Mind Control: Firms and the Production of Ideas
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The central questions for economic theories of the firm are how the production of a good is organized (in the market or within a firm) and why that organization prevails. The derivative question that occupies legal scholars is how the law affects and is affected by any particular organizational structure. An emerging literature looks at these questions in connection with the law of intellectual property. The prevailing theories in that literature focus primarily (though not exclusively) on patent law and generally adopt a property-rights theory of the firm. Those theories, often focusing on residual control and hold-up problems, have shown that as patent rights become stronger, firms may become smaller because property rights facilitate market transactions that would otherwise be too costly. Small innovative suppliers will not invent component inputs if they cannot protect their invention against post-disclosure appropriation. The producers of the final product will therefore have to develop the technology in house or the invention supplier will have to perform the post-invention development itself. These insights have important implications for the design of law.

But, as with any emerging literature, there is a large swath of production that is still unexplained. In this essay I set out to identify a unique set of intellectual production activity that does not fit squarely into the existing theories of intellectual property and the firm: namely, the actual production of new and unique ideas. I say “actual production” to differentiate from the well-examined questions of integrating innovation with post-production transfer, development (including synthesis into a larger good), and marketing. The “actual production,” on the other

1 Assistant Professor at The University of Chicago Law School. I am indebted to Andres Sawicki whose collaboration on related projects has informed much of this essay. I also thank Sarah Nudelman and Charles Talpas for their excellent research assistance.


3 See sources cited supra note 2.
hand, is the pre-development mental process (though nonmental inputs are often involved) that
gives birth to an idea that did not previously exist.

To be precise the existing literature does not completely ignore the production of ideas. But the
assumed question has been whether the post-production development firm directs its workers
to create an idea or whether it purchases the idea on the market. A slight variation on this
question is whether the development firm integrates the particular creative firm (or individual)
who produces the idea rather than purchasing it from that same firm on the market. The
converse of those questions would be whether the idea-creating firm directs its employees to
perform post-creation development or acquires a development firm. These frameworks all
share the common assumption that the idea is a thing that exists or can be caused to exist at will.
They do not dig into how exactly the idea comes to exist in the first place. They do not ask
whether that production function requires a particular (sub)organization or is specialized to
certain individuals.

The result is a focus on whether a firm that specializes in post-production development will
integrate with the modular unit of actual idea production however that production might be
organized. The integration of the creative or inventive process (as a modular unit) with the
post-inventive process is explained, while organization within the modular unit of the actual
idea production is left open. Unanswered are questions of if and how inputs to idea creation will
come together and whether collaborative production of ideas can be fostered or inhibited by
markets or firm hierarchies. The focus is on where the idea is produced rather than how it is
produced.

The importance of this gap is underappreciated. In particular, the answer to how the production
of a component idea will be organized will often affect the answer to the question of whether
that production function can be integrated into the larger firm at all. Analogizing to a classic
example for theorists of the firm, a theory that says that the production of a car body would be
vertically integrated into the automotive production function would be problematic if it turned
out that the production of car bodies was itself a disparate and unintegrated production
function. Much of what has been written assumes that the specific organization of idea creation
is a simple matter: that production of an idea can be achieved by any economic actor (that

4 Arora and Merges, supra note 2 at 453.

5 This version is less often discussed in the literature presumably because the idea-creator is often
financially constrained and at an economies-of-scale disadvantage. For example, in the movie business it
may makes more sense for a distribution company to integrate content creation for the movies it
distributes instead of one movie production team taking on its own distribution and marketing. In the
novel industry we would be surprised to see an author buy a publishing house. Of course as authors
become less financially constrained and as publishing becomes cheaper and less subject to economies of
scale, self publishing may become more common. I explore these nuances of the publishing industry in
further detail with Andres Sawicki in [insert working title].

6 See, e.g., Arora and Merges, supra note 2 at 452.
current employees can be directed to produce the new idea); or, when creation is specialized, that the relevant economic actor can be easily identified and easily integrated into the larger firm.\(^7\)

This is often not the case. Integration of the sort these theories envision can be difficult or impossible to achieve. As I discuss below, the primary differentiating quality of a new idea is that its production is often difficult to observe, verify, direct, or control and the production of the idea may be uniquely within the abilities of a particular individual. Firms may not be able to direct an undifferentiated employee to create the new idea. And the lack of control or verifiability of the mental process makes it difficult to integrate the uniquely qualified idea creator into a firm. A theory that suggests that idea creation is being integrated to offset the lack of control that is created by weak property rights would be unworkable in cases where the idea creation is uncontrollable by nature even within a firm.

But we do see integration in some of these cases. Indeed, we see a wide variation of organization for idea creation. Some creative production is done solely on the market (the most creative novels for instance) other creative production is done within collaborative firms under the direction of a hierarchy (movie production and the production of some genres of novels fit this description). And yet none of these variations in the organization of the production of new ideas can be explained by the strength or weakness of property rights in the end product. Nor can they be explained solely by ownership of residual rights to control hold up. Whether a new comic book, a novel, or a new toy is created by a hierarchical firm, a web of market transactions, or an individual has little to do with the strength of copyright protection and more to do with the costs of verifying and controlling inputs on one hand and the value to be gained from collaboration on the other.

The purpose of this essay is thus to highlight this area of intellectual production that cannot be explained by the existing literature on intellectual property and the theory of the firm and to suggest that some underappreciated alternate theories – like team production – might be at play.\(^8\) I do not claim that the conclusions found in the existing literature are incorrect, but rather that they are limited in scope. Property-rights theories tell us about whether and how an existing intellectual input or the modular unit that produces it will be integrated within a firm but less about how the input will be created in the first place – that is, how the modular unit will itself be organized.\(^9\) I present examples of idea production which conflict with the existing theories to

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8 For some limited discussion of team production in this field, see Merges, supra note 3 at 20-26; Burk and McDonnell, supra note 2; and Heald, supra note 7.

9 Of course weakness and strength of intellectual property rights will have another affect on the organization of production. If rights are too weak (or perhaps too strong) the production may never occur. But that is a well-explored question that is less about the theory of the firm and more about the incentive effects of intellectual property law generally.
demonstrate these limitations. I focus largely on the field of copyright showing that the primacy of idea creation for copyrightable work places virtually the entire field outside the realm of existing theories.\footnote{For the purposes of this essay, I focus on the traditional copyright contexts like music, movies and books and put aside the complexities of fields like software.}

I begin with a brief discussion of prevailing theories of intellectual property and the firm and the difficulties of applying those theories to pure idea creation in Part I and then use two high-profile copyright cases to illustrate the need for a new legal theory for the organization of idea creation in Parts II and III. I conclude with some thoughts on directions for new theories in Part IV.

I. Prevailing Theories of Intellectual Property and the Firm

The focus on integration at the post-creation stage is a natural result of the current landscape of the law. It is at the beginning of this stage that an idea might receive legal protection. Copyright law protects ideas expressed in a particular medium. Patent law protects ideas that have been reduced to practice.\footnote{Some have noted a trend toward the expansion of patent law to cover “embryonic inventions” and naked ideas. Oren Bar-Gill and Gideon Parchomovsky, A Market Place for Ideas?, 84 T. L. Rev. 395 (2006)} Those transformations must necessarily occur after creation. Pure ideas – before they are transformed into expressed media or invention – do not have substantial legal protection. Indeed, until recently, legal scholarship generally and not just in the theory-of-the-firm field had largely neglected the study of underlying ideas.\footnote{This gap in analysis is shrinking. See Oren Bar-Gill and Gideon Parchomovsky, A Market Place for Ideas?, 84 T. L. Rev. 395 (2006) (noting that “little attention” has been paid to the law of underlying ideas and proposing limited and narrow legal entitlements for certain ideas); Arthur R. Miller, Common Law Protection for Products of the Mind: An Idea Whose Time Has Come, 119 Harv. L. Rev 703 (2006).}

With that backdrop theorists often ask the question: do firms make or buy inventions? And they look at how the design of patent law affects the answer. The theories offered tend to focus – as much of patent scholarship does – on the strength and allocation of property rights.\footnote{I present here just a brief summary of the literature in the field. Dan Burk and Brett McDonnell provide an excellent and in-depth full review of the literature. Burk and McDonnell supra note 3.} Accordingly, the literature almost universally adopts and applies the prevailing property-rights theory of the firm.\footnote{Dan Burk, in one of the early journeys into the field explained, “In a so-called information age, where the most important assets of firms increasingly are intangible assets, one might expect that property-based theories of the firm would be readily applied to intellectual property.” Dan L. Burk, Intellectual Property and the Firm, 71 U. Chi. L. Rev. 3 (2004); see also sources cited, supra note 2.} That theory, pioneered by Oliver Hart, Sanford Grossman, and John Moore, suggests that firms will integrate an asset – by taking a property right in it – to combat the risk
of hold up that results when perfectly complete contracts cannot be written. Because a property right implies residual control over the asset, the owner of the asset has control (to the extent contracts are silent) over the future allocation of that asset’s productive use. Parties will therefore structure ownership ex ante to minimize the costs of opportunistic behavior that would otherwise occur ex post. For example, if the separate managers of assets A and B cannot contract completely but have to make relationship specific investments in their assets in period one, they will worry about hold up in period two. That will lead to underinvestment ex ante. Manager A will not specialize his skills or assets to the relationship in period one if Manager B can extract all of the returns in period two.

One solution is to allocate residual control to whoever’s investment is more important. If Manager A is the residual owner of assets A and B, she does not have to worry as much about hold up because she controls the use of the assets. She will therefore not have reduced incentives to invest in period one. The solution is not perfect. Manager B may still under invest. That is why the integration decision turns on whose investment decisions are more important.

Applying the property-rights theory to patent law, the existing work has shown that the boundaries of the firm will shift depending both on the strength of the property rights that the law creates and the default allocations of those rights between employees and employers. Additional work has shown that those considerations will also impact other forms of contracts that substitute for strong property rights. Some scholars have also suggested how these answers to the invention question might apply to the decision between making or buying the expressions of ideas covered by copyright law.

The leading theory of intellectual property and the firm, pioneered by Robert Merges, posits that weak intellectual property rights lead to a risk of period-two hold up. The most obvious hold-up risk arises with intellectual property’s classic disclosure paradox. If the innovating firm has

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18 See sources cited supra note 2.


21 See Merges supra note 2.

22 Burk and McDonnell, supra note 2 at 584 (identifying the disclosure problem as a extreme variation on the hold-up problem).
no property right in its invention then any disclosure of that invention to a potential user of the innovation is precarious. The risk that the potential user will appropriate the information creates a disincentive for the innovating firm to make any ex ante investments in the relationship. The potential innovator will not innovate if it cannot sell the innovation. The solution to the disclosure problem is to integrate everything else. Thus, with supplier (S) and buyer (B), B will integrate S to avoid the disclosure problem because “if B and S are part of the same firm, revelation of proprietary information is of no consequence.” This scenario may be inferior to one where integration was not necessary. If S's investments are more important, then integrating S into B reduces S's incentives and causes a welfare loss. For example S may shirk or be less innovative as a division or employee than as a stand-alone firm or entrepreneur.

Things can be improved by creating strong patent rights. As property rights strengthen, market transactions become less costly. S can patent its invention, disclose it without concern, and sell it to B. The hold-up problem is smaller and integration is less likely. S can now exist as an independent firm if that is the otherwise optimal solution.

Oren Bar-Gill and Gideon Parchomovsky have pointed out that integration is not the only solution to a hold-up problem. In the absence of strong property rights, parties might substitute contractual terms that allocate access to the innovation or create covenants not to compete. To the extent the law fosters or limits these contractual arrangements it will alter the boundaries of firms. Thus, firm boundaries are determined both by the strength of intellectual property rights and the enforceability of certain contractual arrangements.

Dan Burk and Brett McDonnell also build on Merges's work. They show that while overly weak intellectual property rights may lead to integration, the same is true of overly strong intellectual property rights. Strong property rights result in an anticommons problem where firms use their rights to block each other from innovation. In response firms may integrate the innovative process. Rather than attempting to license technology in a market mired in a patent thicket, the

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23 See Merges supra note 2.

24 Arora and Merges, supra note 2 at 460.

25 The integration of B into S is less often discussed. It is reasonable to assume that economies of scale or financial constraints may often make that integration more difficult to achieve. See supra note 5; see also Burk and McDonnell, supra note 2 at 583 (explaining that a person other than the original creator will typically be more capable at performing the post-development tasks).

26 See Merges supra note 2 at 9; Arora and Merges, supra note 3 at 454.


28 See Bar-Gill and Parchomovsky supra note 2. [Anup Malani Article]

29 See Burk and McDonnell supra note 2 at 616-17.
firms will internally attempt to invent around the patents. Alternatively, the end producer may “choose to buy up those with related rights as a way around the costs of interfirm bargaining.” This produces the goldilocks hypothesis that there exists an optimal level of intellectual property rights and any deviations from that level (toward strength or weakness) will cause firm size to increase.

Burk and McDonnell also suggest that the allocation of intellectual property rights between employees and employers will affect firm size. Here they suggest that deviations from a just-right allocation (either toward employee or toward employer) will cause firm size to shrink. Employees leave firms as the allocation of rights to employers become too onerous and difficult to contract around. Similarly, firms will shed workers as the allocation of rights to the employees become too onerous. Put in terms of a property theory, the benefits of a firm – ownership of residual control – are lost if the law allocates all residual control to employees.

This literature and its focus on a property-rights theory of the firm is useful but limited because it does not get us very far in analyzing how the actual creative function is organized. The property rights theories treat the production of the invention or idea as a modular input that can either be made or bought without asking about how the actual production of that input would be organized in either scenario. That is, they do not look to the question of how the inputs of the input are sourced.

Something other than ownership of residual control seems to be at play when economic actors organize the production of unique ideas. Major inputs of unique ideas come from the human mind. Those mental inputs are often unobservable and unverifiable. Moreover they are often uncontrollable, even by the person from whose mind they spring. The “creative spark” may not be entirely random, but it cannot be produced on a whim the way other productive inputs might be. Thus residual control, to the extent it exists at all, is limited to the creator’s mind and

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30 This outcome is contingent on particular assumptions. In particular, the ability of a firm to invent around a patent may be significantly reduced by the very strength of the rights that creates this need to contract around the patent thicket in the first place (at least to the extent that strong rights are often broad rights as well). Indeed, identifying the bounds of your internally developed innovation may be no different than identifying the validity of an externally negotiated license.

31 See Burk and McDonnell supra note 2 at 617.

32 The cost of contracting around these allocations is critical to the theory. To the extent these allocations can be contracted around costlessly, they will have little effect. Bar-Gill and Parchomovsky assume these costs to be low in their models. Bar-Gill and Parchomovsky supra note 3.

33 See Burk and McDonnell supra note 2 at 619-20.

34 Arora and Merges, supra note 2 at 452; Ronald J. Gilson, Locating Innovation: The Endogeneity of Technology, Organizational Structure and Financial Contracting, (2009).

35 Any academic who has struggled with finding his next big idea knows this.
cannot be transferred by contract or by obtaining property rights. Likewise, the law cannot allocate the rights that it cannot create.

Integration – in the residual control sense – will therefore not minimize the hold-up potential with relation to that asset. Economists have noted that human capital can never be fully integrated as property.\(^{36}\) This is especially true with the creation of ideas. While human labor may be unintegratable because the control cannot effectively be transferred from the worker to the firm,\(^ {37}\) with idea creation the control does not even exist in the worker until the idea is fully formed. Solutions by integration of related assets or contractual agreements may be weak because even the creator is powerless to control or verify his inputs. Thus, the idea creators will at the moment of creation – even if involuntarily – retain the ability to hold up the firm. For example, the creator could withhold the idea or hoard the idea or misrepresent the state or characteristics of the idea. And the nature of this action is not observable ex post. That way the creator has the implicit threat to exit before the idea is transformed into a controllable form through either contract or property rights. Despite these challenges and incurable hold up problems, idea creation is sometimes integrated – in a Coasean sense – into a large production function. Creators sometimes become part of a team that is directed by hierarchical management. Because integration does no better than contract at curing hold up but still occurs in some instances, we need to look to different theories to explain the difference between integrated and unintegrated idea production.

Consider an extreme case: Nearly all of the theorists in this field suggest that weak property rights in inventions will lead firms to integrate where they otherwise would purchase the intellectual property on the market.\(^ {38}\) But what if the invention is the product of one input – a unique idea in one person’s head? Regardless of the strength or weakness of property rights in that input, the “make” and “buy” options will look the same. The firm can try to buy the idea on the market. But it will face a classic disclosure paradox that will make price negotiation difficult. Or it can hire someone and pay them a salary to come up with the idea. But there again it will face the disclosure paradox that will make the salary negotiation difficult. Perhaps the disclosure problem can be overcome by drafting masterful confidentiality agreements, but the cost of drafting those agreements should not be substantially different with employees and outside contractors.\(^ {39}\) It may be that integration is impossible. In the very least, if there is a reason to integrate it is not to gain residual idea control.


\(^{37}\) There are some examples in the literature where integration or a close substitute can be achieved by some contractual arrangements. See, e.g., Steven N.S. Cheung, *The Contractual Nature of the Firm*, 26 J. L. & Econ. 1, 8 (1983) (noting an example in pre-communist China where riverboat workers “agreed to the hiring of a monitor to whip them”).

\(^{38}\) See sources cited supra note 2.

\(^{39}\) Of course, the employment status might create different default rules or biases of judges.
Moving incrementally away from the extreme cases begins to shed light on the variables that matter for the production of unique ideas. And the strength of property rights is not at the top of that list. Things look very different if the invention is the output of various production inputs. Perhaps a lab is necessary. Perhaps the idea is not actually unique to one mind and can be directed. Perhaps only collaborative thought can produce the idea. Perhaps reputational affects allow ways to work around the disclosure paradox. Those variations will determine the organization of the production function. The strength of property rights in the output plays a different role. The distinction might be thought of as the difference between asking whether a lab producing inventions will be integrated into the larger firm that utilizes the inventions (that is the inquiry that has been undertaken) and the question of how the lab itself will be organized (that is the inquiry that is lacking).  

Moreover, the question that is unanswered is often critical to the questions that the literature is attempting to answer. If the creative production function cannot be integrated into a module because of control issues, then integration into a development firm is also unlikely. For example, a movie production is often created within a firm hierarchy. Similarly teen novels in a certain genre are increasingly being written by teams with a firm hierarchy. Those modules might be easily integrated into the post-creation development firms if other considerations weighed in favor of that integration. The same cannot be said where the nature of the idea creation is such that firms cannot be established. Certain types of literature seem to be produced by a market almost exclusively filled by individuals. I discuss another example in detail below where a comic book character was co-created by two major figures in the industry. The production function had no hierarchy. And I suggest that a hierarchy was nearly impossible to create. There was no integration at the idea-creation stage. The corollary is that if it was impossible to create a hierarchy at the creation state, it would also be impossible for a post-creation development firm to integrate the idea creation. Ultimately, if a modular creation unit cannot be created, there is nothing to be integrated into the post-creation firm. For the same reasons that the comic book creators could not create a hierarchy, they cannot be integrated into a hierarchy.

The same distinctions might be found in other artistic fields. For example, “Boy Bands” might be easy to integrate into record labels while “Rock Bands” are difficult to integrate. But note that the difference between the boy band and the rock band is not about hold up or residual control. Justin Timberlake had as much hold up potential as Eddie Vedder. They had the same type of

40 Arora and Merges, supra note 2 at 452.

41 Alloy Entertainment and Paper Lantern Literature are examples of these firms. Alloy has created and written The Sisterhood of the Traveling Pants; Gossip Girl; and The Vampire Diaries among others. Alloy’s beginnings can be found in the Sweet Valley High series. These companies are essentially firms that write teen novels. That particular production function is discussed more in [Casey and Sawicki].

42 Alloy entertainment now produces the movies and shows based on the books that it authors. Its webpage refers to itself as “a fully integrated entertainment company that develops and produces original books, television series, and feature films.” Disney’s integration of content creation and post-creation development is another examples.
exit threat. Property rights were the same. But N'Sync looked much more like a part of a firm than Pearl Jam. And so the property rights theories leave the distinction unexplained.

In the remainder of this essay, I illustrate the point by focusing on the production of ideas whose expressions are the domain of copyright. The rationale for this focus is twofold. First, copyright law and the major disputes in the area have received less attention by theorists of the firm. Second, while patentable inventions are overwhelmingly the products of myriad inputs including hard assets such as laboratories and equipment, there are still several classes of copyrightable material that are the product of inputs that are overwhelmingly creative products of the mind. Because these examples are more “purely mental” in that sense, they are more convenient for illustrating the point.

It also worth noting that by focusing on copyright law, limitations of existing theories quickly become evident. The production of copyrightable material is varied in its organization. Some books are written by firms, others are written by partnerships, and most are written by individuals. It is unlikely that weak copyright laws would push the creation of literary novels into firms. Conversely, it is hard to imagine how strengthening copyright laws would have a negative impact on the success of firms like Alloy Entertainment who create teen novels within a firm. Similarly, the integration of component inputs into movies and television shows vary across many dimensions. But none of these can be explained by relying on the strength or weakness of copyright law for the end product or for the component parts. If actors had the strongest of property rights in every visual moment they were on screen, what would change? Their contracts might look different and their compensation structure might be different. But it is hard to imagine that they would not still remain integrated into a firm hierarchy where they do the bidding of a director. It is the nature of movie production, not the strength of property rights that is the most prominent factor in the organization of that firm.

Indeed, because virtually all of the value of a copyrightable work comes from disclosure, the disclosure paradox that is discussed in patent law has virtually no application to integration questions in the copyright world. In a world of weak copyright, integration does not solve the disclosure problem. The most secretive fully integrated firm could produce the novel, comic book, or movie with no leaks. But the moment they try to commercialize it, the ease of copying would destroy their ability to capture the value. The value of integration is lost upon first publication. So while theories of property rights facilitating market transactions might be relevant to whether an inventive laboratory is integrated (where reverse engineering is costly) the same cannot be said for the production of copyrightable works.

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43 See supra note 41.

44 The question of property rights in the image of an actor is not entirely hypothetical. And it raises other interesting questions for intellectual property law. See Douglas G. Baird, Does Bogart Still Get Scale? Rights of Publicity in the Digital Age; see also Wendt v. Host International, Inc., 125 F.3d 806 (9th Cir. 1997). But these are likely to be of less importance to the question of how the production of the movie is organized.
From here, I proceed by way of examining two high-profile copyright cases: the Bratz dolls litigation and the Spawn comic book litigation. These cases will be familiar to intellectual property lawyers and scholars. They raise several interesting issues of copyright law. They have received extensive analysis in these fields. They have also received some attention in the field of employment law. But the analysis from a theory-of-the-firm perspective has been scant. In filling that gap, I use these cases to uncover fertile ground for the application of theories of the firm to the law of idea production.

To be clear, I do not claim that no existing economic theory can be applied to this type of production function. The competing economic theories of the firm are not mutually exclusive. Some production functions can be explained by one theory while others can be explained by others. And the appropriate theory might differ depending on the question one is asking. This essay seeks to identify the particular questions that are implicated by the production of unique ideas and set the groundwork for the future identification and application of the appropriate theories to this area.

II. Bratz

Judge Kozinski opened the Ninth Circuit opinion in *Mattel, Inc. v. MGA Entertainment, Inc.* by asking “Who owns Bratz?” That is the appropriate legal question in a lawsuit about copyright and trademark infringement where the parties were suing each other for the future rights in and past profits from a product. And Judge Kozinski's opinion and the ensuing litigation, as well as much scholarly analysis, provide answers to that question. But the question for those concerned with the theory of the firm is more complicated: Who (if anyone) created Bratz?

But let’s back up a little. Bratz are sassy dolls with big heads. They are not the same as Barbie. As Judge Kozinski put it, “Unlike Barbie, the urban, multi-ethnic and trendy Bratz dolls have attitude.” The problem – or at least the impetus for litigation – was that the man behind the Brat was Carter Bryant a former Mattel employee who had designed fashion and hair for Barbie. What’s more, the spark in Bryant’s head that created Bratz occurred while he was still employed

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45 *Mattel, Inc. v. MGA Entertainment, Inc.*

46 *Gaiman v. McFarlane.*

47 For the purposes of this essay, I treat the question of copyrightable ideas. Of course much of the related product of those ideas are also trademarkable. For an interesting analysis of Trademarks and the firm see Dan Burk and Brett McDonnell, *Trademarks and the Boundaries of the Firm*, 51 William and Mary L. Rev. 345 (2009).


49 That more elaborate undertaking is the goal of an ongoing project with Andres Sawicki. [Casey Sawicki].
by Mattel. Similarly, his initial drawings and sculpts of the doll were constructed during that time period.

These facts were relevant because Bryant had by contract assigned to Mattel “all inventions...conceived or reduced to practice... at anytime during [his] employment” with Mattel. Bryant of course argued that the labor of creation (at least for the sculpts and the drawings) occurred off hours when his time belonged to himself and not to Mattel. He also argued that the idea was not an “invention.” Mattel disagreed. The main disputes on appeal were 1) whether the during-employment language of the contract covered off-hours time and 2) whether the term “inventions” included ideas. These are classic questions of contract interpretation. The ninth circuit found the terms to be ambiguous and remanded the question.

These contract disputes might suggest that the creative production of Bratz should be viewed through the “property rights” lens of the firm. This would be consistent with the existing literature on intellectual property and the theory of the firm and that analysis would assist in answering Kozinski’s who-owns question. Mattel produces Barbie dolls and hires employees to help assist it in creating and developing those dolls. Mattel and its employees make relationship-specific investments. Mattel trains its employees and reveals inside information to them about the production function. Employees spend time narrowing and deepening their skills to the creation of Barbie dolls. These investments lead to the potential for hold up in the future. Contracts may be costly to write or enforce and so they will be incomplete by nature. The litigation here certainly demonstrates that. The parties could not contract over the specific rights in Bratz because neither saw the idea (or its immense value) coming. The parties may structure the ownership of assets to correct for the potential of hold up. A theory of potential hold up might then inform the gap-filling exercise for contract interpretation.

Likewise, this lens might tell us something about the appropriate design of law. The strength of the rights that intellectual property law grants in the intellectual products that Mattel and its employees create and the allocation of those rights (to either Mattel or the employee) will affect the cost of writing a contract about the production and ownership of the idea and the particular structures that will best address hold up once the idea has been created. The strength of the rights impacts the costs of transactions about the intellectual products. And the default allocation of rights impacts the outcome in a world where transaction costs are not zero. All of this will determine whether Mattel hires employees to come up with doll designs or simply solicits ideas on the market. If property rights are either too strong or too weak, market

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50 Bratz sales were in the billions of dollars at the peak.

51 Here copyright and trademark law govern this grant.


53 Bar-Gill and Parchomovsky supra note 2.
transactions are costly. But if allocation to employees is excessive or non-existent the costs of firm production will be costly.\textsuperscript{54} Because the law can affect the structure on both the allocation and strength dimensions, the optimal rule (in the sense of encouraging the most efficient production) will have to get balance of things just right.

This is Burk and McDonnell’s Goldilocks hypothesis. If we get the porridge just right we know how strong the rights in the Bratz idea (and drawings and sculpts) should be and where those rights should reside. In other words, we know who owns Bratz. Of course the allocation of rights might just be by default rules and we might import theories of altering rules to determine how hard it is for parties to contract around those default rules.\textsuperscript{55} But the design of those altering rules will be informed by the same considerations.

All that being said, we still do not know who created Bratz. That is to say we have a theory for a firm that produces Bratz. Depending on our assessment of hold-up threats, we can theorize about whether the modular productive function creating Bratz should be integrated into the larger firm that develops and markets dolls (MGA or Mattel). And that theory might also tell us how the law should allocate the default rights in Bratz between the creator and developer. But on closer look we do not have a theory for the (sub)organization of the firm that creates the idea of Bratz. We do not have a theory that looks inside that modular unit. One might say that that unit is just Carter Bryant or even less than Carter Bryant – it is a corner of his brain. But is that true and does it have to be?

A couple counterfactuals will demonstrate the problem. First, what if Carter had never worked at Mattel? Would Bratz still have been invented? Probably not. Mattel was more than a potential marketer of Bratz. It was likely an immeasurable input into Bryant’s creative process. The difficulty with ideas is that they are products of various and unidentifiable inputs. We can see this across other media as well. Dr. Seuss was asked in 1954 to write a book that would help children learn to read. He was challenged to write it using no more than 250 simple words. He rose to the challenge and wrote \textit{The Cat In the Hat}, the eleventh best selling children’s book of that century.\textsuperscript{56} A few years later, without being asked, he wrote a book with less than 50 simple words that became the sixth most popular children’s book of the century. It is worth asking if Dr. Seuss would have ever written \textit{Green Eggs and Ham} if he had never been asked to write \textit{The Cat in the Hat}? Examples of these unintended, uncontrollable, and immeasurable inputs are virtually infinite.\textsuperscript{57}

\textsuperscript{54} Bar-Gill and Parchomovsky question this analysis, particularly the assumption that allocation matters give that transaction costs are generally low. Bar-Gill and Parchomovsky supra note 2.


\textsuperscript{56} The final book contained 236 different words.

\textsuperscript{57} This phenomenon suggests that there is a great deal to be said about ideas and firms with regard to derivative works. [Sawicki and Casey]
In that sense, it may be that the collaboration of inputs, some inside and some outside the creator’s head, will be of great importance in producing creative ideas. But the inputs within the head are often virtually impossible to control, observe, or predict – even by the creator himself. While Dr. Seuss was able to produce *The Cat in the Hat* upon request, it was only after years of writing immensely popular children’s books. The firm making the request had reason to believe he could do it.\(^5\) Most creative inputs are not so reliable. Think about offering J.K. Rowling millions to write the first Harry Potter book on faith as compared to offering her millions to write the seventh. In both cases the decision is clear; but the decision is different. If Mattel had wanted to create a billion dollar product called Bratz, it had no reason to think Bryant would be the guy to hire for the job. And neither did Bryant.

From that angle, the problems in the Bratz litigation look like they are less about property rights and hold up than our original analysis suggested. The contract for Bratz was incomplete because the idea was unknown and uncontrollable. Nothing about integration into a firm could change that. Unless Mattel could get residual rights (including control) of Bryant’s brain, integration in the property-rights sense is meaningless.\(^5\)

This leads to the second useful counterfactual. Imagine that we live in the “just right” world. We have the perfect strength of copyright law and the perfect allocation of rights between firms and their employees. Who creates Bratz? The likely answer is no different than in any other worlds. Bryant comes up with the idea while working for Mattel. And he does it in the same way: by a spark of inspiration, followed by secret development. Then, depending on the allocation of rights in his contract, he either sells the idea for billions to MGA (or Mattel) right away or he hides the idea, quits, and waits till his contract terms do not apply any more. The reason this outcome arises is that no one knew that Bryant could invent Bratz.\(^6\) So no one could enter an ex ante contract for him to do so. Mattel did not hire him to create a sassy hip doll. They hired him to give Barbie a new hairdo. Property rights will not change this. If Mattel somehow gets all residual rights to every Bryant idea, Bryant will not produce Bratz or he will but he will not disclose it unless he finds a way to hold-up Mattel to extract the value. Any integration to optimally align that hold up will fail because 1) the integration of Bryant by Mattel or Mattel by Bryant can never be achieved and 2) the parties cannot answer the question of whose investment is more important for a project that is unconceived. Ex ante integration is essentially impossible for the same reason that ex ante contracting is incomplete. Moreover, both

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58 I am not suggesting that Dr. Seuss was part of a firm when he wrote *The Cat in the Hat*. The example is provided only to illustrate the complex interplay between intangible productive inputs.

59 Of course the alternative of Bryant owning Mattel so that he can gain access to the Barbie experience in hopes of creating Bratz is problematic for many reasons. *See supra* note __.

60 Merges *supra* note 2 at 22–23 (“it is very difficult for the employee to assess what inventions he might be capable of making at this point”); Gorga and Halberstam *supra* note 2 at 1164 (individuals may not be aware of what they actually know).
transactions – integration and contracting – are impossible to price.\textsuperscript{61} The product is of no predictable value because it has no known characteristics.\textsuperscript{62} Because both forms of organization perform equally poorly on price discovery, we learn nothing about whether production will be done by firms or markets.

The take away for the law might be simple: Mattel would not hire someone to create Bratz just as a firm would not hire someone to create the first Harry Potter novel.\textsuperscript{63} And so the outcome of the case seems correct – if they did not hire him to do this, then they did not pay ex ante for the rights and should not get them. If we give the rights to Mattel, we will never get Bratz. Bryant will not spend the time on them because he will not be compensated and Mattel will not compensate him because they do not know he has it in him. On the other hand, by giving the rights to Bryant, we might fear the opposite problem. We might fear that Mattel will not hire Bryant in the future. This is unlikely. Mattel may try to protect itself more in the future. But someone has to style Barbie’s hair. And remember that Bratz was not conceived at the time of the contract. Mattel’s real fear from the development of Bratz, is not that it will miss out on profits from projects that it did not invest in or anticipate. Rather it is that such projects will cannibalize its own products. This will be addressed with non-competes.\textsuperscript{64} But those non-competes may stifle the likes of Bryant from developing Bratz. So Bryant gets hired, but Bratz may still never get made. This is an incomplete contracts and hold up problem. But it is one that cannot be solved by any form of integration.

The non-compete solution highlights that the real problem posed by the Bratz counterfactuals is significant. Spontaneous collaboration between inputs may be valuable. Barbie and Bryant’s mind need to come together to create Bratz. As long as we have a rule that does not prevent that from happening, we might think we are doing okay from a legal perspective. But the law might want to go further and encourage collaboration or make it easier to overcome the Bratz problem. Whether that is possible is another question. The law may be as powerless as markets and firms. The Bratz case shows us that the value of collaboration can be difficult to measure and capture when the production function is uncontrollable and unpredictable. That is especially true when – as with Bratz – the parties are unaware of the value of collaboration. But the problem still


\textsuperscript{62} Merges \textit{supra} note 2 at 22-23 (“difficult to predict contours of invention before hand”). In some cases this may not be true. Reputation and past performance can create reasonable value predictions.

\textsuperscript{63} The point is a little metaphysical. You could of course hire J.K. Rowling now to write the next great children’s series. That would be a reasonable gamble. But the point about Bratz and Harry Potter were that they were both created by unknowns. It might be said that that is a necessary existential characteristic of those particular ideas. We may avoid this for now with the basic intuition that it is highly unlikely that any firm could have instructed its employees to write a novel that would have turned out to be precisely \textit{Harry Potter and the Sorcerer’s Stone}. The idea was in some real sense unique to Rowling.

\textsuperscript{64} Bar-Gill and Parchomovsky \textit{supra} note 2.
exists – and the law might have more of a role to play – when the parties are conscious of the value of collaboration. This can be seen in the Spawn case addressed in the next section.

III. Spawn

The copyright problems and the implications for firm boundaries were different in Gaiman v. McFarlane. Todd McFarlane and Neil Gaiman had collaborated to create a new set of characters for the Spawn comic book series. McFarlane, the creator of Spawn, ran his own publishing house. Beyond creating and publishing Spawn (the series and the character) McFarlane was also a writer and illustrator for the series. Early in the life of the series he hired four top-reputation writers to each write for one issue of Spawn. That is where Neil Gaiman came in. This was not the same as when Mattel hired Bryant to design for Barbie before anyone conceived of Bratz. Neil Gaiman was a big deal. Think Dr. Seuss at the time of The Cat in the Hat or J.K. Rowling after the first Harry Potter book rather than before it. Asking Gaiman to write a great comic book was a bet, but it was a good bet. More importantly it was a measurable one with less uncertainty.

Additionally, Gaiman’s work was more controllable, and more verifiable. He was not hired to create a new comic book. He was hired to create a derivative work: an episode in a series. The characters in that episode would be informed by the existing characters. They had to fit within the motif of the series.

Gaiman took the character of Spawn and updated it to contribute to the idea for a new Medieval Spawn and two other characters who would interact with Spawn and his existing universe (Angela and Count Cogliostro). The further development and expression of Medieval Spawn was collaborative and involved both McFarlane’s ideas and illustration. Gaiman did not create this episode alone. It was consciously collaboration, a team production. And it was a successful one. The resulting issue sold over a million copies. The character of Angela featured in her own spin-off series. And the three characters became the material for toys and other merchandising.

Unlike Mattel and Bryant, Gaiman and McFarlane had no written contract. Rather they had an oral agreement with few details. This led, somewhat predictably, to a dispute about the specific rights between them. Gaiman claimed a copyright in the characters he created. McFarlane defended on claims that either the characters were not copyrightable or that Gaiman’s contributions were not copyrightable. The Seventh Circuit rejected these defenses. It likewise rejected the idea that the characters might belong to McFarlane under the works-made-for-hire rule as Gaiman was not an employee of McFarlane’s.

Again the court was faced with the question of who owns the product. Who owns Medieval Spawn? But this time the question was more obviously tied to the question of who created

65 Judge Posner gives a full history of what and who Spawn is in the Seventh Circuit opinion.

66 The argument was rejected even though it was not raised by the parties.
Medieval Spawn. Other copyright questions arose as well, but the court squarely faced the foundational question of who produced the creative product. The answer (that it was co-created) was a little messy and the court had to parse through what exactly that meant for the strength and allocation of the copyright.

But for our analysis, it is useful to begin again by assuming the porridge is just right. If the copyright in Medieval Spawn is clear and strong (in the end it was) and if the law gets the exact right default rule on allocating a copyright between an employer and an employee, how does that affect the organization of the creation of the idea for Medieval Spawn? It doesn’t. Looking at this case from a property rights theory does not get us very far.

Gaiman was not an employee of McFarlane. Their relationship was an amorphous partnership. This is likely the case because ex ante they did not have a meaningful sense of what the end product would be or what role each of their respective inputs would play in creating that product. They could not contractually allocate the rights in the non-existent idea. But that is true because the idea was unverifiable and unidentifiable, not because it was subject to weak or strong property rights. Indeed, under the prevailing theories, the fact that Gaiman’s idea inputs could not be protected by any property right would suggest that the production of those ideas would be integrated into a firm. But that is impossible. Similarly, the allocation of property rights (if they existed) between employee and employer would not change the production function. Gaiman and McFarlane do not avoid a hierarchy (nor do they disintegrate their partnership) just because the law allocates property rights to their ideas in one or the other of them. The structure of their relationship stems not from the contours of property rights but from the dynamic of collaboration necessary to produce Medieval Spawn.

Indeed, the contract they entered was telling. They were free to devise any variation of allocation right for the ideas they produced or for the ownership of Medieval Spawn. But the unverifiable nature of the inputs they were contributing required contracting (and integrating) difficult. Gaiman and McFarlane faced the classic disclosure paradox with the idea of Medieval Spawn. Gaiman couldn’t disclose the mere idea because ideas are not protected by intellectual property law. The existing theories of intellectual property and the law all suggest that that lack of protection will lead to a vertical integration. McFarlane will not be able to purchase the idea of Medieval Spawn on the market so he will create it himself. The theory does not suggest that McFarlane will enter a collaborative partnership with Gaiman having no idea if he has a good idea or not. Conversely, Gaiman should have simply hired an illustrator and produced his own comic book.

McFarlane and Gaiman nonetheless entered a market transaction even though (in some sense because) intellectual property rights in the idea were weak. They presumably attempted to get around the disclosure paradox by way of reputation and trust. They didn’t know they were contracting for Medieval Spawn, but Gaiman’s past performance made it possible to expect that Gaiman’s mental inputs combined with the existing Spawn franchise would produce valuable output. And, even if control was impossible, the derivative nature of the project allowed for some ex post verification. McFarlane could at least judge in a binary sense whether Gaiman created a Spawn episode. It may have even been possible to put a price on the probability of it being a success. But in the end they did not agree on a price term.

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The barriers to contract (and integration) arise from lack of control and observability. McFarlane could not tell Gaiman what to create – if he knew that, he would not have needed Gaiman. Directing and monitoring Gaiman to come up his “best” or a “great” idea would have been futile. There was no way to verify his effort or if he was saving good ideas for other projects. The best they could do was to rely on reputation. In that way a firm would have provided no benefit over a market transaction. Notably, things would not have been structured differently if the copyright in the end product was weaker. The weakness or strength of that property right simply affects whether the production function in this case is undertaken, not how the parties structure the production. Weak copyright law does not encourage vertical integration, because integration does not solve the disclosure problem. The comic has to be disclosed to the customer. And copying is cheap. No amount of integration can solve that problem. Thus, if Medieval Spawn garners no copyright protection, McFarlane and Gaiman have less incentive to create him. But the structure of their relationship in the case where Medieval Spawn is created is unchanged.

McFarlane and Gaiman’s market transaction was a failure in some ways. They created value but the non-hierarchical partnership fell apart before all of its value was harnessed. This is not an unfamiliar ending. But this does not provide support for the property-rights theory. Gaiman did not try to stop the publication of Spawn. Neither did McFarlane kill off Medieval Spawn or write some storyline that made him unusable in future episodes (incidentally, it is not clear if one can actually kill off a Spawn). Instead they both claimed ownership of Medieval Spawn in period two. This is a hold-up problem in a sense. It may be viewed as opportunistic of Gaiman to claim a substantial ownership in Medieval Spawn. And McFarlane might have changed his ex ante investment level in fear of that claim. But even if that is the case, the hold-up problem is not one that is not solvable by the allocation of property rights.

The contours of the relationship are clearer if we start instead from a team-production theory. Firms add value to team production precisely because the market is bad at structuring that type of production. The team production scenario is one where the different actors provide inputs but the output is not separable and the share of output value cannot be allocated to each input. A hierarchy does better because it is flexible and responsive to continuous monitoring of the ratio between all inputs and outputs. As Margaret Blair and Lynn Stout point out the hierarchy

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67 The disintegration of creative partnerships is a common theme in shows and movies documenting the history of bands and other artistic groups. [Sawicki & Casey]


can provide a benefit to the team members by mediating their relationship.\textsuperscript{70} This allows for the suppliers of those inputs to renegotiate and fill in the gaps of their incomplete contracts as the project is carried forward. They do this by allowing another party to exercise control over the web of relationships. It is not important that the party with the right investment incentives own residual control. It is rather important that the director of the hierarchy can respond to changing circumstances and redirect the production function accordingly (without renegotiating every contract).\textsuperscript{71} In fact, some have pointed out that it is better that the director not own any assets at all.\textsuperscript{72}

This team scenario was somewhat present between Gaiman and McFarlane. Each was contributing inputs to the firm and the productive share of the output for those inputs was immeasurable. But unlike a team they never placed anyone at the helm. They attempted a team production without investing any authority into the project. The investment of that authority would have created a firm.

While a firm may have held benefits for McFarlane and Gaiman, its creation may have been impossible. Any ex ante pricing or effort allocation by contract is likely to be imperfect. A set price or profit sharing for Gaiman’s time will potentially lead to shirking by Gaiman or McFarlane. Team production theories suggest that firms can reduce these problems. But when effort is entirely unobservable and undirectable, the managers of a firm add little. Perhaps Gaiman and McFarlane were not at the extreme of total undirectability, but likely the director would have had great difficulty in adding any value. Perhaps the parties recognized this. Their contract had few terms. In a way, recognizing the weakness of contract in pricing their transactions, they created the space for team production. They created a flexible relationship that was not bound by a web of contracts. And neither placed a claim on the residual value of the project. But, perhaps recognizing the limitations of management as well, they created a team with no coach. A firm with no hierarchy is not really a firm.\textsuperscript{73}


\textsuperscript{71} The question of how to monitor the monitor is of course a big one for team production theorists. This brings with it all of the questions about agency costs of management. Some have suggested that the norms, reputation, and the concept of trust must be playing a large role. Margaret Blair and Lynn Stout, \textit{A Team Production Theory of Corporate Law}, 85 Va. L. Rev. 247 (2001); Margaret Blair and Lynn Stout, \textit{Trust, Trustworthiness, and the Behavioral Foundations of Corporate Law} (2000). It certainly seems plausible that in examples like movie production the input suppliers are relying heavily on the reputation of and trust in (or perhaps faith is a better term) the managers at the top of the hierarchy.


\textsuperscript{73} Erica Gorga and Michael Halberstam seem to disagree with this Coasean view of firms. They suggest that where knowledge is embedded within individuals that firms will be the more likely organization of production but that centralized governance by hierarchy will be less likely (because less effective). \textit{Knowledge Inputs, Legal Institutions and Firm Structure: Towards a Knowledge-Based Theory of the

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The question then is, why didn’t McFarlane and Gaiman invest their human capital to the direction of another? Perhaps the only thing a director could do was ex post valuation. But contracts can do nearly as well at ex post valuation. In that sense the court serves a similar function. The real value in a team director is when adjustments can be made in real time during the process. And a director of McFarlane and Gaiman may not have been able perform that function. Herein lies the distinction in developing a theory of the firm for these creative ideas. They did not create a firm, not because it was not valuable but because it was not possible or it was prohibitively costly. Some inputs are unobservable and unverifiable while other things are uncontrollable (even by the person who is providing the input). A director monitoring and allocating worker behavior for moving a box, or providing manpower to move a boat, can at least reward and direct employees in a way that causes them to give roughly the correct input. The ability to do that quickly without renegotiating all other contracts and with the trust and faith of the team are central to team-production theory. But if the employee is sitting in a room waiting for a great idea to come to him, hierarchical direction may not do anything to make the idea better. It may even make it worse. Of note, the market is not much better at directing inputs. Thus, when production is uncontrollable contracts will be incomplete. But they will be incomplete in a way that firms cannot fix by integration. Where the firm structure adds nothing, we expect production to proceed by market transaction or not at all.

This may not tell us a great deal about how the Spawn dispute should be decided. But it highlights important questions for those concerned with the law-and-the-firm theories. To the extent team production is valuable for ideas to be created, but difficult to facilitate by contract or firm structure, legal scholars and lawyers have a clear problem to address.

IV. Conclusion: Towards a Theory of Firms and Ideas

In the extreme case, when the production is entirely uncontrollable, no transaction occurs. Only things that can be produced by one individual will be created. This is how literary novels are written. Close to this extreme is the Bratz production function which occurred predominantly in Carter Bryant’s head. As the value of collaboration increases or as control becomes marginally more feasible, market transactions (or attempts at them) will spring up. This is the Spawn case. The lack of control made collaboration risky and made structuring that collaboration costly. But the benefit was high enough that Medieval Spawn was produced. One can imagine though that the benefits of team production directed by hierarchy – if it had been feasible – might have been many times more valuable. One can also imagine that the lessons of the contract dispute over

_Firm_, 101 Nw. L. Rev. 1123 (2007). It is difficult to square these two conclusions. If firms are hierarchies of centralized governance, then the benefit of a firm without hierarchical central governance is unclear.

74 The imposition of directorial control, for example, may have crushed the creative juices.

75 [Casey Sawicki]

76 For one thing, the team might have survived long enough to produce more issues, more characters and more spin offs. Indeed, subsequent litigation has surrounded the value of further characters derived from Medieval Spawn.
Medieval Spawn will cause artists to avoid collaboration in the future unless they develop some contractual or organizational solution.\footnote{Anup Malani paper}

In any event, where the possibility of control is small, firms will not be used to structure production. Firms are by definition institutions of control. Thus, where only minimal control is possible firms cannot exist.

This is of course a sliding scale. In the extreme, control is impossible and firms will not exist. But as controllability increases, the value of collaboration may become capturable. In the opposite extreme, control is costless and the slightest value of directed collaboration will justify a hierarchy. In the middle, the more collaboration is involved in a creative project, the more value can be gained by hierarchical direction even where several of the inputs are creative and control is difficult. That is, the more value comes from the coordination of the team, the more likely the value is to outweigh costs of uncontrollability. Movie production seems to fit that description. The actors, cinematographer, sound department, and so on all work as a team under the hierarchical supervision of the director and producers. On the other side of the equation as the costs of control rise or fall, integration becomes more or less feasible. This would suggest that as the inputs become less creative, less isolated in the human mind, integration will be easier.

In the movie production, this may explain why the script is often written outside the firm. The cost of controlling the author’s spark is high and the benefit of integrating her into the team is low – much lower, say, than the benefit of integrating the cinematographer and the actor into the firm.

Returning to Medieval Spawn, this analysis provides a glimpse at why the dispute arose and why the transaction was so costly. But it does not provide a solution that helps parties order their lives. Gaiman’s input was uncontrollable and unverifiable and immeasurable. The value of team production was high. The market was a poor tool for purchasing the idea (regardless of the strength of property rights) because the idea would only become valuable through immeasurable collaborative effort. But a firm was a poor tool as well. There is of course room here for lawyers to add value. Contractual innovation that can bind people in ways that do not encourage shirking and can provide monitoring opportunities that do not currently exist will be of great value. I do not attempt to suggest those innovations or solve that greater problem here. Rather my goal has been to 1) identify the problem as an area ripe for solutions developed from legal design engaged with theories of the firm and 2) to suggest that team production theories are a much closer fit for analyzing actual idea creation than the theories that have been applied to intellectual property in the existing legal scholarship.\footnote{In our follow up piece, Andres Sawicki and I take this problem on head on. We also suggest that some potential examples of solutions could be found by digging deep into the various structures of the publishing industry.}