossible for competitors to enter into the marketplace. Given the implication of strong exclusivity that arises from the natural monopoly story, it should not be surprising that scholars who champion strong rights turn to the natural monopoly story for support. The rhetorical device of natural monopoly, however, has seeds of its own destruction. For the past forty years, the construct of natural monopoly has been under attack, and the criticism of natural monopoly, appropriately serves to challenge and rethink strong intellectual property rights. The next subsection describes the challenge to natural monopoly theory which will be used in the rest of the paper to buttress the case for rethinking strong intellectual property rights.

## **2.2. Not So Natural A Monopoly**

Criticisms of natural monopoly fall into three types. The first type addresses implicit assumptions about information and cost. The second type raises the possibility that potential competition may lessen the need for government regulation. The third type focuses on consumption and other institutional considerations in shaping the marketplace. Each of these types of criticism has implications for the shape of intellectual property.

Natural monopoly arguments often lead to the establishment of rate regulation for the monopolized entity. Utilities such as electricity and telephone traditionally are restricted in their ability to set the price for their services and must report their costs to regulatory bodies that use the information to set rates that the utility can charge its customers. The earliest criticism of natural monopoly pointed out that traditional rate regulation created incentives on the part of the firm to overstate its costs in order to be

able to charge more rates.<sup>9</sup> Since rates were usually set based on reported estimates of costs, the firm could raise its rates and receive a larger margin by engaging in behavior that raised costs. The claim of gold plating was a typical one against the regulated entity and was the basis for much reform of rate regulation in the Seventies and Eighties. Critiques of rate regulation also expanded how theorists looked at the natural monopoly problem more broadly. Specifically, government regulation was understood to entail problems of information and manipulation that created the need for new models of competition to deal with the problem of declining average total cost. Natural monopoly was not deemed to be truly natural, or inevitable, but one set of political choices that could be replaced with alternatives.

One alternative was offered through the idea of potential competition, an idea that is the basis for the second set of criticisms of natural monopoly.<sup>10</sup> Direct government regulation designed to control price and improve service of a monopolized firm would not be necessary if the natural monopolist recognized that his position was temporary and could be deposed and replaced with another firm. The deposing could occur as another firm attracts existing customers by offering better terms of service, or it could be implemented institutionally by creating the natural monopoly by franchise that would be awarded through several possible mechanisms, such as a direct grant by the government, auction, or state licensing. The system of franchise is, of course, remarkably similar to patent or trademark protection, under which exclusive rights are granted to an inventor or user of mark either for a limited duration (as with patents) or under strict conditions such as use and capacity to distinguish (as with trademarks).

What is worth emphasizing here is the type of institutional assumptions that inform the critique of natural monopoly based on potential competition. The most critical assumption is that of the low costs of entry and negotiating contracts that must be true for potential competition to be effective. If customers are reluctant to switch suppliers, or if the granting of the franchise is entrenched for some reason, then the disciplining effect of potential competition is reduced. But the heroic assumption of costless competition is common to many economic arguments. If transaction costs are high, reforms can be implemented to cure them to ensure that the monopoly position is temporary in fact, and not just in theory. What is more compelling is how this critique asks us to rethink the form and nature of competition. Instead of operating solely through price signals that seemingly neutrally matches supply and demand, competition is psychological, operating to check opportunistic behavior through the threat of being deposed. Competition is a question of strategy among players in the marketplace as opposed to a matter of pricing and outputs. This conception of competition opens up the possibility of considering alternative ways to structure the market and related institutions.

The third strand of criticism of the natural monopoly construct can be described as a political one with implications for the sociology of the marketplace.<sup>11</sup> Understood narrowly, this criticism seeks to expand the focus of economic models on profit

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<sup>9</sup> See H. Averch & L. L. Johnson, Behavior of the Firm Under Regulatory Constraint 52 *American Economics Rev.* 1052-1069 (1962). For a survey of these critiques, see Jean-Jacques Laffont, *The New Economics of Regulation: Ten Years After*, 62(3) *Econometrica* 507-537 (1994).

<sup>10</sup> For the earliest statement of this critique, see George J. Stigler, *The Organization of Industry* 18-22 (1968).

<sup>11</sup> See discussion in Laffont, *supra* note 10 at 533-535.

maximization and private contracting to include consideration of political constraints and institutions on markets. One strand of this approach, deriving from public choice theory, takes the position that natural monopoly regulation is suspect because it will be captured by private interests that will not seek to benefit consumers. A different strand attempts to understand the process of regulation in terms of the a contract between the regulated entity and the regulator using principal-agent theory. While public choice theory reduces natural monopoly regulation to the pursuit of profit through politics, reducing political action to economic ones, principal-agent theory concentrates on politics as a problem of information asymmetry and control. Both of these literatures broaden the study of natural monopoly regulation beyond an emphasis solely on economics to include political bargaining and institutions, albeit through the lens of economic decision making.

Casting the research net more widely shows that the third stand of criticism goes beyond the discipline of economics. The literature on privatization of regulated monopolies challenges the purely economic theory of natural monopoly by identifying the democratic virtues that can be promoted and pursued by replacing government controlled monopolies with a combination of private sector initiatives and more transparent and accountable regulation.<sup>12</sup> Grounded in the political science literature, this approach complements both public choice and principal-agent perspectives by considering institutions in addition to competitive markets and bureaucracies. A deeper cultural critique of natural monopoly theory can also be gleaned from this work. The cultural critique identifies the construction of consumerist values and the place of institutions such as cooperatives and lobbying groups whose interests counter those of regulators and concentrated firms. I call this a cultural critique because the argument shifts the natural monopoly problem from an issue of production (as captured by costs) to one of consumer values and the relationship among individuals within the structures of market and government bureaucracy.

In summary, the reactions to natural monopoly theory can be distilled into three points. First, incompleteness and asymmetry of information destabilizes the relationship between the regulator and regulated. Second, alternative forms of competition and structures of regulation can address the problems of information and include broader interests in the construction of market and government. Third, the inclusion of other interests and restructuring of markets and bureaucracies requires a rethinking of politics and the role of the consumer. To the extent that intellectual property is understood through the lens of natural monopoly, each of these critiques has implications for how to revitalized our understanding of intellectual property policy.

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<sup>12</sup> For a survey of the literature with a focus on political and market institutions, see Michael Waterson, *Regulation of the Firm and Natural Monopoly* 122-144 (1988). For an engaging discussion on the role of regulation in the construction of the marketplace and the consumer in bookselling, see Laura J. Miller, *Reluctant Capitalists: Bookselling and the Culture of Consumption 197-205* (2006)(analyzing the politics of consumption). See also Charles Wolf, *A Theory of Nonmarket Failures*, 55 *Public Interest* 114-133 (1979)(developing a theory of political failure that complements theory of market failure).



### 2.3. Natural Monopoly and Intellectual Property

There are two prongs to my argument. First, the intellectual property incentive is justified on the same terms as a natural monopoly. Second, since natural monopoly theory has come under close scrutiny, the terms of this scrutiny should apply to intellectual property. In this section, I explicate both of these points, by showing how the intellectual property incentive parallels the justification for natural monopoly and by illustrating what the critiques of natural monopoly teach for intellectual property.

The case for intellectual property rests on grounds very similar to those for natural monopoly.<sup>13</sup> Creating and inventing are each costly ventures. Artists and research scientists often must spend many hours and use much capital intensive resources to experiment with various techniques and produce multiple first drafts and prototypes before reaching the final product. In the language of economics, there are high fixed costs to creation and invention. More vexing, once a new work is made and publicized, it is relatively costless to copy the innovation. The combination of high fixed costs and low cost of copying often is used to justify the exclusivity of intellectual property. This justification is similar to that for the exclusivity of a natural monopoly. High fixed costs and relative ease of costlessness, or so the argument goes, would result in destructive competition as the entry of new firms would drive the market price down to zero, resulting in losses and the exit of firms until the market becomes concentrated. More analytically, the combination of high fixed costs and low costs of copying result in declining average total cost, a cost structure very similar to what is observed for natural monopolies. Because of this cost structure, exclusivity is needed to create artificial scarcity in the marketplace that can result in above marginal cost pricing that would avoid the destructiveness of competition. Intellectual property, like natural monopoly, is a necessary exception to the norm of competition, an island of exclusivity and restricted necessity needed to realized the benefits of innovation, as natural monopoly is needed to recognize the benefits of scale.

While the link between natural monopoly style thinking and strong intellectual property rights is clear, even more troubling is natural monopoly style thinking that arises in arguments limiting intellectual property. A common claim is that the exclusivity of intellectual property should be enough to provide incentives to produce the work. Operationally, this claim can mean many things. This statement most often makes a normative admonition against making intellectual property rights too strong. However, if one starts from the proposition that intellectual property is needed because of high fixed costs and low costs of copying, the statement has a parallel in rate regulation of natural monopolies. According to natural monopoly theory, the regulator would set rates according to the firm's average cost in order to allow the firm to cover its cost of production and earn a fair rate of return on its investment. Although the claim of making intellectual property exclusive large enough to create incentives to make the work lacks the mathematical exactness of traditional rate regulation, the parallel is nonetheless striking. Furthermore, other reforms of intellectual property, such as the use of auctions or rewards, also parallel proposals in

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<sup>13</sup> For some background to the ideas in this section, see Erich Kaufer, *The Economics of the Patent System* 24-41 (1989); Ashish Arora, Andrea Fosfuri, & Alfonso Gambardella, *Markets for Technology: The Economics of Innovation and Corporate Strategy* 115-141 (2001).

the natural monopoly literature to deregulate utilities by creating alternative incentive mechanisms to direct regulation, such as through the setting of rates.

To identify a parallel between natural monopoly style arguments and some common arguments in intellectual property may ignore some other very common justifications for intellectual property protection. For example, intellectual property would extend to spontaneous creations, works that may have been created by accident or in general without the high fixed costs that I have claimed to be a common feature of intellectual property justifications. Copyright applies to works that are fixed and original. As the cost of copying has fallen, arguably so has the cost of fixing an original work. Furthermore, as artistic styles have moved from representational to abstract, making creative works that are deemed original has also become cheaper. Therefore, the fixed cost rationale may not exist for many works that are granted copyright protection. In addition, section 103 of the Patent Act states that nonobviousness should be determined without regard to the manner in which an invention is made, implying that even inventions made with low fixed costs can meet the standards for patentability. Taking away the high fixed cost assumption would seemingly loosen the parallel between intellectual property protection and exclusivity. Furthermore, intellectual property protection also extends to situations where the costs of copying may actually be quite high. For example, architectural works and sculptures are both protected by copyright. Complex chemical and industrial processes are protected by patent are not cheap to copy. In these cases, where fixed costs are not high and the costs of copying are not low, arguments for intellectual property protection seem not to parallel natural monopoly arguments at all. Instead, the rationale lies more likely in natural rights or authors rights.

There are two responses to this point. The first is that the counterexamples do not address the most salient cases for intellectual property. Natural monopoly-like justifications for intellectual property are most prevalent in the controversial areas of database protection, computer software, and biotechnology. Therefore, addressing the high fixed cost-low copying cost rationale is critical even if there are alternative rationales for intellectual property. Second, even if natural rights or authors rights rationales do arise in intellectual property, the predominant paradigm for intellectual property is a utilitarian one supporting the need to create incentives through intellectual property protection. A utilitarian rationale would apply just as easily to the low fixed cost/high copying cost situation. Exclusivity is deemed necessary, regardless of cost structure, in order to create incentives for creating and inventing. It is the broader incentives-based justification that is the target of my argument. Even if the case I make here works solely against natural monopoly-like arguments in intellectual property, I will have made an important step in helping to understand intellectual property as more than just a mechanism to create incentives.

The second prong of my argument is to draw implications from criticisms of natural monopoly theory for intellectual property. Natural monopoly theory has been criticized on three grounds: problems of incomplete and asymmetric information, the need for alternative institutional structures that permit competition, and the role of politics and the consumer. To the extent that intellectual property theory parallels natural monopoly theory, the criticisms are equally fitting. If intellectual property rights are to be constructed in order to provide just enough incentive to create the work, there is an insurmountable problem in determining what the right amount of incentive is. Absent some way to determine what this amount is, even with a heuristic rather than through mathematical exactness, the tendency will be to make intellectual

property rights as strong as possible. The problem is equivalent to the gold plating and cost containment problems that affected traditional cost based rate regulation. One response to this problem is to allow for some degree of competition as a cure to the problem of exclusivity, recognizing that the existence of potential competition may cure the dangers of destructive competition. In the case of intellectual property, the influence of potential competition can be introduced through doctrines such as fair use, the first sale doctrine, and experimental use that place fuzzy limits on exclusivity. Finally, the role of institutions other than markets and the place of competition aid in recognizing that intellectual property is not simply about the creation of new works, but about their use. By unleashing the interests of the consumer, intellectual property can temper the exclusivity of intellectual property owners and create institutions that promote innovation and its distribution. Once again, this last critique justifies the need for intellectual property doctrines that place some limits on strong rights of exclusion.

In summary, natural monopoly theory informs the debate over intellectual property. Natural monopoly theory has also been the subject of much criticism. The intellectual property debate can similarly be reinvigorated by appeal to this criticism. As illustration of my argument, I present the case of databases in the next section.

### **3. *The Feisty Case for Database Protection***

In the United States, copyright protection of databases was determined by the Supreme Court in its 1992 decision *Feist v. Rural Telephone Service*.<sup>14</sup> The decision affirmed two propositions. The first is that copyright does not protect facts. The second is that copyright does protect the selection, coordination, and arrangement of facts into databases, but does not protect mere “sweat of the brow,” or the effort expended in constructing the database. These two propositions have been interpreted to mean that copyright gets thin copyright protection in the United States. A creator of the database cannot use copyright law to protect raw data, but can use copyright law to protect creative choices on how the data was selected, coordinated, and arranged in the database. Cases following *Feist* have tested how thin copyright protection actually is, with the general conclusion is that protection might extend to data when the data itself reflects the choices and judgement of the creator. Firms in database industries have pushed for greater protection through amendments to the Copyright Act and to the enactment of *sui generis* legislation. Neither of these initiatives have been successful.<sup>15</sup>

By contrast, the European Union Database Directive was enacted in 1996 in order to make up for limited protection under the copyright laws of the member states. The twin goals were uniform and harmonized protection for databases and for greater protection than provided under copyright law. The European Court of Justice interpreted the Directive in *British Horseracing Board v. William Hill*,<sup>16</sup> in which Hill was accused by the Board of violating its *sui generis* rights by using its gathered data on running horses as part of an Internet based betting service. The Court held in

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<sup>14</sup> 499 U.S. 340 (1991).

<sup>15</sup> See, e.g., Jonathan Band & Makoto Kono, *The Database Protection Debate in the 106<sup>th</sup> Congress*, 62 *Ohio St. L. J.* 869 (2001).

<sup>16</sup> [2002] E.C.D.R. 41.

favor of Hill, finding that the Board's database was not protected because it consisted of data that was created rather than gathered and that was of an official nature. The distinction made between created data and gathered data derived from the need for *sui generis* protection to secure the effort and investment made in constructing the database.

The contrasting approaches to database protection on either side of the Atlantic provide a helpful example of my discussion of natural monopoly theory and intellectual property. The European perspective almost wholly follows a natural monopoly rationale, grounding *sui generis* protection for databases in the high fixed costs of producing a database. In the British Horseracing Board opinion, reference is made to the millions of pounds spent by the Board in making the database, a point that worked in the Board's favor at the lower court level. The United States approach would ignore this cost issue as an example of "sweat of the brow," an approach rejected in *Feist*. Criticisms of natural monopoly theory imply that we should be skeptical of these claims of high cost because any incentive mechanism that bases economic reward on self-reported costs alone will be biased. If self-reported costs are used as a basis for legal protection, then the costs need to be audited very closely and should never be the sole basis for determining the scope of protection. By rejecting "sweat of the brow," however, the United States takes an approach that distances database protection from a natural monopoly rationale. Mere effort is not enough to warrant intellectual property protection, whether in the form of copyright or *sui generis* legislation. Instead, there must be a spark of creativity as demonstrated in selection, arrangement, or coordination justify protection.

The emphasis on creativity in U.S. jurisprudence might be interpreted as an appeal to a nonutilitarian, or author's rights, basis for protection, one founded in a theory of personality rather than utility. I think this is mistaken. Instead, the *Feist* decision is a utilitarian decision that is consistent with a rejection of natural monopoly rationales based on incentives and costs. Although the critique of natural monopoly did not inform the arguments leading up to the decision explicitly, the final decision is consistent with the identified criticisms of natural monopoly theory. First, the rejection of sweat of the brow is consistent with the skepticism of cost based justifications for protection. Sweat of the brow is subject to distortions and problems of information, especially since the creator will always have better and often unverifiable information about how much effort it took to make the database. Second, the reluctance in the U.S. to adopt *sui generis* protection for databases is often supported by the ability of competitive forces to ensure that database manufactures do not exploit a monopoly position and to generate rents for the production and distribution of databases. Database creators profit not from strong exclusivity, but from producing a better database that meets the demands of consumers. They also compete through better interfaces and services in maintaining and accessing databases. Third, this reliance on alternative forms of competition also reflects the interests of consumers and institutions subsidiary to the market in the development and distribution of databases. In short, the U.S. approach to databases shows an alternative to strong intellectual property protection that is consistent with the critique of natural monopoly theory that has developed in the scholarly and policy literature over the past fifty years.

#### **4. Parting Thoughts**

Intellectual property protection is commonly viewed as a matter of private law and private rights, secured through the state. The parallel between natural monopoly theory and arguments justifying intellectual property demonstrate that public law also involves intellectual property. This paper has made the case that critiques of natural monopoly theory apply with equal force to intellectual property. The critiques serve to reshape and reform intellectual property law by thinking outside the language of incentives. By doing so, I hope to develop ways of “re-regulating” intellectual property by creating institutions that better reflect the full range of interests that are affected by the grant of exclusivity.