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Patents have the potential to constrain professionals in the exercise of autonomous responsibility in their practices. Furthermore, the ability of a profession to serve the public good may also be affected by patenting, which could alter the willingness of professionals to disseminate and put into practice new learning.¹

Recently, patentable subject matter has become a much-debated and litigated issue. Judges and commentators have tried to define reasonable limitations for patentable subject matter without obstructing innovation in the Information Age.² In retrospect, the patentable subject matter criteria articulated in State Street in 1998—that the invention produce a “useful, concrete, and tangible result,”—now seem like the zenith of the scope of patentable subject matter.³ In recent Supreme Court decisions, a trend towards invalidating business method software patents is increasingly evident.⁴ It seems clear that the scope of patentable subject matter has swung back in the direction of increasing limitations, but there is little agreement on the boundaries.⁵ In this paper we propose a defense for professionals whose practices are partially

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2. Bilski v. Kappos, 561 U.S. 593, 612 (2010) (J. Kennedy and J. Stevens referring to the “Information Age” as the successor to the Industrial Age); see also Diamond v. Chakrabarty, 447 U.S. 303, 309 (1980) (holding that statutory patentable subject matter “include[s] anything under the sun made by man”). Courts have been trying to escape from this phrase for the past 30 years.
3. State Street Bank & Trust Co. v. Signature Fin. Grp., Inc., 149 F.3d 1368, 1373 (Fed. Cir. 1998) (to be patentable, an invention must produce a “useful, tangible, and concrete result.”).
4. See Bilski, 561 U.S. at 657.
5. See id. at 656.
claimed in some of the business method patents issued by the U.S. Patent and Trademark Office (USPTO). Delineating professional practices as ineligible to be patentable subject matter can be viewed as another battle in the "war" against "crony capitalism," which can be defined as a tendency that makes use of the narrowest forms of self-interest at the expense of societal welfare. Making professional practices ineligible as patentable subject matter does not extirpate crony capitalism, but it is a change that is likely to yield societal gains to the extent that professions are legitimate.6

I. INTRODUCTION

In Part I, we discuss crony capitalism in general terms. In Part II, we discuss early patent law, which was enacted in the wake of the Statute of Monopolies in 1625 as a reaction against crony capitalism.7 Crony capitalism takes place when private interests are able to obtain economic benefits from the government in the form of protection from competition that enable these private interests to achieve above normal (monopoly) profits at the expense of societal welfare.8 With crony capitalism the checks and balances provided by largely unregulated (free) markets are not present and thus inefficient practices are allowed to persist, with the government providing a shield from competition. Certainly wrongly issued patents fall into this category, which award patentees protection from any other party that "makes, uses, or sells" a patented process.9 We contend that the same forces that led to passage of the Statute of Monopolies in England migrated across the Atlantic and were at the heart of many constitutional disputes, state and federal, before and after the American Revolution. We show that between 1790, when the first U.S. Patent Act was enacted and the present, various forms of crony capitalism continued to reemerge.

In Part III, we explore the precursors and foundations of business method patents (BMPs), which were rejected for the first 210 years of the Republic. In doing so, we come to the conclusion that business method pat-

6. We are not arguing that crony capitalism has not been manifest in the actions of some licensed professions, but simply that licensed professions provide some protections that guard against the worst abuses of business method patents.


8. Id. at 42; see generally Frederic M. Scherer & David Ross, Industrial Market Structure and Economic Performance (3d ed. 1990) (describing a basic principle of economics that monopolies are bad from two perspectives: First, monopolies transfer more revenue from consumers to producers than in freely competitive markets. Second, there are deadweight losses which are consumer losses not gleaned by producers or sellers.).

9. See Scherer & Ross, supra note 8 (describing patentable subject matter to include machines, manufactures, and compositions of matter). In this article we are focusing on patentable processes or business method patents.
ents are often inefficient; in other words, they are granted in situations in which the patent is highly unlikely to enhance public welfare. Many of these BMPs claim various transactions and processes that overlap and interfere with professionals in their practices. In fact, a number of patent applications are analyzed in order to demonstrate the encroachment of BMPs into accounting and other professions.

In Part IV we examine the implications of cordonning off professions from patentable subject matter through a "learned profession" defense and conclude that any process that overlaps standard practices of professions should not qualify as a patentable process because there is no expansion of the public domain. In this section we explore the unique features of practicing a profession and how these features provide some protection against crony capitalism, though we are mindful that professional licensing could also be abused to raise prices at the expense of the public without corresponding social welfare benefits. We provide a Conclusion in Part V.

II. ORIGIN AND EVOLUTION OF PATENT LAW

A. Early Patent Law, the Statute of Monopolies and Crony Capitalism

Flaws in modern day business method patents are analogous in many ways to the inefficiencies caused by the profligate issuance of monopolies by English monarchs, which led to enactment of the Statute of Monopolies by Parliament in 1625. We view these royally issued monopolies as a form of crony capitalism, which were often used to shield friends of the king and other powerful members of the ruling class in Parliament from legitimate competition. Crony capitalism takes place when monopolies (patents) are obtained by friends of the government in high places who do not offset the harm to societal welfare (in the form of higher prices and trade restrictions) by expanding the public domain through inventions. Early on (in the Elizabethan Era) it was recognized that, "English monarchs frequently used patents to reward favorites with privileges, such as monopolies over trade that increased retail prices of commodities." The basic concept of public choice

10. We are using the term "public welfare" consistently with its use by economists in textbooks and academic articles. A policy enhances public welfare if the sum of consumer and producer surplus increases. For an explanation of the caveats added to the assumptions used when discussing "public welfare," see id. at 18.


12. See id.; see also James M. Buchanan & Gordon Tullock, The Calculus of Consent: Logical Foundations of Constitutional Democracy (1962) (viewed by many economists as the seminal work on crony capitalism).


economics is that the government's ability to grant monopolies or erect barriers to entry generally benefits a single business or group at the expense of the welfare of the general public. Issuing patents could be justified, however, if the grantee of the monopoly enlarged the public domain through invention of "new and useful" technology that was not obvious.

It could be argued that crony capitalism began in the feudal age before capitalism was the dominant form of economic activity. There is evidence of royal granting of monopolies as early as the 1300s, but by the time the Statute of Monopolies was enacted by the English Parliament in 1625, the unfortunate consequences of crony capitalism were apparent to most important social thinkers, as well as the general population. In addition to raising prices and retarding innovation, royally issued monopolies were responsible for impeding entrepreneurs in their business plans and hindering skilled workers from finding employment. The difficulties of enforcing monopolies were also apparent. According to Adam Smith, who wrote The Wealth of Nations in 1776:

Like the Laws of Draco, these laws [granting monopolies] may be said to be all written in blood . . . the exporter of sheep, lamps, or rams, was for the first offence to forfeit all of his goods for ever, to suffer a year's imprisonment, and then to have his left hand cut off in a market town upon a market day, to be there nailed up; and for the second offense to be adjudged a felon, and to suffer death accordingly.

In the sixteenth and seventeenth centuries, English monarchs were in a rivalry with Parliament over control of government, but Parliament had exclusive power to enact taxes and fees. Although Parliament was in control of taxes, before 1625 it could not control the granting of monopolies by English monarchs, who then charged fees for continuance of the monopolies. In a number of instances, patents/monopolies were issued by English monarchs

15. See generally Buchanan & Tullock, supra note 12. There is a huge array of law and economics literature that discusses the process and impact of special interest favors. Pursuing the favors that government can dole out is often called "rent seeking." Regardless of how it is labeled, the basic concept is that, in general, relative to free competition, monopoly shrinks the size of the public domain unless other factors exist such as negative externalities.

16. Statute of Monopolies 1623, 21 Jac. 1, c. 3, § 1 (Eng.).

17. See Calabresi, supra note 7, at 8.

18. See id. at 9.

19. See Scherer & Ross, supra note 8, at 9 (quoting Adam Smith, The Wealth of Nations (1st ed. 1776)).

20. See id. at 16.
and later rescinded if the patentee did not pay fees to the monarch with alacrity.\textsuperscript{21}

The negative consequences of monopoly were apparent to most observers in the early seventeenth century, and the basics of modern day patent law were born in this struggle for power.\textsuperscript{22} Although control over the issuance of patents could be viewed as a simple rivalry between royalty and Parliament, modern patent law emerged from the Statute of Monopolies.\textsuperscript{23} The main provision of the Statute of Monopolies outlawed the issuance of monopolies by monarchs and transferred that authority to Parliament.\textsuperscript{24} Queen Elizabeth, in particular, was a notorious abuser of the system, issuing patents for such common commodities as salt and starch.\textsuperscript{25}

Enacted in 1625, the Statute of Monopolies took away the authority of monarchs to issue monopolies, which significantly harmed their access to revenue.\textsuperscript{26} In relation to patent law, however, Section Six of the Statute of Monopolies is the most noteworthy section. Section Six of the Statute of Monopolies allowed Parliament to issue Monopolies for up to fourteen years if the beneficiary was "the true and first inventor."\textsuperscript{27} In effect to mitigate the harm associated with monopolies, a quid pro quo emerged in that the patent/monopoly was limited in time, but the monopolist had to invent something new, useful, and non-obvious.\textsuperscript{28} The net effect was that to obtain a monopoly, the beneficiary had to expand the public domain by inventing something new and useful, and the monopoly was time-limited.

The passage of the Statute of Monopolies, however, did not extirpate crony capitalism. In spite of the 1625 Statute, Parliamentary control of patents was still contested by English monarchs who were addicted to the revenue that issuing monopolies could generate.\textsuperscript{29} A number of historians and commentators have linked battles between Parliament and the monarchy to the issuance of monopolies that occurred after 1625, resulting in two civil wars.\textsuperscript{30} In \textit{The Wealth of Nations}, Adam Smith contended that when govern-

\textsuperscript{21} See \textit{id.} at 9.
\textsuperscript{22} \textit{id.}
\textsuperscript{23} \textit{id.} at 23.
\textsuperscript{24} Statute of Monopolies, \textit{supra} note 16, at § 6.
\textsuperscript{25} See Calabresi, \textit{supra} note 7, at 8.
\textsuperscript{26} \textit{id.} at 9.
\textsuperscript{27} Statute of Monopolies, \textit{supra} note 16, at § 6.
\textsuperscript{28} \textit{id.}
\textsuperscript{29} Calabresi, \textit{supra} note 7, at 21.
\textsuperscript{30} See generally Statute of Monopolies, \textit{supra} note 16.
ment officials sat down to lunch with business interests, the cost of the lunch and much, much more was paid for by the public.31

It is also important to note that besides directly issuing monopolies, other manifestations of crony capitalism took place in a variety of forms to shield wealthy supporters from competition. Two of the most apparent forms are tariffs, used to reduce foreign competition while raising revenue, and license requirements to practice various occupations and professions.32 While some requirements for licenses to practice various professions have been based on well-founded rationales, such as ensuring professional competence and ensuring public health and safety, others have not.33 We view crony capitalism as a tendency that can surface in a variety of forms, but the basic ingredients are that the government shields private interests from competition without receiving an expansion of the public domain in return, such as new and useful inventions.34

B. Crony Capitalism Crosses the Atlantic: A Known and Feared Danger

An important, but largely unappreciated, economic fact of life among the colonists in the territories that later became the United States, is the recurring battle between idealistic leaders and crony capitalists in both England and the Colonies.35 Indeed, the American Revolution could be said to have been inspired by the refusal of Colonial leaders to recognize monopolies issued by Parliament that allegedly applied to the Colonies.36 A prime example is the Boston Tea Party, which was inspired by a revolt against the East India Company’s trade monopoly. Until shortly before the Revolution began, many of the colonists viewed themselves as Englishmen, and as such, entitled to freedom from monopolies, which were outlawed in England in 1625.37 On both sides of the Atlantic, debates emerged as to whether Colonists were entitled to the rights of Englishmen and whether the breadth of the Statute of Monopolies extended to England’s colonies.38

31. SMITH, supra note 19, at 249; see also Adam Gopnik, Market Man, THE NEW YORKER, Oct. 18, 2010, at 82.
32. Calabresi, supra note 7, at 21.
33. Id. at 6.
34. Id. at 27.
35. Id. at 22.
36. Id. at 5. “The American colonists shared English concerns about exclusive monopoly privileges issued by the government, which imposed enormous costs on the general public and especially consumers.”
38. Around the time of the Revolution, there was an expectation that Colonists had the benefit of English statutes, but, “In practice, English Statutes generally had
Fear and loathing of monopolies eventually led to the American Revolution, though there were certainly other causes. Before the Revolution, independent of the Statute of Monopolies, there was anti-monopoly language and protection in a number of the Colonial charters that appeared to prevent their governments from granting monopolies. Failure to protect colonists from royally granted monopolies such as the East India Company, led to resistance and Tea Party revolts. Certainly among the Colonial intellectual elite, and in England at the time, the evils of government-granted monopolies were well known as a clear and present danger. The imposition of these monopolies on the Colonies brought short-term windfalls to the monarchy but ultimately led to revolts that ended up severing the relationship between the United States and England. Again, the basic principle of crony capitalism is that granting a monopoly without getting something in return, such as an expansion of the public domain due to an invention, harms society more than it benefits special interest friends of the government. Another feature of crony capitalism is that as time goes on, its inefficiencies become more and more apparent, leading to complaints, protests and revolts.

C. Patents, Monopolies, and Continued Resistance to Crony Capitalism

Following the success of the American Revolution, each state drew up a constitution and the states had to agree on a federal Constitution. The Constitution acted as a governing document that regulated the states. In a number of states, bitter memories and experience with government granted monopolies were still vivid and thus at the time of the enactment of the U.S. Constitution in 1789, some state constitutions had guarantees of protection from monopolies to their citizens. Of course the Articles of Confederation was the first federal Constitution, and has been viewed by many as a failure because the powers of the “central” government were too weak. One of the main reasons that the Articles of Confederation called for limited powers for the central government was that at the time it was well known that a strong central

to specify that they applied to the colonies in order for the courts to find that they did so.” Calabresi, supra note 7, at 24.

39. “[T]he efforts of the English government, backed by English merchants and manufacturers, to deny to the Americans the right to compete in foreign markets and to secure the benefits of foreign competition was one of the most potent causes of the American Revolution.” Franklin D. Jones, *Historical Development of the Law of Business Competition*, 36 *Yale L.J.* 42, 49 (1926) (quoting Trevor Colbourn, *The Lamp of Experience* 65 (1965)); see Calabresi, supra note 7, at 28.

40. Calabresi, supra note 7, at 37.

41. *Id.* at 29.

42. *Id.* at 5.

43. See Articles of Confederation of 1781, art. 1.
government was the greatest threat to freedom. The ability of a central government to pick winners and losers was a particularly noxious practice, especially when those selected for monopolies were not selected based on innovation but rather a willingness to cough up pecuniary emoluments to government. During the mid-nineteenth century, although there were some initial false steps, antipathy towards monopolies eventually led to state development of general corporate law that was not a grant to special interests and in general, was the opposite of special grants of monopoly-like privileges.

As is well known, Article I, section 8, clause 8, of the U.S. Constitution gives Congress the right “to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Rights to their respective Writings and Discoveries.” Again based on antipathy to governmentally generated monopolies, political leaders from a number of states balked at giving the U.S. federal government that power. Thomas Jefferson in particular viewed monopolies with disdain and recommended that along with the other protections against government, such as freedom of religion and the press, there should be a restriction against monopolies. The Patent Clause was inserted into the Constitution to gain the approval of politicians from key states as a compromise, but it was clear that the federal government was not given the power to grant naked monopolies that did not expand the public domain. To obtain a patent, the inventor had to expand the public domain and the period of exclusivity was limited in time. Looking ahead, it seems clear that patenting extant practices of professions does not expand the public domain.

The sentiment against government grants of monopoly was so strong that Jefferson opposed creation of a federal Post Office. The current slow twisting in the wind of the modern-day U.S. Post Office is perhaps a hollow vindication of the perspicacity of Jefferson’s anti-monopoly inclinations. At

44. See Calabresi, supra note 7, at 35.
45. See id. at 90.
47. Calabresi, supra note 7, at 30. Of course, Thomas Jefferson was an accomplished inventor himself. His opposition to monopolies is another testament to his statesmanship.
49. According to Madison, “With regard to Monopolies, they are justly classed among the greatest nuisances in Government. But it is clear that as encouragements to literary works and ingenious discoveries, they are not too valuable to be wholly renounced? Would it not suffice to reserve in all cases a right to the public to abolish the privilege at a price to be specified in the grant of it?” Bernard Schwartz, The Bill of Rights: A Documentary History 614–18 (quoting Letter from James Madison to Thomas Jefferson (Oct. 17, 1788)), cited in Calabresi, supra note 7, at 31.
50. Calabresi, supra note 7, at 32.
the time of the adoption of the U.S. Constitution, six states held out for banning the government from enacting monopolies or wanted anti-monopoly provisions included in the Bill of Rights. Typical was a recommendation from Massachusetts, which proposed "that Congress erect no company with exclusive advantages of commerce." Anti-monopoly sentiment also seeped into the discussion of the constitutionality of a national bank. In the end, however, only North Carolina banned monopolies in its own state constitution and this ban was overruled by the Supremacy Clause.

Ultimately, framers of the federal Constitution allowed for grants of monopoly to reward authors and inventors in both the Articles of Confederation and the U.S. Constitution. Still, the forces of crony capitalism were and are irrepressible and continue to infect governments, state and federal, which of course inspired counter actions. A source of continuing rancor was alleged discrimination by the legislatures and courts of one state against out-of-state residents and travelers from other states. In Corfield v. Coryell, the harvesting of oysters and clams by non-residents of New Jersey led to a constitutional challenge of the state law. Trustees of Dartmouth College v. Woodward of 1819 established the principle that the Contracts Clause of the U.S. Constitution prevented states from altering corporate charters so as to award monopolies to corporations. Calabresi and Price contend that the U.S. economy "really took off" during the nineteenth century once the rights of shareholders were established under state law and freed from the machinations of crony capitalists. Again, it became apparent to liberal social thinkers of the time that most of the citizenry benefitted from a laissez-faire economic policy and that crony capitalism was to be combated.

Not only were state legislatures and Congress oriented toward laissez-faire policies but these attitudes permeated court opinions, including Supreme Court opinions under Chief Justice Roger Taney, a Jacksonian Democrat. According to Calabresi and Price, "Jacksonians, like Chief Justice Taney, were ardently opposed to government grants of monopoly and special privileges to the powerful and wealthy—a phenomenon that Americans to-

51. Id. at 35.
52. Id.
53. Id.
54. Id.
55. Id. at 38.
57. Calabresi, supra note 7, at 40. Although it is a much debated issue, allowing limited liability to shareholders for legal liabilities of corporations was legal innovation that resulted in enormous expansion of the U.S. economy. Prior to 1837, obtaining a corporate grant was basically a grant of monopoly.
58. Id. at 41.
day call ‘Crony Capitalism.’”59 Further, Calabresi and Price, quoting the Virginia Court of Appeals, indicated that “monopoly is very ingenious in extending its rights and enlarging its pretentions.”60 In the mid-nineteenth century, in addition to slavery, government sponsored monopolies were at the center of the most important political controversies. President Jackson’s well-known antipathy towards creation of the National Bank of the United States was broad and comprehensive.61 The federal postal monopoly was the target of Lysander Spooner, political reformer and abolitionist, who founded a rival letter carrying company to challenge the U.S. Post Office.62

Calabresi and Price contend at some length that slavery was a form of crony capitalism.63 From virtually any perspective, slavery fails to meet any conceivable ethical standard and so does crony capitalism, but perhaps not so dramatically as slavery. In order to establish and maintain the privileges of crony capitalism, exponents must seek and protect governmental rents, often through lobbying. The arguments are often made more convincing (at least to their audience) when combined with campaign contributions and outright bribes. It is not farfetched to say that establishing governmental privileges and insulation from competition is a dirty business, which was in the minds of many who study such issues, a close relative of preserving the caste system called slavery in the mid-nineteenth century.

Following the Civil War, a number of southern states tried to establish the infamous “Black Codes,” which were countered by proponents of the Fourteenth Amendment, with its Equal Protection Clause.64 President Andrew Johnson, who had to deal with the Black Codes following the Civil War, stated the Black Codes were odious because “there is no room for favored classes or monopolies, in the principle of our Government [which] is that of equal laws . . . .”65 Again, according to Calabresi and Price, “the Fourteenth Amendment is a ban not only of racially discriminatory laws, but also of class based legislation and certainly of any legislation that set up a system of caste or monopoly.”66 The Slaughter-House cases in 1873 provide a clear example of the evils of government established naked monopolies that benefit a small group at the expense of the general public.67 Counsel for the butchers who were challenging the constitutionality of a state statute that

59.  Id. at 42. Of course, Chief Justice Taney was the author of the infamous Dred Scott decision.

60.  Id. at 43.

61.  Id. at 47. “Jackson’s hatred of banks was not unique to him, however.”

62.  Id. at 48.

63.  Calabresi, supra note 7, at 54–57.

64.  Id. at 58-59.

65.  Id. at 61.

66.  Id.

67.  Id. at 62.
granted a twenty-five year slaughterhouse monopoly to a private company claimed that this monopoly was contrary to the Fourteenth Amendment. 68 Counsel for the butchers went on to contend that the “English creation of monopolies had helped to give rise to the American Revolution . . . and it was from a country which had been thus oppressed by monopolies that our ancestors came.” 69 Other examples could be cited, but it is clear that crony capitalism emerges in a variety of industries and formats. But a consistent theme in crony capitalism is that it often employs unethical means to obtain and maintain governmental privileges, and those involved in such lobbying are involved in a project that enriches the few at the expense of many.

III. CRONY CAPITALISM AND PATENT LAW

A. Business Method Patents

Business method patents can be seen as yet another manifestation of crony capitalism that relies on the state to provide an essential barrier to entry. We view attempts to patent portions of professions within the field of business method patents as yet another emergence of crony capitalism that enriches the few at the expense of many. 70 As our aforementioned historical analysis demonstrates, business method competition has occurred for centuries among businesses without the need for patent protection. 71 Because some business method patents may expand the public domain, we are not confident recommending elimination of all such patents. 72 However, we are confident in our assessment that allowing business method patents that carve out portions of various professions will decrease social welfare with no offsetting redeeming social value. 73

In order to understand the present situation concerning business method patents, one must first understand the history that led to their existence. Recognition of the need for patent law is longstanding and actually predates the United States government. The power of the federal government to enact legislation to protect inventors is enumerated in Article I, Section 8 of the Constitution, and Congress passed the first Patent Act in 1790. 74 As we have discussed above, fundamentally, a patent is a right granted by the federal government to an inventor enabling him or her to exclude others from making, using, selling, or importing the invention within the United States with-

68. Id.
69. Calabresi, supra note 7, at 62.
71. Id. at 895.
72. Id. at 897.
73. Id. at 824.
out the inventor's consent.\textsuperscript{75} Patents are filed with the U.S. Patent and Trademark Office and generally last for a term of twenty years from the date of filing.\textsuperscript{76}

For an invention to receive patent protection it must be novel, useful, and nonobvious.\textsuperscript{77} In other words, to receive a patent, the patentee must add to the public domain by inventing something new that is useful and nonobvious to those skilled in the industry. Once a patent is granted, a patent holder may seek injunctive relief and monetary damages against an infringing party.\textsuperscript{78} Monetary damages consist of either the patentee's lost profits or royalty-based damages on sales made by the infringer that would not have been made by patentee.\textsuperscript{79} Additionally, the court has discretion to award up to three times the amount of actual damages if the infringement is determined to be willful.\textsuperscript{80}

Throughout the last two centuries there has been significant litigation over the issue of what is considered patentable subject matter. In the past thirty years, the Supreme Court and the Court of Appeals for the Federal Circuit (CAFC) have issued a number of opinions that have fundamentally expanded the scope of patentable subject matter.\textsuperscript{81} Before 1981, inventions that made use of software were routinely denied patents in Supreme Court decisions.\textsuperscript{82} But beginning with the landmark decision \textit{Diamond v. Diehr} in 1981, the Supreme Court issued a series of rulings that have effectively expanded the scope of patentable subject matter.\textsuperscript{83} A particularly contentious expansion of patentable subject matter occurred in an area that has often been referred to as business method software patents. In \textit{Diamond}, the Supreme Court maintained that a patent should not be issued for computer software that merely solves an equation or algorithm, but when additional steps exist that integrate the algorithm into a particular

\begin{enumerate}
\item \textsuperscript{75} 35 U.S.C. § 101 (2012).
\item \textsuperscript{76} \textit{Id.} § 154(a)(2).
\item \textsuperscript{77} \textit{Id.} § 101.
\item \textsuperscript{78} \textit{Id.} §§ 283–84.
\item \textsuperscript{79} Victims of patent infringement are also able to sue for reduced prices their products are able to fetch given competition by the infringer. \textit{Id.}
\item \textsuperscript{80} 35 U.S.C. § 284 (1952).
\item \textsuperscript{81} Recent opinions and articles (including the instant article) suggest the pendulum is cutting back on the scope of patentable subject matter. \textit{See} \textit{Diamond v. Diehr}, 450 U.S. 175, 175 (1981); State Street Bank & Trust Co. v. Signature Fin. Grp., Inc., 149 F.3d 1368, 1377 (Fed. Cir. 1998).
\item \textsuperscript{82} \textit{See}, e.g., Gottschalk v. Benson, 409 U.S. 63, 63 (1972).
\item \textsuperscript{83} In \textit{Diamond v. Diehr}, the inventors make use of the Arrhenius equation and computer software to regulate temperature in rubber making. \textit{Diehr}, 450 U.S. at 175.
\end{enumerate}
process, the invention may be patentable.\textsuperscript{84} In \textit{Diamond}, the invention was software controlled ovens used in making rubber.\textsuperscript{85} Since \textit{Diamond}, patent law has evolved such that the use of software or mathematical algorithms are no longer fatal flaws. The evolution of patent law continued in the 1998 \textit{State Street} case, when the CAFC ruled that the transformation of data through computer software that produces “a useful, concrete and tangible result” is a process that is potentially eligible to be patented.\textsuperscript{86} In \textit{State Street}, the patentee owned software that solved various value, cost, and tax issues in connection with a hub and spoke mutual fund.\textsuperscript{87} According to the court, “[t]his investment configuration provides the administrator of a mutual fund with the advantageous combination of economies of scale in administering investments coupled with the tax advantages of a partnership.”\textsuperscript{88}

In the long history of patent litigation, there were attempts by some business leaders to patent business methods or processes, but prior to the twenty-first century, those efforts were universally unsuccessful. In 1972, the U.S. Supreme Court ruled that computer software that involved the transformation of data represented an abstract idea and was, thus, unpatentable.\textsuperscript{89} Similarly, in 1978, the Supreme Court reaffirmed its prior holding regarding the patentability of business methods and processes and held that a mathematical algorithm was not patentable, as its application was not novel.\textsuperscript{90} Shortly before its \textit{State Street} decision in 1972, the Supreme Court became increasingly open to the approval of patents for business methods and processes—some of which involved software.\textsuperscript{91} By the early 1980s, however, software that was (1) coupled with a particular machine\textsuperscript{92}; or (2) used to transform a particular article to a different state or substance, could be patentable.\textsuperscript{93} In \textit{Diehr}, the inventor sought to patent software that made use of a famous mathematical equation to regulate the opening and closing of ovens.

\begin{itemize}
\item \textsuperscript{84} Id. at 188.
\item \textsuperscript{85} Id.
\item \textsuperscript{86} \textit{State St. Bank & Trust Co.}, 149 F.3d at 1370.
\item \textsuperscript{87} Id.
\item \textsuperscript{88} Id.
\item \textsuperscript{89} Gottschalk v. Benson, 409 U.S. 63, 71-73 (1972).
\item \textsuperscript{90} Parker v. Flook, 473 U.S. 584, 594-96 (1978).
\item \textsuperscript{91} \textit{State St. Bank & Trust Co.}, 149 F.3d at 1373-76.
\item \textsuperscript{92} Diamond v. Diehr, 450 U.S. 175, 175 (1981). The holding in this case represents the origin of the “machine or transformation” test. Furthermore, in \textit{Bilski}, the Supreme Court held that the “machine or transformation” test was an “important clue” towards patentability of BMPs but was not the sole test. Bilski v. Kappos, 561 U.S. 593, 604 (2010). The Supreme Court held that in the Information Age there could be BMPs that were patentable even though they did not satisfy the “machine or transformation test.” Id.
\item \textsuperscript{93} Diamond v. Chakrabarty, 447 U.S. 303, 308-10 (1980).
\end{itemize}
to reduce waste in the rubber making process.\textsuperscript{94} In approving this patent application, the Supreme Court made clear that the inventor was not claiming exclusive use of the Arrhenius equation.\textsuperscript{95} \textit{Diehr} stands for the proposition that software can be a component of a patentable invention, assuming that it is tied to a particular machine.\textsuperscript{96} Further, in \textit{Chakrabarty} the patentee invented genetically modified bacterium that was useful in curbing the detrimental environmental effects of oil spills.\textsuperscript{97} In this case, the phrase, “anything under the sun that is made by man” was used to describe what is patentable, with the exception of laws of nature, abstract ideas, and naturally occurring compositions of matter.\textsuperscript{98} Perhaps the expansive language used in \textit{Chakrabarty} paved the way for the \textit{State Street} decision.

In \textit{Bilski}, the U.S. Supreme Court grappled with the issue of patentable subject matter in connection with a patent application for a method of hedging losses in one segment of the energy industry.\textsuperscript{99} Ultimately, the Supreme Court struck down the application on the ground that the inventor claimed an abstract \textit{idea} as patentable subject matter, a standard that had been endorsed by the Court in numerous decisions. The long-awaited \textit{Bilski} decision, however, had much broader implications. The majority opinion, along with two concurring opinions, rejected the criteria for patentability elucidated in \textit{State Street} by the Court of Appeals of the Federal Circuit, which was specifically that a process was patentable if it produced a “useful, concrete, and tangible result.”\textsuperscript{100} The \textit{State Street} decision launched a highly controversial category of patents, \textit{i.e.}, business method patents.

However, the Supreme Court justices who authored opinions in \textit{Bilski} opposed limiting the subject matter of patentable processes to the “machine or transformation test.”\textsuperscript{101} Specifically, Justice Kennedy’s majority opinion concludes with an invitation to the Federal Circuit and other courts to fashion a criteria for patentable subject matter that (1) does not foreclose “Information Age” innovations that may not satisfy the “machine or transformation” criteria; and (2) denies patentability to inventions that merely produce a “useful, concrete and tangible result.”\textsuperscript{102}

We recognize the wisdom of the Supreme Court justices in \textit{Bilski} who refused to draw a red line that would effectively restrict the issuance of patents for business method processes to those that could fit in the “machine or

\textsuperscript{94} Diehr, 450 U.S. at 175.
\textsuperscript{95} Id. at 192–93.
\textsuperscript{96} Id.
\textsuperscript{97} Chakrabarty, 447 U.S. at 305.
\textsuperscript{98} Id. at 309.
\textsuperscript{99} Bilski, 561 U.S. at 609-12.
\textsuperscript{100} Id. at 612.
\textsuperscript{101} Id.
\textsuperscript{102} Id. at 612-13.
transformation” criteria. Clearly, there are Information Age patents, mainly based on software configurations such as search engine software, that are not tied to a particular machine and do not transform something physical into a new state. We contend, however, that there are categories of business method patents that should be ineligible as patentable subject matter but would not foreclose Information Age innovation.

B. Patents that Overlap with Professions

In two fairly recent, significant BMP cases, intrusion into professions was at issue. In Comiskey the appellant appealed a decision of the Board of Patent Appeals and Interferences affirming the examiner’s rejection of his patent application. The Court of Appeals for the Federal Circuit rejected the appeal based on its determination that Comiskey was attempting to patent unpatentable subject matter. Claim 17 in the patent application No. 09/461,742 recites a “system for mandatory arbitration resolution regarding one or more unilateral documents.” Essentially, Comiskey was trying to patent an electronic version of a mandatory dispute resolution procedure, which included agreement to be bound to the decision of an arbitrator as well as a procedure for selecting the arbitrator. In addition to being non-patentable because the invention is obvious, the USPTO requested that the Federal Circuit rule on whether the appellant’s application claimed patentable subject matter under Section 101 of the Patent Act.

For the practice of law, composing mandatory arbitration procedures is a routine operating procedure, designed to resolve disputes without appearing before a court, which is generally much more expensive. The only innovation associated with the Comiskey patent application is that the procedure was electronic, or software based. Again, if this patent was issued, it would not expand the public domain but rather could create needless disputes between the patentee and lawyers practicing their profession. In its decision, the Federal Circuit indicated that Comiskey’s patent application fell into the category of “business method” patents. In discussing patentable subject matter, the Federal Circuit cited the Supreme Court as stating that the constitutional limitation on patentability “was written against the backdrop of the [English] practices—eventually curtailed by the Statute of Monopolies—

103. Amazon has contended that its search engine is powered by several software patents, including the famous “one-click” patent. Amazon.com v. BarnesandNoble.com, 239 F.3d 1343, 1357-59, (Fed. Cir. 2001).
104. In re Comiskey, 554 F.3d 967, 976 (Fed. Cir. 2009).
105. Id.
106. Id.
107. Id.
108. Id.
109. Id.
of the Crown in granting monopolies to court favorites in good or businesses which had long before been enjoyed by the public.”110 In other words, the danger of crony capitalism was still relevant in 2009.

The Federal Circuit noted that, in the sixteenth and seventeenth centuries the English Crown granted monopolies over entire types of business to specific individuals, for example the grant by James I to Darcy in 1600 of the exclusive right to manufacture or sell playing cards. “The purpose of such monopolies ‘was to enrich the King . . . as well as the grantee, at the expense of the community.’”111 Again, this is a variation on the theme of this paper, namely that granting monopolies is a manifestation of crony capitalism, except when the recipient invents something that expands the public domain by creating something that is “new and useful art.”112 In modern terms, a “useful art” is a process, and the 1952 Patent Act changed the word from “useful art” to the word “process.”113 Relying on the Supreme Court decisions, the Federal Circuit Court contended that abstract ideas are not patentable subject matter unless tied to a particular machine or transformed something physical.114 According to the Federal Circuit:

It is clear that the present statute does not allow patents to be issued on particular business systems—such as a particular type of arbitration—that depend entirely on the use of mental processes. In other words, the patent statute does not allow patents on particular systems that depend for their operation on human intelligence alone, a field of endeavor that both the framers and Congress intended to be beyond the reach of patentable subject matter.115

In short, an electronic procedure for doing what is common in a profession is not patentable subject matter.

Another significant business method patent case was reported in Bilski v. Kappos in 2010.116 The applicant in Bilski was trying to patent a method of hedging in the energy industry, which the Supreme Court ultimately held was an abstract idea and thus unpatentable subject matter.117 In reaching its conclusion that this method of hedging against the risk of price fluctuations was unpatentable, the U.S. Supreme Court held, consistent with prior rulings, an

111. In re Comiskey, 554 F.3d at 976 (quoting Peter Meinhardt, Inventions, Patents, and Monopoly 31 (2d ed. 1950)).
112. Id. at 977.
113. Id. at 980.
114. Id.
115. Id.
117. Id. at 611–12.
idea standing alone is not patentable.\textsuperscript{118} Patentable subject matter is an invention that is a process, machine, manufacture, or composition of matter according to Section 101 of the Patent Act. On the other hand, the Supreme Court rejected the "machine or transformation" test as the sole criteria as to whether a process is patentable.\textsuperscript{119} The Supreme Court explicitly validates the patentability of business methods.\textsuperscript{120} Under \textit{Bilski}, BMPs are valid so long as they are not simply an abstract idea, law of nature, or physical phenomena.\textsuperscript{121} The bottom line is that patents are reserved for inventions that expand the public domain and are not available to those who use their minds to create a great idea, solve an equation, or discover a law of nature.

In \textit{Bilski}, the Supreme Court does discuss and affirm a defense to a claim of patent infringement based on prior use as defined in Section 273(b)(1).\textsuperscript{122} Section 273 is based on a recent amendment to the Patent Act that was enacted to protect business owners who created business methods but chose not to apply for a patent. In effect, if a business owner chose to protect a business method through trade secret law, a subsequent patentee inventing the same business method could generate liability for the original inventor of the business method. On the other hand, a patent applicant of that method would not normally know of the prior use because it was protected by the requirements of trade secret law. In effect, allowing the prior use defense for business methods cancels out the public domain consequences.

\section{IV. THE LEARNED PROFESSION DEFENSE}

Increasingly, the boundary between professions and patents has been blurred and there is a need for clarification. Further, providing a conceptual barrier between transactions subject to professional codes of ethics and those eligible to be patented would provide guidance to professionals. We view the continued growth of professions, broadly defined, as not an accident.\textsuperscript{123} In terms of societal welfare, we contend that some business method patents more closely resemble some of the worst abuses of crony capitalism.

As will be discussed below, there are social welfare safeguards for transactions that are part of professions. To allow professions to be carved up

\begin{itemize}
\item \textsuperscript{118} \textit{Id.}
\item \textsuperscript{119} 35 U.S.C. § 101 (2012).
\item \textsuperscript{120} \textit{Bilski}, 561 U.S. at 594 (2010).
\item \textsuperscript{121} \textit{Id.} at 309.
\item \textsuperscript{122} \textit{Id.} at 607 (quoting 35 U.S.C. § 273 (2012)).
\item \textsuperscript{123} A recent article published by the Brookings Institute estimated that as much as thirty percent of the workforce in the United States is a member of some profession or professional group. Brad Hershein et al., \textit{Nearly 30 Percent of Workers in the U.S. Need a License to Perform Their Job: It Is Time to Examine Occupational Licensing Practices}, Jan. 27, 2015, http://www.brookings.edu/blogs/up-front/posts/2015/01/26-time-to-examine-occupational-licensing-practices-kearney-hershbein-boddy.  
\end{itemize}
by patent law inventors will: (1) raise the cost of doing business as a professional; and (2) not be offset by any redeeming merit. Business method patents that overlap with a profession seem to be on particularly shaky ground because there are safeguards provided by grants of authority from states to professions that make it easier to prosecute unethical business practices. Furthermore, codes of professional ethics that have created artificial and unwarranted barriers to competition have been recognized by authorities and largely curbed.\(^\text{124}\)

In order to adequately address the impact of business method patents on professionals, it is first necessary to understand what is meant by the term “profession.” Ultimately, we contend that being in a profession provides some safety for the public and thus patents should not be awarded to business method “inventions” that claim transactions traditionally associated with the practice of a profession. On the other hand, we are very cognizant that professional licensing requirements also are capable of manipulation that could harm the public, and there is a rich history of anti-competitive professional licensing requirements.\(^\text{125}\)

Although there is no universal agreement as to the definition of a profession, Kritzer makes a distinction between three different definitions of a profession: the lay, historical, and sociological.\(^\text{126}\) The lay definition is very broad and is generally used to make a distinction from an amateur; it is used to describe almost any means of livelihood as long as they are committed to a set of standards of performance.\(^\text{127}\) The historical definition focuses upon trained expertise and selection by merit.\(^\text{128}\) This view corresponds with the dictionary definition: Webster’s New World Dictionary defines a profession as a “vocation or occupation requiring advanced education and training, involving intellectual skills, as medicine, law, theology, engineering, teaching, width="468" height="718"")

124. Both the courts and law makers have been persuaded provisions within professional codes that are anti-competitive, such as lack of reciprocity and price-fixing, have been largely corrected and abolished. See, e.g., Goldfarb v. Virginia State Bar, 421 U.S. 773, 791 (1975). More recently in N.C. State Bd. of Dental Examiners v. F.T.C., the Fourth Circuit Court of Appeals noted that the Supreme Court found that rules of professional associations are sometimes anti-competitive. N.C. State Bd. Of Dental Examiners v. F.T.C., 717 F.3d 359, 374–75 (2015). Note that David Baumer was an expert witness in the Dental Examiners litigation.

125. Most of the worst abuses of professional licensing requirements involved price fixing, usually in the form of setting minimum prices, and lack of reciprocity with licensing boards from other states.


127. Id.

128. Id. at 716–17.
etc."¹²⁹ Neither of these two views establishes a precise enough definition for our purposes.

The sociological definition takes the perspective of the various stages of economic development. Pursuant to this view, societies become more complex over time, and this social evolution is the adaptive upgrading of the social system to its environment.¹³⁰ Society is held together via the generalized acceptance of particular values. Within society, professions occupy a key position; they are the major bearers and transmitters of rational values and also of new technological knowledge which propels the economy forward.¹³¹ Thus, it is argued that the emergence of professional occupational groups is a defining feature of modern society.¹³² Given the importance of professions in leading society and its evolutionary development, protection of their ability to practice their skills should be paramount.

Sociologists enumerate various attributes in their attempt to define what it means to be a profession. A summary of several attributes posited by numerous authors is contained in the chart below:

<table>
<thead>
<tr>
<th>Kritzer¹³³</th>
<th>Millerson¹³⁴</th>
<th>Barber¹³⁵</th>
<th>Goode¹³⁶</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application of abstract knowledge</td>
<td>Skills based on theoretical knowledge</td>
<td>High degree of generalized and systematic knowledge</td>
<td>Selection of students reproduce the profession</td>
</tr>
<tr>
<td>Education and training</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Competence ensured by examinations</td>
<td></td>
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</tbody>
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¹²⁹. WEBSTER’S NEW WORLD DICTIONARY: SECOND COLLEGE EDITION (2d ed. 1979); see also BRIAN P. WEST, PROFESSIONALISM AND ACCOUNTING RULES (2003).

¹³⁰. TALCOTT PARSONS, ESSAYS IN SOCIOLOGICAL THEORY 34–35 (Rev. ed. 1954).

¹³¹. Id.

¹³². Id.

¹³³. Kritzer, supra note 126, at 717.


Summarizing the most significant features above, a profession can be understood as a recognized community that 1) possesses and applies a particular type of knowledge; 2) is learned via a process of education and training; and that community creates a code of conduct that espouses common values in order to provide service that benefits the common good. Additionally, in many professions, there is a fiduciary relationship between professionals and their clients, which assumes that professionals will place interests of clients above their own, unlike most third party transactions in which, within limits, each party is not required to look out for the interests of the other party. Ethical codes are glue that bind the five features of a profession together with a fiduciary relationship between individual professionals and their clients.

Abbott’s understanding of a profession is that of an “exclusive occupational group[ ] applying somewhat abstract knowledge to particular cases.” Combining these characteristics with their abstract knowledge-based expertise has enabled professions to generally assert claims of independence that other occupational groups have been generally

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<table>
<thead>
<tr>
<th></th>
<th>Code of conduct</th>
<th>Code of ethics</th>
<th>sharing common values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altruism</td>
<td>Service for the common good</td>
<td>Primary orientation to the community</td>
<td>Clear social limits established</td>
</tr>
<tr>
<td>Recognized exclusivity</td>
<td>Professional activity that organizes members</td>
<td>Community has power over its members</td>
<td>Feeling of identity</td>
</tr>
<tr>
<td></td>
<td>System of rewards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autonomy via peer-review and clients</td>
<td></td>
<td>Common language</td>
<td>Terminal status</td>
</tr>
<tr>
<td></td>
<td>Role defined by member and nonmembers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

137. Some go further, noting that the definition of a profession is based on two primary factors: a prolonged specialized training in a body of abstract knowledge, and a collectivity or service orientation.

The Learned Profession Defense

unsuccessful at advancing. As a result, professions "enjoy largely unchallenged authority in connection with the technical aspects of the services they deliver . . . ." Professions are characterized by an elevated occupational authority, typically involving an exclusive and state-sponsored mandate to provide certain services and define the nature of those services . . . ." Combining these norms with the organizational system leaves us with a largely autonomous, self-regulating, and self-perpetuating association institution, within which altruistic members are filled with a desire to work for the common good in the most effective way; no external control is required. Additionally, professions are connected to a reward system of society, sometimes making them highly rewarded, materially as well as with status and prestige.

These attributes of a profession create a spectrum of professionalism, in which the extent to which it is present in different forms of occupational performance can be measured. Thus, the definition of "profession" is malleable, and as a community that possesses a greater number and magnitude of attributes, they become more "professional." All occupational behavior has some degree of knowledge as one of its attributes. The "learned professions" signify that a high degree of generalized and systematic knowledge became one of the commonly used defining characteristics of professional behavior. By contrast, it is this critical attribute of professions that BMP patents cordon off and limit the ability of professionals to share and utilize their collective body of knowledge.

In fact, Congress has already intervened in the medical services sector and declared that patent infringement lawsuits against medical practitioners

140. West, supra note 129, at 129.
141. Id. at 64.
142. Brante, Sociological Approaches to the Professions, 31 Acta Sociologica 119, 122 (1988). Certainly there have been instances in which professions favor expansion of their domain at the expense of the public. At one time, price fixing, which is illegal under Section 1 of the Sherman Act, among members of the bar was common.
143. Id. at 123.
144. Barber, supra note 135, at 673.
145. Id. at 672.
146. Scientific professionals are noted to have their own specific norm system—CUDOs: Communism, Universalism, Disinterestedness, and Organized Skepticism. See Robert K. Merton, The Institutional Imperatives of Science, in Sociology of Science: Selective Readings (Barry Barnes ed., 1972). Communism is especially important as it denotes the concept of no private ownership existing in scientific communities as scientific results are common goods.
for practicing their profession are unenforceable. Historically, patents on medical procedures were rarely granted or enforced in the United States. However, by 1996 as many as fifteen medical procedures were patented every week. This resulted in the leaders of the medical profession successfully approaching Congress to restrict enforcement of patents on medical procedures, on the basis that they threatened innovation.

The response of the medical profession may serve as a good predictor of the reaction of other professions that are newcomers to the patent system. Whether business and other professionals will, like physicians, possess the wherewithal to persuade Congress to create particularized patent-free spheres of activity remains to be seen. Few occupations are as well-organized, imbued with a sense of profession and capable of employing the rhetoric of public service as the practice of medicine.

The approach taken by the Physicians’ Immunity Statute in 1996 was intended to shrink liability by barring patent holders from obtaining damages or injunctions against medical practitioners for infringing patents on medical procedures. But this approach has several notable limitations. First, it raises questions regarding compliance with the Agreement on Trade Related Aspects of Intellectual Property (TRIPS). Second, the statute has a narrow reach, due to its: (1) failure to protect processes if they also involve patented drugs, devices, or products; and (2) prospective nature, covering only patents issued after the date of enactment. Finally, determination of the application of the immunity provision is a question of fact that often cannot be resolved on summary judgment; thus, it does not protect the practitioner from all of the costs associated with preparing a full defense. The aforementioned limitations associated with the Physicians Immunity Statute support an alternative to the limited liability approach in order to adequately protect professionals.

There should be another defense when a business method patent interferes with professional practices, especially the practice of accounting. If the “invention” does not expand the public domain but instead overlaps with the

150. Sabra Chartrand, Why is This Surgeon Suing?, N.Y. TIMES, June 8, 1995, at D1.
151. Thomas, supra note 1, at 1177.
practices of an existing profession, the rationale for issuing such patents evaporates. We are proposing a “Learned Profession” defense for claims of patentees that intrude on professional practices. Such a defense is consistent with the defense available to medical providers who are sued by a patentee who claims that the practice of medicine violates his or her patent. The fact that many of these BMPs that carve out professional practices are electronic should not matter.

Being in a profession can be considered as having a “license to experiment”—and the post-State Street trend in business method patents runs counter to this notion. There should be a clear delineation between development of intellectual skills known by those in a profession and inventions of a new process, machine, manufacture, or composition of matter. Professional development of intellectual skills and mental steps is an ordinary part of being a professional—not an invention that qualifies as patentable subject matter. The recent attempts to patent various business methods that overlap with professions are just another form of crony capitalism. When professionals are threatened in their professional practices by patentees who possess business method patents, the cost of doing business goes up and the public domain shrinks rather than expanding.

V. CONCLUSION

We believe that the rationale for the Statute of Monopolies is still viable and directly relates to business method patents in the twenty-first century. We contend that any process that overlaps standard practices of professions should not qualify as a patentable process because there is no expansion of the public domain. Such patents are simply an appropriation of material that is part of a professional practice, in effect a zero sum contest between alleged inventors and professionals, but probably a negative sum contest once transactions and litigation costs are calculated. In general, professions are licensed and reserved by government, often state governments, to those that meet minimum standards in terms of education, training, and adherence to professional ethics or codes. Professions are self-regulated in the sense that they establish their own standards for minimum education and training and reserve the right to take away licenses from practitioners who prove to be untrustworthy or unethical in the eyes of fellow professionals. The authors contend that there is a fundamental distinction between a patentable invention and professional innovation. Where a patent lays claim to transactions traditionally associated with the practice of a profession, there is no net increase in the public domain, but it is another manifestation of the use of government to create barriers to entry, or crony capitalism.