If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called an idea...  

The metaphor of a marketplace for ideas is a prominent theme in First Amendment scholarship. In this context, ideas provide the impetus for a robust public debate, a foundational element of a democratic society. But ideas not only spark debate; they are also an indispensable input in technological progress and innovation. While legal and economic scholarship has focused on patents, little attention has been given to the sine qua non of patent: the underlying idea. Yet, there exists no market for technological ideas. The absence of this market was famously explained by Thomas Jefferson, who wrote: “An individual may exclusively possess [an idea] as long as he keeps it to himself; but the moment it is divulged, it forces itself into the possession of every one, and the receiver cannot dispossess himself of it.” The Jeffersonian insight was subsequently formalized by the Noble laureate, Kenneth Arrow in what has become known as the

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Rest of para. Says *** [we keep it for now but are likely to delete this part later]: That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature, when she made them, like fire, expansible over all space, without lessening their density in any point, and like the air in which we breathe, move, and have our physical being, incapable of confinement or exclusive appropriation. Inventions then cannot, in nature, be a subject of property.  
2 CITE***
“information paradox.”  

Focusing on market interactions, Arrow pointed out that when information is not legally protected, the information holder is in a bind: in order to sell the information, she must disclose it to the potential buyer, but once she does, she has nothing left to sell.  

This reasoning led Jefferson—and subsequently others—to the conclusion that ideas should not be legally protected. But this conclusion is unwarranted. For although Jefferson was right that ideas may be inappropriable in the state of nature, his conclusion does not necessarily carry over to a world in which legal protection exists. It is noteworthy that Jefferson similarly opined that “[i]nventions [] cannot, in nature be a subject of property.” Yet, as we all know, there are millions of inventions protected by property rights. And since inventions embody ideas, millions of ideas have indirectly become the subject of private property. What nature created, law can change. Therefore, the question for policymakers is not whether ideas can be turned into private property (of course they can) but rather whether it would be socially desirable to do so. Surprisingly, this question received scant scholarly attention. This Essay seeks to redress the extant scholarly neglect by constructing a model marketplace for ideas.

The current legal regime regarding protection of ideas presents a puzzle to efficiency-minded scholars. On the one hand, the law does not recognize independent

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4 Id.
5 Letter to Isaac McPherson, ??, at 333-34.
6 CITE*** (number of issued patents)
7 See e.g., William M. Landes & Richard A. Posner, An Economic Analysis of Copyright Law, 18 J. LEG. STUD. 325, 344-53 (1989) (offering an economic model to explain why copyright protection extends to expression but not to ideas). It bears emphasis that Landes and Posner limit their discussion of protection for ideas to the copyright context. The crux of their discussion is that insofar as expressive works of authorship are concerned the value of ideas is essentially negligible and the cost of establishing property rights in them is excessive. As we will show, in Part ??, infra, inventive works require a different kind of analysis, which leads to radically different results.
property rights in ideas, this, despite the fact, that ideas are a valuable commodity. On the other hand, patent law grants property protection to ideas when they are embedded in inventions. This dual legal approach to protection of ideas effectively forces idea-conceivers to develop their ideas into workable inventions on their own, or forever face Arrow’s information paradox. The current policy comes at a considerable cost, however.

To see why, it is helpful to break up the inventive process into three distinct stages: Conception, development, and commercialization. The conception stage, representing the genesis of the inventive process, centers on coming up with a viable idea for a new invention. The development stage encompasses the research and labor that is necessary to transform the idea into a patent application. And, finally, the commercialization stage concerns itself with marketing the invention to the public.\(^8\)

The denial of independent legal protection to ideas lumps together the conception stage and the development stage of the inventive process, requiring, in the usual case, that both functions be performed by the same person or entity. From an economic standpoint, however, there seems to exist a powerful case for separating the two functions. Conception and development are distinct skills. Some people are better at coming up with ideas; others at developing them. Idea people, who produce “inventive sparks,” are often poorly situated to develop and operationalize their ideas. And, *vice versa*, people who can effectively develop a given idea often will not come up with the idea themselves. Hence, the inventive process seems to present a classical case for division of labor: The

\(^8\) We are aware that it is possible to argue that commercialization is not really part of the inventive process. However, we chose to include the commercialization stage in the inventive process for two reasons. First, successful commercialization directly influences the return to innovation, and thus, impacts on ex ante incentives to innovate. Second, the commercial success of the invention may bear on the patentability of the invention. In deciding whether an invention has satisfied the statutory nonobviousness requirement, they often rely on the commercial success of the invention of the market. CITE MERGES CALIFORNIA***.
idea people should focus on generating ideas, and the developers should focus on developing existing ideas. In particular, each idea person should be able sell her idea to a developer, who will then transform the idea into a working invention.

The creation of a marketplace for ideas is likely to enhance welfare in several important ways. First, it will increase the rate of innovation in our society. Establishing legal rights in ideas will resolve the Arrow information paradox, and enable idea people to share their insights with the rest of the world. Currently, ideas that cannot be developed by their conceivers or by some third party the conceiver can trust might never be disclosed to the rest of the world. As a result, many valuable ideas never reach the development stage. The extension of property rights to ideas will make these ideas available for development.

Second, and related, the creation of a marketplace for ideas will speed up disclosure of ideas. Under the current regime, disclosure of new ideas occurs eighteen months after the filing of the patent application in which they are described. This administrative delay is often compounded by the need of the idea person to acquire the technical skills necessary to develop her idea or to search for a trustworthy developer that will develop the idea for her. Consequently, there exists a significant lag between the time an idea is conceived and the time it gets disclosed. Establishing property rights in ideas will eliminate this lag and create an incentive for idea people to disclose their insights as soon as possible.

Third, and finally, the creation of a marketplace for ideas will eliminate a key inefficiency that currently attends the inventive process. Because currently idea people must keep their ideas in secret, or disclose them only to a small group of people, ideas are
hardly ever developed by the most efficient person or entity. The need to rely on secrecy prevents competition over the development of ideas. Thus, the lack of direct legal protection of ideas not only delays disclosure of ideas but also raises the cost of producing inventions. A legal regime that protects ideas, on the other hand, would enable ideas to gravitate through market transactions to the highest value developer. This, in turn, will lower the cost of innovation.

In sum, the creation of a marketplace for ideas can significantly improve dynamic efficiency in the field of innovation. The increase in new information and its earlier disclosure will facilitate subsequent innovation. Given that the inventive process is highly cumulative, follow-on idea persons and innovators will have a greater pool of new ideas and inventions on which to draw.

To be sure, the creation of a marketplace for ideas will also have some costs. Most obviously, the establishment of legal protection for ideas will create new administrative costs and has the potential to increase both transaction costs and litigation costs. Formalizing legal rights in ideas may necessitate bargaining between idea holders and developers. Also, because property rights in ideas may be infringed both by other idea people and by developers, the recognition of rights in ideas will engender two new types of litigation: suits by one idea person against another, and suits by an idea person against developers. Furthermore, the creation of a marketplace for ideas has the potential to increase duplicative research efforts. With ideas available to all, developers might choose to compete over the development of the same idea. And while in the end, only one will win the patent race, all will have wasted valuable resources in the process.
We do not deny these potential costs. It bears emphasis, however, that the magnitude of the costs critically depends on the legal design chosen for protecting ideas. We consider three alternative regimes: (1) property rule protection; (2) liability rule protection (compulsory licensing); and (3) auction rule (whereby ideas are auctioned off to the highest bidder). We show that property rule protection is the least desirable option as it gives rise to all the aforementioned costs. Liability rule protection eliminates the need for bargaining between idea people and developers but may lead to either over, or under, compensation of idea conceivers. In addition, liability rule protection leaves open the possibility of wasteful duplicative research. The auction rule is superior to the other two alternatives as it both avoids bargaining between idea conceivers and developers and eliminates the potential for duplicative research.

The remainder of this Essay consists of four parts. Part I makes a prima facie case for establishing independent legal protection for ideas. Part II sets forth a screening mechanism for distinguishing between protectible and non-protectible ideas. Part III offers three possible designs of a marketplace for ideas and evaluates the relative virtues and vices of each alternative. Finally, Part IV discusses potential objections.

I. THE BENEFITS FROM A MARKETPLACE FOR IDEAS

The road from the conception of a novel idea to the successful commercialization of a new product based on this idea is often long and treacherous. It would be unwise, as well as inefficient, for a single person to venture alone on this journey. Different skills and talents need to be combined to overcome the many obstacles along the way. Even
conceivers of extremely valuable ideas would generally lack the skills necessary to turn
their ideas into fully developed products and subsequently commercialize them.\textsuperscript{10}

The principles of specialization and division of labor are fundamental to economic
theory. Efficiency dictates that each stage of the production process (broadly defined)
should be carried out by the person best suited for the job.\textsuperscript{11} The efficient division of the
production process, however, presumes the existence of a market for all the relevant
intermediate goods. If a downstream firm is to buy an intermediate good (i.e., a factor of
production) from an upstream specialist, rather than produce this factor in-house, a
market for the intermediate good must exist.

A sine qua non for any market is the legal recognition of property rights in the
goods that are traded in this market. Specifically, an obvious precondition to the
existence of a market for intermediate goods is that these goods cannot be appropriated
by downstream firms that need them as factors in their production process. The
downstream firm must negotiate to purchase any required inputs from the upstream
provider. An automobile manufacturer cannot simply walk into the tire manufacturer’s
warehouse and take tires. The auto manufacturer must buy the tires. Otherwise, if an
intermediate good can be appropriated by a downstream firm, the market for this good
would collapse.

In technology-intense industries, however, ideas—a key, if not the key factor in the
production of innovation—do not enjoy legal protection. Therefore, if a person conceives

\textsuperscript{10} See generally Kenneth J. Arrow, Economic Welfare and the Allocation of Resources for Invention, in R.
R. Nelson (ed.), The Rate and Direction of Inventive Activity ??? (1962); A. Arora & A. Gambardella, The
Changing Technology of Technological Change: General and Abstract Knowledge and the Division of
Innovative Labor, 23 Research Policy 523, ??? (1994); Roberto Mazzoleni & Richard R. Nelson, The

\textsuperscript{11} *** CITE: Hal Varian, Intermediate Microeconomics ??? (200?).
of an idea and makes this idea publicly known, anyone can appropriate the idea, develop it and commercialize the resulting product. As Arrow famously observed the existing legal regime puts idea people in a bind: if they refuse to disclose their ideas they will not succeed to sell them to developers, and if they disclose they will have nothing left to sell.\textsuperscript{12} Hence, idea people can either develop their ideas themselves or in certain cases entrust them to a third party in whom they confide. Under current law there can be no market for ideas. And absent such a market the efficiency of specialization is lost.

Worse yet, the lack of independent protection for ideas creates an underproduction problem. As a tire manufacturer would not produce tires if they could be taken away without compensation, an idea person will not bother to formulate an idea and disclose it to the world, if the idea can be readily appropriated by a downstream developer. Importantly, the ensuing shortage in either tires or ideas would be detrimental not only to the downstream firm—the auto manufacturer or the developer—but also to the consumers of the downstream product.

When upstream providers are not protected, the downstream product might never be produced. At the extreme, the risk of appropriation would prevent the establishment of any enterprise that produces intermediate goods. And, in the absence of a feasible alternative for generating these intermediate goods, the final product would never materialize. In the absence of tires, there would be no cars; without ideas innovation would stifle.

A less extreme, but still sub-optimal result would occur if the failure to protect upstream providers would lead not to total abandonment of production, but to inefficient production of intermediate goods. Specifically, if intermediate goods are not legally

\textsuperscript{12} CITE***
protected, they cannot be manufactured by a specialized upstream provider and sold to a
downstream manufacturer. The alternative would be for a single firm to both produce the
intermediate good, and to use this intermediate good in manufacturing the final product.

Indeed, in some situations such integration is efficient.\textsuperscript{13} But in many other
situations integration involves substantial efficiency costs. Transaction Cost Economics
(TCE), pioneered by Oliver Williamson, highlights the ex post bureaucracy costs of
integration.\textsuperscript{14} The Property Rights approach, developed by Oliver Hart and his co-
authors, emphasizes the potential ex ante costs of integration, focusing on the sub-optimal
investment decisions that might be made by an integrated firm.\textsuperscript{15}

Beyond the direct efficiency costs of forced integration, as identified by TCE and
the Property Rights approach, an important indirect cost stems from the increased price
that inefficient production implies. This higher price would prevent many potential
consumers of the final product from purchasing the product, leading to a potentially
significant welfare loss.

Refocusing on innovation, in certain cases it may be efficient for a single firm to
carry the innovative process from the very conception of an idea and through the
development and commercialization stages. In many other cases, however, it is sub-
optimal to force such integration of the inventive process in a single firm or organization.
Rather, the existence of many independent upstream idea providers may be the most
efficient means to secure technological progress. A marketplace for ideas, where ideas

\textsuperscript{13} When integration is efficient it would presumably occur also when intermediate goods are legally
protected. Hence the cases where integration would obtain regardless of whether the intermediate good is
legally protected are irrelevant to the question whether intermediate goods deserve legal protection.
\textsuperscript{14} *** CITE
\textsuperscript{15} *** CITE: Sanford Grossman & Oliver Hart (1986) (developing the Property Rights approach); Oliver
are legally protected and idea people need not fear expropriation by downstream developers, is a prerequisite for this decentralized mode of innovation.

The importance of decentralized innovation is evident from even a casual observation of the technological landscape. In many cases the innovative process is divided between several firms, each taking the invention one step forward towards commercialization. Accounts of large downstream firms, like DuPont, General Electric and Microsoft, picking-up and carrying forward innovative processes started by smaller upstream providers are common.16

These examples prove the importance of decentralized innovation. They also demonstrate the limits that current law imposes on the degree of decentralization. Since the law only protects patentable inventions, upstream providers cannot pass-on the innovative torch before the idea matures into a patent.17 Further division of labor at the pre-patent stage is impossible without legal protection of ideas. A marketplace for ideas is necessary to break the forced integration of all pre-patent innovative activity.18

Establishing legal protection for ideas can enhance technological innovation in three related ways. First, it will increase the number of ideas available for development. With Arrow’s paradox out of the way, idea conceivers will have a greater incentive to come up with new ideas and share them with the public. Second, it will enable specialization in innovation. Development of ideas will be performed by persons or corporations that are well-suited to do so, which, in turn, will shorten the development

16 Mazzoleni & Nelson, infra note at 277, citing studies by Mueller (1962) (DuPont) and Reich (1985). // We should remember to cite here, and maybe even in the Introduction, the Wall Street Journal article on the Mayo Clinic patents. //
17 *** Exceptions
18 *** Argument: The observed relaxation of patentability requirements may represent an attempt to achieve efficient non-integration.
stage and lower the cost of inventive process. Finally, it will speed up the disclosure of ideas to the public. Currently, new ideas are disclosed to the public eighteen months after their conceivers finally succeed to develop them into finished products and file a patent application.\(^\text{19}\) \(^\text{20}\) Worse, inventors who naturally seek to delay the disclosure of their ideas to competitors often employ various tactics to stall the review process. By contrast, a legal regime that grants protection to ideas will induce idea people to disclose ideas to the public as soon as possible, lest someone else will register the same idea before them.

II. QUALIFYING IDEAS

Having established a prima facie case for establishing legal protection for ideas, we turn to the challenge of designing a legal regime suitable for this task. The first step in establishing a marketplace for ideas is to determine which ideas qualify for protection. This Part sets forth the criteria for screening eligible ideas from ineligible ones. This part proposes that protection be limited to ideas that are: novel, useful, nonobvious, and implementable to a person skilled in the relevant art.\(^\text{20}\) The proposed criteria largely parallel the screening mechanisms employed by patent law to decide which inventions to protect. The similarity between our prerequisites and those used in patent law should make it easier for administrators and courts to separate eligible ideas from ineligible ones. Qualifying ideas will be registered similarly to patents and upon registration will be disclosed to the public at large. The remainder of this part is divided into three. Section A explains the need for limiting principles in establishing protection for ideas. Section B

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\(^\text{19}\) The first three prerequisites are identical to those used by patent law. CITE***. The implementability requirement appears new at first sight. But, in fact, it closely resembles the enablement requirement in patent law.
discusses in detail our proposed screening process, and analyzes the purpose of each step. Section C contemplates the scope of protection registered ideas will receive.

A. The Need for Limiting Principles

Since ideas are often very broad and vague, any attempt at establishing legal protection for ideas must incorporate some limiting principles. Protecting all ideas may drown out the potential benefits we discussed in Part I, and lead to more disutility than utility. Consider, for example, the idea: “make the world a better place.” While noble, this idea is clearly not new. Furthermore, it does not advance social welfare since it offers no guidance as to how the desired goal may be achieved. Protecting this idea, will therefore, generate a net social loss. If this idea were protected, its conceiver could sue virtually any other person who subsequently came up with a more concrete idea that improves the world. The resulting litigation would not only waste social resources, but also deter other idea people from sharing their ideas with the world. Hence, affording protection to platitudinous ideas would thwart innovation, not promote it.

Several lessons may be drawn from the previous example. First, protection should be limited to technological or scientific ideas. Ideas such as “make love not war” do not promote technology or science and thus will not qualify for protection under our proposed scheme. Second, protection should extend only to ideas that provide an effective and concrete solution to a problem. Accordingly, the idea “cure hunger; provide food” will also be ineligible for protection. Aside from the fact that the idea is both well-known and trivial, it does not specify a concrete way to tackle the problem it identifies.

21 This does not imply, of course, that non-technological ideas of this sort are ineligible for any type of protection. Trademark law offers protection to many ideas that do not qualify for protection under our scheme.
The proposed solution fails to illuminate a path for future research and development. Finally, protection should be withheld from fanciful ideas that may not be implemented under existing technology, unless the ideas themselves suggest a way to develop the necessary enabling technology. Given that the point and purpose of protecting ideas is to encourage technological innovation, ideas that rely on non-existing technologies such as time-traveling should not qualify for protection. Granting protection to fanciful but impracticable ideas may discourage the disclosure of readily implementable ideas as it exposes conceivers of subsequent ideas to potential litigation.

Fortunately, the screening mechanisms employed by patent law in determining which inventions qualify for protection are also applicable to ideas. The standards of novelty, usefulness and nonobviousness—with the addition of implementability—can do a good job of distinguishing protectible ideas from non-protectible ones. This is no coincidence. Since our conscious goal is to enhance innovation, it should come as no surprise that the ideas we seek to protect are those that may be subsequently developed into patented inventions. The extensive overlap between our proposed scheme and patent law has an obvious practical advantage: it facilitates the implementation of our proposal. First, the agency that will be charged with registration of protected ideas may be modeled after the Patent and Trademark Office (PTO). Second, courts and idea examiners could rely on the extensive body of patent case law in resolving disputes that involve idea.

B. Prerequisites for Protection

Our proposed framework for protecting ideas draws heavily on the patent law model. U.S. patent law creates and protects property rights in inventions in order to
“Promote the Progress of Science and the Useful Arts.”\textsuperscript{22} The goal of patent law is to improve social welfare by advancing technological and scientific knowledge. The means chosen to attain this goal is private property rights.\textsuperscript{23} The creation of property rights in inventions enables inventors to disclose their inventions to the public. And it is through this disclosure that patent law promotes science and the useful arts.\textsuperscript{24} However, not all inventions qualify for patent protection: only those that are novel, useful and nonobvious. The requirements of novelty, usefulness and nonobviousness reflect the quid pro quo underlying patent law: \textsuperscript{25} since protection imposes a cost on society, it should be limited to inventions that promise to provide adequate consideration. The same is true of ideas. Only those ideas that are useful, novel and nonobious are worthy of protection. In addition, for the reasons we explained in section A, ideas should also satisfy an implementability standard.

1. Usefulness

The first hurdle an inventor must clear in order to secure patent protection is usefulness.\textsuperscript{26} Originating in the constitutional language, the usefulness (or utility) standard requires patent applicants to demonstrate that the invention (1) serves a practical purpose; and (2) is operable or capable of performing its stated function. In addition, applicants are required to disclose sufficient information to make the usefulness of the

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\textsuperscript{22} See Moore v. United States, 194 U.S.P.Q. (BNA) 423, 426 (Ct. Cl. 1977) (“it is clear that the historical purpose for the granting of patents is to encourage a public disclosure of new scientific and technical developments”).

\textsuperscript{23} See Scott Paper Co. v. Marcalus Mfg. Co., 326 U.S. 249, 255 (1945) (explaining that patent law grants “to the inventor opportunity to secure the material rewards for his invention for a limited time, on condition that he make full disclosure for the benefit of the public.”); Special Equip. Co. v. Coe, 324 U.S. 370, 378 (1945) (stating that a patent grant “secure[s] to the public the benefits of full knowledge of the invention”);

\textsuperscript{24} See, e.g., Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141, 150-51 (1989) (“The federal patent system thus embodies a carefully crafted bargain for encouraging the creation and disclosure of new, useful, and non-obvious advances in technology and design in return for the exclusive right to practice the invention for a period of years.”).

\textsuperscript{25} CITE*** Section 101
invention apparent to persons familiar with the pertinent technological field.\footnote{See MPEP §2107.01; \textit{Brenner v. Manson}, 383 U.S. 519, 148 USPQ 689 (1966).}

Essentially, the utility requirement seeks to ensure that the public gets something valuable in exchange for the exclusivity conferred upon the inventor. In justifying the utility standard, the Supreme Court in \textit{Brenner v. Manson} famously stated that “a patent is not a hunting license. It is not a reward for the search, but compensation for its successful conclusion.”\footnote{\textit{Brenner}, id, at ***.}

Like inventions, ideas, too, ought to meet the utility requirement in order to receive protection. Given that the intended goal of protecting ideas is to spur technological innovation, it is necessary to that protection accorded to ideas be consistent with the rules of patent law. Moreover, the same logic that supports the utility requirement in the case of patents applies with equal force to ideas. Society bears the cost of protection and should therefore receive some benefit in exchange. Abstract ideas that lack technological utility should not be entitled to protection under our proposed scheme.

2. Novelty

In addition to being useful, to receive patent protection an invention must also be novel. Generally speaking, novelty requires that the claimed invention not be known, publicly used by others, patented or described in a printed publication.\footnote{\textit{Anticipation is often explained the converse of infringement. See \textit{Knapp v. Morss}, 150 U.S. 221, 14 S.Ct. 81, 37 L.Ed. 1059 (1893) (That which will infringe, if later, will anticipate, if earlier.”). Anticipation requires that every element of the invention, as it appears in the claim, be specifically or inherently disclosed by a single prior art reference. See \textit{Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.}, 976 F.2d 1559, 1565 (Fed.Cir.1992); Section 102(a).}

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an already existing invention makes no economic sense.\textsuperscript{31} If an invention does not enrich the existing pool of knowledge, the inventor failed to honor her end of the hypothetical bargain with society. It makes no sense for society to pay for knowledge it can readily get either for free or because it already paid for it in the past.

For the same reason, the novelty requirement should also extend to ideas. Given the administrative cost of protecting ideas, idea conceivers ought to furnish adequate consideration to be entitled for protection. Society clearly should not pay again for ideas it already paid for or for those it can get for free. If idea people chose to disclose their ideas even without direct protection, they should not receive retroactive protection. Doing so would bestow a windfall upon them, the cost of which society will have to bear. Thus, only ideas that are not anticipated by the prior art should receive protection under our scheme. Since courts and patent examiners already use the anticipation test to determine novelty in the context of patent law, the application of the same test to ideas will create economies of scope.

3. Nonobviousness

The “final gatekeeper of the patent system,”\textsuperscript{32} the nonobviousness requirement, as codified in § 103 of the Patent Act, denies protection to inventions that represent minor improvements over the prior art.\textsuperscript{33} The function of the nonobviousness requirement is to

\begin{itemize}
\item[\textsuperscript{32}] See Robert P. Merges, Patent Law and Policy, 479 (2\textsuperscript{nd} ed. 1997).
\item[\textsuperscript{33}] The nonobviousness examination, as formulated by the Supreme Court in the landmark case of Graham v. John Deere Co. 383 U.S. (1966) consists of three steps. First, the court has to determine “the scope and content of the prior art.” Then, it must identify “the differences between the prior art and the claims at issue.” Finally, the court has to determine “level of ordinary skill in the art at the time the invention was made” and decide whether the claimed invention had been obvious at the time of invention to a person of ordinary skill in the art. Id., at 17-18.
\end{itemize}
ensure that only meaningful innovation—innovation that represents a sufficiently large technical advance over to the prior art—34—is rewarded by the patent system. Thus, if the prior art renders a particular invention trivial it is ineligible for a patent. To pass the nonobviousness test, a claimed invention must exhibit "ingenuity beyond the compass" of a person of ordinary skill in the art.35

The same way patent protection does not extend to obvious inventions, idea protection should be withheld from obvious ideas. Trivial improvements over existing ideas should not suffice to yield protection under our scheme. Obvious ideas generate a minimal social benefit and a significant social cost. Extending protection to such ideas will allow their registrants to sue other idea conceivers and developers. Not only will such litigation impose a direct cost on society but it might also deter subsequent innovation. Here, too, courts and examiners should be able to draw of patent law rules and case law in determining the obviousness of ideas.

4. Implementability

The fourth and last condition ideas must satisfy in order to receive protection is implementability. Only ideas that are implementable in light of existing technology should qualify for registration. By contrast to the nonobviousness standard that is designed to screen trivial ideas, the implementability standard is designed to bar fanciful ideas that may not at present be turned into working inventions. The implementability test should mimic those of usefulness and nonobviousness: if an idea is deemed non-implementable by a person skilled in the technological field to which the idea belongs, it

The Court added that the nonobviousness determination may be aided by “secondary considerations” such as “commercial success, long felt but unsolved need, failure of others, etc., that might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” Id. at 17-18.
34 See Merges, supra note 17, at 379.
should not be registered. Consider for example an idea to create a perpetual motion machine. Given that the laws of physics demonstrate the impossibility of the concept proposed by the idea, it makes no sense to afford it costly protection. Idea people should be able to overcome the implementability bar only if they can point to a technology that would enable the implementation of their idea.

C. Registration and Priority

Conceivers of ideas that satisfied all the prerequisites stated in section B will be registered in a special idea registry. Registered ideas will enjoy a rebuttable presumption of validity as well as absolute priority over similar ideas that were registered at a later date. This proposal is a marked departure from the “first to invent” priority rule in patent law. The reason for this difference is two-fold. First, a “first to register” rule will induce idea conceivers to register their ideas as quickly as possible. Second, in the case of ideas where development is not required, ideas are ready to be registered upon their conception. Accordingly, it is not necessary to adopt a “first to conceive” rule.

Registered ideas will become available for development in accordance with the mechanisms we discuss in Part III, *infra*. Idea registrants whose ideas were picked for development will be entitled to compensation for the use of their ideas and developers who appropriated ideas non-consensually will be liable for an idea infringement. Consistent with the absolute priority rule, developers will not have an independent conception defense. To achieve maximum efficiency in the development of ideas, it is necessary to establish a uniform rule that requires everyone, idea people and developers, alike to register their ideas.
The scope of the protection of registrants vis-à-vis other idea conceivers is a trickier challenge. While it is impossible to quantify the precise scope of protection an idea should receive against similar ideas, it may be stated that generally the protection should be quite broad. To maintain the integrity of the propose registry, it is necessary to ensure that subsequent registrants could not get around pre-registered ideas by tweaking them a little. If the protection level is set too low, not only other idea people but also developers may attempt to register close variations on earlier ideas to avoid compensating the original idea conceiver. Such strategic behavior will subvert the goal of establishing protection for ideas, and erode the number of ideas available for development.

III. DESIGNING A MARKETPLACE FOR IDEAS

The potential benefits from establishing a marketplace for ideas are substantial. But what should this market look like? In particular, a marketplace for ideas can take several different designs, each with its own costs and benefits. Part III identifies and then analyzes different possible design for a marketplace for ideas. A fundamental market-design question concerns the type of protection awarded to an idea. Part I made a prima facie case for granting legal entitlements to idea people over their ideas. But what is the optimal substance of this legal entitlement? Should an idea person be protected by a liability rule or rather by a property rule? Or, should a more complex auction mechanism be employed? We consider each of the three designs in turn.

A. Property Rule Protection

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36 *** Calabresi & Melamed
Consider a marketplace for ideas where a property rule defines the substance of the legal entitlement afforded to an idea owner. Namely, no one, and in particular no potential developer, can make use of an idea without the consent of the idea owner. A property rule provides injunctive relief to an idea owner threatened by any such encroachment, thus forcing the developer to bargain with the idea owner.

In some sense property rule protection of ideas is the natural design for a marketplace for ideas. Indeed most, if not all other markets for intermediate goods share a similar design. The tire manufacturer’s entitlement to the tires she produced is protected by a property rule. The only way an auto manufacturer can obtain tires from the upstream provider is by buying the consent of the tire manufacturer. Why should ideas receive any lesser protection?

Before we can answer this question the potential costs of the property rule design must be evaluated. First, as mentioned above, under a property rule regime developers would have to bargain with idea owners. Such bargaining may be costly. Moreover, there is no guarantee that the parties will always succeed in reaching an agreement. A major impediment to bargaining is asymmetric information. And the early stages of the innovation process—the time when bargains between idea owners and developers must be struck—are fraught with asymmetric information.

Second, extending full-fledged property rule protection to ideas runs the risk of compromising the ultimate goal of a marketplace for ideas—accelerated technological progress. The source of the problem lies in the hold-up power that property rule protection bestows upon the idea owner.

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A powerful, property rule protection would arguably provide idea people with strong incentives to come-up with novel ideas and offer them for further development. Importantly, the value of an idea would not be materialized if the idea is not picked-up and implemented by a developer. And here lies the problem. The leverage that an idea owner obtains when her entitlement is subject to property rule protection might deter potential developers from using the idea.

When ideas are protected by a property rule, a developer cannot use the idea without negotiating a license agreement with the idea owner. If the developer must sink substantial investments—in studying an idea and evaluating its potential for further development—before he can bargain with the idea owner for a license, the developer is exposed to hold-up by the idea owner. The strong bargaining position gained by the idea owner under a property rule regime would often result in a significant licensing fee. Indeed the negotiated licensing fee might be so high that the profit margin left for the developer will not cover the investment that was already sunk in the pre-bargaining stage. And if the developer does not expect to recover his investment, he will not make the investment in the first place.

This ex ante cost of the property rule regime undermines the very reason for establishing a marketplace for ideas—the inducement of technological progress. If ideas will not be developed, there is no reason to stimulate the generation of ideas. Moreover, if developers, fearing hold-up by idea owners, will not develop ideas, not only will the

38 *** General hold-up references; take from VLR paper.
39 Parallel investments by downstream firms in less high-tech industries seem small. For instance, the auto manufacturer does not need to sink any investment before negotiating a purchase from a tire manufacturer. (Although, if this is the first purchase from the specific tire manufacturer some, relatively small investment to ensure compatibility and reliability may be required.) Moreover, entitlements in ideas differ from entitlements in traditional intermediate goods, since the uniqueness of the idea implies monopoly power for the idea owner.
protection of ideas fail to produce more inventions, it will not even produce more ideas. If idea owners cannot extract rents from developers, because developers will be deterred from developing ideas, they will have a much weaker incentive to come-up with new ideas in the first place. A legal entitlement to an idea that will never be developed is an empty entitlement.

Consider the following example. A conceives an idea, X, which is then afforded property rule protection. B learns of X and considers the possibility of developing X into a patentable invention worth 100 (to B). In order to determine whether such development is practical and whether B is the right person to undertake the project B must invest 60. If B’s evaluation determines that X is worth acquiring, B will approach A and bargain for the transfer of the legal entitlement in X. Assuming that A’s reservation price is zero (B’s reservation price is 100) and that both parties enjoy equal bargaining power, X will be sold to B for a price of 50, leaving B with a net profit of 100 – 50 = 50. But this profit does not cover B’s initial investment of 60 in evaluating the prospect of developing X. Consequently, B will not inquire into the idea’s potential, and X will not be developed, to the detriment of both parties and of society.

Counterintuitively, the strong protection afforded by a property rule might end-up hurting the idea owner. To ensure development of the idea, the idea owner may well prefer weaker protection, as a means of credibly committing not to extract too much of the ex post surplus from the developer—a commitment not to hold the developer up in the negotiations over the sale of the idea. The interest of the idea owner converges with the societal interest in encouraging innovation, suggesting that perhaps a weaker form of legal protection should be considered.
We have thus far assumed that if an idea is sold to a developer this developer obtains full exclusive rights to the idea. But this need not be the case. Often a single idea can be developed in different directions, resulting in a range of (non-competing) inventions. Since different developers will generally be best-suited to pursue the different inventive routes, the idea owner may offer a non-exclusive license, or a restricted exclusive license limited to a specified direction of development or to a specific application of the idea.\footnote{An analogy can be drawn to non-exclusive licensing of patents. See Mazzoleni & Nelson, \textit{supra} note ???, at 282 (discussing examples); the Cohen-Boyer patent.}

Importantly, non-exclusive or restricted licenses do not escape the general hold-up problem and its adverse implications for innovation. In addition, given the open-endedness of many ideas, defining restricted licenses might prove to be impractical in some contexts. Similarly, non-exclusivity might excessively dilute the value of the right to develop the idea, thus deterring developers from carrying the innovative process forward. The following Section considers an alternative market design that can overcome at least some of these problems.

\subsection*{B. Liability Rule Protection}

Given the identified costs of granting full property rule protection to ideas, we now examine an alternative design based on liability rule protection. Under this design, a person who comes-up with an original idea would still receive a legal entitlement in her idea, only this entitlement would be protected by a liability rule, rather than by a property rule.\footnote{*** CITE Calabrasi & Melamed} While under a property rule a person who wishes to develop the protected idea must bargain with the idea owner, under a liability rule the developer can use the idea,
subject only to payment of a court-determined price. Thus, a liability rule regime would avoid the cost of bargaining, prevent the risk of breakdown in negotiations, and avoid the hold-up problem.

A marketplace for ideas with a liability rule design has the intuitive appeal of aligning the legal protection afforded with the level of development. While a more developed invention deserves the complete protection provided by a property rule, a more preliminary idea merits the more limited protecting afforded by a liability rule.\textsuperscript{42} Moreover, the price that a liability rule regime imposes on the user of an idea, and correspondingly the strength of the idea owner’s entitlement, need not be constant, but rather may be inversely related to the extent of development required to produce a patentable invention.

If a marketplace for ideas was established, and a liability rule design implemented, the developer would not need to bargain with the idea owner ex ante. Rather, the idea owner would have to sue ex post. And in this ex post action a court will determine the price of the idea. The question is how should a court calculate the price of an idea?

Taking an ex post approach, Louis Kaplow and Steven Shavell have shown that when implementing a liability rule, the court should set the damage award, i.e. the price, equal to the court’s best estimate of the value of the entitlement to the owner of the entitlement.\textsuperscript{43} In the present context, the court should set the ex post price of the idea equal to the value of this idea to the idea owner.


\textsuperscript{43} Louis Kaplow & Steven Shavell, Harv. L. Rev. (1996). //
What is the value of an idea to its owner? The idea itself has no commercial value. It must be developed into a patentable invention, or into a commercial product. The value of an idea should therefore be derived from this ultimate value of the patent or product. The value of the idea to the idea owner, however, will generally fall short of the ultimate market value of the patent or product that can be developed from the idea by a downstream developer who is best suited to undertake such development. The reason is that often the idea owner will be ill-suited to develop the idea. At the extreme she will not be qualified to develop it at all, so that the value of the idea to her (her “outside option” in economic terms) will be nominal. More plausibly, the idea owner could extract some value from the idea, but a significantly lower value than what a skilled developer could obtain.

Still the value of the patent or product to the developer is the most readily verifiable benchmark available to the court. Hence, the court should take this benchmark and derive the idea owner’s monetary award from it. Specifically, the idea owner would receive a certain percentage of the profits generated by the invention that grew out of her idea. The precise calibration of the idea owner’s share in the proceeds from the invention is not an easy task. In performing this task, an ex post perspective requires the court to inquire into the idea owner’s ability to develop her idea.

While clearly important, the ex post perspective cannot provide the dominant criterion. The problem is that the ex post perspective presumes the existence of the idea. It also presumes that a patent or product will be developed from this idea. Yet neither presumption can be taken for granted. Moreover, the monetary reward set by the court
will directly affect the validity of these two presumptions. Therefore, the ex post perspective must be supplemented by an ex ante perspective.\textsuperscript{44}

Specifically, the idea owner’s share must be sufficiently large to guarantee the formulation and registration of the idea. This criterion determines the lower boundary of the price range. To determine the upper bound of the price range, we must turn to the perspective of the developer. An excessively high price would deter the developer from investing in the development and implementation of the idea. At the very least the developer must be left with a sufficiently large share of the surplus to cover his investments in developing the idea.\textsuperscript{45}

Since the monetary investments required for the development process are generally greater than the direct monetary investment by the idea owner, most of the surplus from the invention must be left with the developer. Accordingly, economic theory would caution against excessive damage awards to idea owners. In fact, courts should probably limit the idea owner’s share to only a small percentage (five percent perhaps) of the surplus generated by the invention. Importantly and counterintuitively, restricting the ex post price may well be in the interest of the idea owner. Since a high price might prevent the development of the idea, leaving the idea owner with zero profit, a more conservative damage measure will often increase the ex ante value of the idea owner’s entitlement.

While the preceding discussion focused on a damage award interpretation, the liability rule concept allows for alternative implementations. For instance, the broad notion of a liability-rule-based market design also encompasses a compulsory licensing

\textsuperscript{45} As a general matter there is no guarantee that the minimum price necessary to induce formulation and registration of the idea is lower than the maximum price that still provides sufficient incentives to develop the idea.
regime, where a court or an administrative agency, sets the licensing fee for ideas. Under this regime, the idea owner would be forced to grant a license to the developer, who will then become the patent holder, in exchange for a certain percentage of the surplus.

While substituting liability rule protection for the property rule design overcomes the bargaining related problems of the property rule regime, this alternative design is not without cost. In particular, the liability rule might significantly increase the duplicative investment problem.

When ideas are not legally protected, inventions are generally made public only after they are patented. Thus, the likelihood of duplicative investment via a patent race is relatively small. On the other hand, if legal protection is granted to an idea, and this idea is made public, it is much more likely that a patent race will commence among potential developers of any given idea. The higher likelihood of a patent race, and the problem of duplicative investment inherent in such races, does not inflict the property rule design, at least when the transfer of the entitlement to an idea will take the form of an exclusive license. But the duplicative investment problem constitutes a potentially significant cost of the liability rule design.

Moreover, beyond the ex post duplicative cost implications of patent races, such races impose a potentially critical ex ante cost. When numerous developers race to complete development and issue a patent or secure a first-mover advantage in the relevant market, the likelihood that any specific developer will win the race is reduced.

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46 There might still be duplicate investment to the extent that developers must expend a certain amount of resources before they approach the idea owner. See text accompanying supra notes ?? //where we discuss the hold-up problem.//

47 There are, however, ways to minimize this cost. For instance, when a developer decides to invest in a certain idea, he may insert a cautionary notice / inquiry notice (=“He’arat Azhara”) into the idea registry. Such a notice might deter subsequent developers from targeting the same idea.
Faced with what can amount to very poor odds of reaping any benefits a developer may well be discouraged from investing in the development of an idea. True, the liability rule regime ensures that the developer, if successful, will not be forced to relinquish the bulk of her profits to the idea owner, but it might significantly reduce the probability of success leading to a very similar result. Consequently, the liability rule design should only be considered in markets where sparse competition on the development side of the market minimizes the patent race problem.

C. Auctioning Ideas

The patent race problem suggests a third possible design for the marketplace for ideas—an auction design. In particular, after an idea is registered and publicized, an exclusive right to develop the idea would be auctioned out and sold to the highest bidder. The auction mechanism, by its very nature, prevents the patent race problem. It also ensures that each idea will be developed by the person or firm best suited to develop the specific idea.

The auction mechanism is also superior to the property-rule design. In particular, under the property-rule regime the idea owner must engage in costly negotiations with a potentially large number of developers. The auction mechanism conserves on negotiation costs. Moreover, as mentioned above, bargaining under asymmetric information is known

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48 Auction theory studies the merits of different auction designs. In particular, a second-price auction (or a Vickery auction) is better in dealing with information asymmetries and strategic bidding, as compared to a standard first-price auction, and therefore should be preferred. See //Mas-Colell reference//

49 There will still be some duplicative effort, as the different developers / bidders must undertake some initial investment in order to formulate a bid.

50 This person or firm would be able to develop the idea at minimum price and to extract the greatest profit from the invention, and accordingly would be able to make the highest bid.
to result in delays or even in a complete failure to reach agreement. By substituting the inefficient negotiation process, the auction design reduces the risk that bargaining impasse would hinder technological progress.

Admittedly, the auction mechanism is not without cost. The main problem, akin to the hold-up problem that tainted the property-rule design, is that the high price that a developer would have to pay at auction for the right to develop an idea might well discourage the developer from competing for this right. This problem, however, can be minimized by a more sophisticated design of the auction mechanism.

In particular, the optimal auction mechanism would not be a first-price auction, where the winner pays her own bid. Such an auction, in addition to other familiar problems, may indeed lead to a winner’s curse—forcing the winner to give-up all of her profits to the idea owner. Instead, the proposed mechanism would employ a second-price auction, where the winner pays the second-place bid. Under the reasonable assumption that developers are heterogeneous with respect to vision, skill and cost structure, the gap between the first-place bid, representing the winner’s expected profits, and the second-place bid, the price actually paid by the winner, would generally be quite large. Accordingly, the developer would be left with sufficient incentives to invest in developing the idea.

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51 See supra Section A.
52 See supra Section A.
53 *** CITE
IV. POTENTIAL OBJECTIONS

In this part, we consider two potential objections to our proposal. The first is that protecting ideas will shrink the public domain and consequently will make innovation more costly and difficult. The second objection

A. The Public Domain Objection

A common objection to any proposal that would broaden the domain of intellectual property is that discoveries that would otherwise be placed in the public domain will now be patented and locked away from the public.54 Moreover, the fear underlying this anti-commons problem is that the impoverished public domain would undermine progress.55 While clearly valid, this concern may not be as troubling as it initially seems. First, a patented idea would often be licensed, perhaps even licensed very broadly and very cheaply, thus facilitating progress.56

Second, and more importantly, the public domain objection presumes the existence of a discovery, and criticizes the choice to extend property rights to the discovery rather than add it to the public domain. But, this existence cannot be presumed. As we argued above, absent legal protection of ideas many potential discoveries would not be made. Inventors who could come up with novel ideas, but are poorly suited to develop these ideas would not bother to think up new ideas. And even if they do conceive a novel idea, they would simply keep it to themselves. More generally, if an absence of

55 *** CITE
56 *** Reference to the Cohen-Boyer patent. – Take from VLR paper.
property rights in ideas precludes a marketplace for ideas, the specialization that such a
market would offer is lost. Innovation would only be possible within firms or other
organizations that combine invention and development, or on the bases of trust
relationships. A major engine of technological progress, stand alone inventors or research
units, would be lost.

It is important to emphasize that the protection we seek to afford ideas is optional.
Idea people who wish their ideas to remain unprotected will continue to be able to do so.
It is even possible to imagine that a “free-ideas” movement, similar to the “open source”
movement, will arise in response to a decision to protect ideas. While a free-ideas
movement may work in certain cases in which development is relatively cheap, it may
prove counter-productive in most other cases. A free-ideas regime is essentially similar to
a liability rule regime with the liability set to zero.\textsuperscript{57} Setting the liability at zero, however,
does not do away with any of the costs we discussed in Part III, \textit{supra}. Making ideas
available for free opens the door for extensive duplicative research. Aware of this risk,
developers may simply prefer to shy away from free ideas, and such ideas might never be
developed. At the end of the day, if a free-ideas movement arises, the status of ideas
covered by this movement will be similar to the status of ideas under the current no
protection regime. So our proposal does not do any harm in this case either.

\textbf{B. Judicial Competence}

Another possible objection one can raise in reaction to our proposal is that judges
lack competence to efficiently resolve disputes that involve naked ideas. In particular, it
will be difficult for judges to determine the scope and extent of ideas in deciding

\textsuperscript{57} For discussion of zero-liability rules, see Pliability Rules***.
infringement suits. True, judges are capable of resolving patent disputes. But these disputes involve developed products and processes that judges can understand and evaluate. Consequently, the risk of judicial error in disputes that involve ideas is much higher than that arising in patent litigation.

This objection too seems more problematic than it really is. In deciding patent infringement claims, judges do not compare two (or more) actual products. Rather, judges compare the properly construed claim of the plaintiff’s patent to the defendant’s putatively infringing device. It is a well established principle of patent law that it is inappropriate for the fact finder to examine the patentee’s product and the allegedly infringing device. Accordingly, it is the language of the claims, not the product, that determines the scope of the protection.58

This implies that the task of deciding patent infringement is much closer to that of finding idea infringement than first meets the eye. In both cases, courts must first construe the claims of the plaintiff’s grant—be it a patent grant or an idea grant. In infringement cases brought by an idea registrant against a developer, a court will compare the properly construed idea claim to the defendant’s products exactly as it does in patent infringement cases. Cases brought by one idea registrant against another will necessitate a modified process. Here, a court will have to construe not only the idea claims of the plaintiff but also those of the defendant, and then compare the two. While it is possible that this difference will increase the rate of judicial error relative to patent cases, there is no a priori reason to assume that courts will do much worse in this case. After all, the

58 Bell Communications Research, Inc. v. Vitalink Communications Corp., 55 F.3d 615, 619, 34 USPQ2d 1816, 1819 (Fed.Cir.1995).
central task judges are asked to perform in the latter case is claim construction, and this task is not unfamiliar to them.

**CONCLUSION**

Ideas are unique, exciting, metaphysical. On first blush, ideas seem inherently beyond law’s grasp. But ideas also drive innovation and progress. They constitute the critical input in any inventive process. Recognizing the instrumental aspect of ideas, their intermediate good nature, does not compromise their uniqueness. It does, however, merit a serious reconsideration of the relationship between ideas and the law. Ideas can be the subject of legal entitlement. In many cases conferring legal protection on ideas is critical if they are to fulfill their role as the engine of progress. A marketplace for ideas will not only enhance social welfare, it will also generate more ideas, and guarantee the broad exposure of ideas thus enhancing their social and intellectual impact. Jefferson correctly observed that in the state of nature ideas are not susceptible to exclusive property. In the state of law many ideas must become property in order to survive, in order to come into existence. In this Essay we explore the possibility of a marketplace for ideas, and derive the optimal design of this important, yet still missing market.