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### *The Patent Controversy in the Nineteenth Century\**

THE patent system has lately been subjected to investigations by committees of Congress, and reforms have been proposed to meet some of the most serious criticisms. In recent publications commenting on these discussions it has been suggested that opposition to the patent system is a new development. A writer of a "history of the patent monopoly" asserted that "there never has been, until the present time, any criticism of this type of exclusive privilege,"<sup>1</sup> and he attributed the allegedly new attitude to "modern witch-hunters," "hungry aspirants to public office," and, by innuendo, to enemies of all private property.<sup>2</sup>

In actual fact, the controversy about the patent of invention is very old, and the chief opponents of the system have been among the chief proponents of free enterprise. Measured by number of publications and by its political repercussions — chiefly in England, France, Germany, Holland, and Switzerland — the controversy was at its height between 1850 and 1875. The opposition demanded not merely reform but abolition of the patent system. And for a few years it looked as if the abolitionist movement was going to be victorious.<sup>3</sup>

The patent controversy, as most seesaw battles, attracted at the time the widest public interest; frequent reports appeared in the daily press and in weekly magazines. That the whole story was later forgotten and now seems to be unknown even to experts in this field is probably due to

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<sup>1</sup> Harold G. Fox, *Monopolies and Patents: A Study of the History and Future of the Patent Monopoly* (Toronto: University of Toronto Press, 1947), p. 178.

<sup>2</sup> *Ibid.*, pp. 200, 204, 206.

<sup>3</sup> "It is probable enough that the patent laws will be abolished ere long . . ."—*The Economist*, June 5, 1869, p. 656.

the absence of any modern historical accounts of the debates that were carried on in the nineteenth century. It is the purpose of this article to give a systematic account of that patent controversy and to show that, despite all the changes in the economic scene, our thinking on the subject has hardly changed over the century.

## I

For a better understanding of "learned opinion" current at the outset of this controversy, it is advisable first to present a brief survey of the growth and spread of the patent system before 1850 and of its fortunes in the half century that followed.

### *The Growth of the Patent System Until 1850*

Most writers on the origins of the patent system discuss almost exclusively the development of the use of patent grants in England under Elizabeth and James I. During this period the Crown's policy of granting privileges of monopoly under the royal prerogative culminated in the Statute of Monopolies of 1623, and the patent system reached a formal development there that it failed to do elsewhere until much later. This emphasis is correct up to a point. The Statute of Monopolies did provide the first patent law of a modern nation, and it grew directly out of the system of royal privileges.

But a rather well-developed patent system had existed in Venice in the fifteenth century, and the practice of granting monopoly privileges to inventors was widely followed in many parts of western and central Europe in the sixteenth and seventeenth centuries. Almost everywhere in Europe privileges were granted to inventors or, more correctly, to innovating craftsmen and enterprisers. They were merely one species in the large genus of privileges, charters, franchises, licenses, and regulations issued by the Crown or by local governments within the mercantilist framework. Thus, apart from its expression in statute form, the patent system is not chiefly an English creation. It was developing simultaneously in several countries at about the same time, though not at the same rate. If the Statute of Monopolies has been called the Magna Charta of the rights of inventors, it is not because it originated patent protection for inventors but chiefly because it laid down the principle that only a "true and first inventor" should be granted a monopoly patent.

By the end of the eighteenth century three of the important coun-

tries of the world had statutory patent systems. In France the Constitutional Assembly had passed a patent law in 1791. In the United States of America Congress had passed the first patent law in 1793. Inventors could obtain as a matter of right — merely *de facto* in England but *de jure* in France and the United States — patent protection from competition in the exploitation of their inventions. During the next half century the patent system, in the sense of a system of inventor's protection regulated by statutory law, spread to other countries. Patent laws were enacted in Austria in 1810, Russia in 1812, Prussia in 1815, Belgium and the Netherlands in 1817, Spain in 1820, Bavaria in 1825, Sardinia in 1826, the Vatican State in 1833, Sweden in 1834, Württemberg in 1836, Portugal in 1837, and Saxonia in 1843.

### *The Rise of the Antipatent Movement*

For two hundred years after the enactment of the Statute of Monopolies in England the patent law had not been brought up for consideration or amendment in the Parliament.<sup>4</sup> It was around 1827 that the subject of patent reform first began to claim the attention of the legislature, chiefly because of complaints that the procedure for obtaining a patent was expensive, clumsy, and uncertain. Various groups were formed to obtain a law more favorable to inventors, and considerable agitation was carried on in Parliament and in the press. This provoked a counterattack, not from those who favored the existing law, but from those who wished to see the patent system abolished entirely. In the latter camp were the influential London *Economist*, the Vice-President of the Board of Trade, some outstanding inventors of the time, members of Parliament, and representatives of manufacturing districts such as Manchester and Liverpool.

Select committees of Parliament and royal commissions investigated the operation of the patent system in 1851–1852, in 1862–1865, and again in 1869–1872. Some of the testimony before these commissions was so damaging to the repute of the patent system that leading statesmen in the two houses of Parliament proposed the complete abolition of patent protection.<sup>5</sup> A patent-reform bill, drafted on the basis of the 1872 com-

<sup>4</sup> E. Wyndham Hulme, "The History of the Patent System under the Prerogative and at Common Law," *Law Quarterly Review*, XII (1896), 141.

<sup>5</sup> An American writer in the *Revue de droit international et de législation comparée*, I (1869), 311, had the impression that "l'Angleterre paraît s'acheminer vers une abolition complète de ce système." He added that the United States would never permit itself to fall behind other nations "in a matter of liberty"; if other countries should take the lead in the abolition of patent protection, the United States would surely follow suit.

mission's report, provided for a reduction of patent protection to seven years, strictest examination of patent applications, forfeit of patents not worked after two years, and compulsory licensing of all patents. The bill was passed by the House of Lords.

In Germany a strong movement against the patent of invention began as a reaction not only to demands on the part of patent advocates for a strengthening of patent protection in the individual German states,<sup>6</sup> but also to demands for the adoption of uniform patent legislation for all member states of the German Zollverein.<sup>7</sup> In the attacks on patent protectionism, free-trade arguments were used more than they were in England, and economists were almost unanimous in the condemnation of the system.<sup>8</sup> Trade associations and chambers of commerce submitted reports recommending reform or abolition of the patent laws. The debate was carried on in books, pamphlets, journals, and in the daily press; in various societies of lawyers, engineers, and economists; and in the legislatures. Engineers, inventors, and would-be inventors, industrialists with a vested interest in patents, patent lawyers, and others who felt they stood to profit from the patent laws were wholehearted advocates of the system. They were opposed by commercial interests, by industrialists and inventors who felt their activities directly restricted, and by economists.

After several years of public discussion, the government of Prussia decided to oppose the adoption of a patent law by the North German Federation, and in December 1868 Chancellor Bismarck announced his objections to the principle of patent protection.

Switzerland was the only industrial country in Europe that had failed to adopt a patent system at this time. Several petitions to the

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<sup>6</sup> In 1850 the Berliner Polytechnische Gesellschaft submitted a draft for a patent law giving inventors rights they had not before enjoyed, especially by making the patent grant mandatory rather than discretionary for the government. See A. Pilenko, *Das Recht des Erfinders* (Berlin: Heymann, 1907), p. 96.

<sup>7</sup> John Prince-Smith, "Ueber Patente für Erfindungen," *Vierteljahrsschrift für Volkswirtschaft und Kulturgeschichte*, Erster Jahrgang (1863), III, 150. Also Herman Grothe, *Das Patentgesetz für das Deutsche Reich* (Berlin, 1877), p. 7.

<sup>8</sup> At the annual meeting of the Kongress deutscher Volkswirthe held in Dresden, September 1863, the following resolution was adopted "by an overwhelming majority": "Considering that patents hinder rather than further the progress of invention; that they hamper the prompt general utilization of useful inventions; that on balance they cause more harm than benefit to the inventors themselves and, thus, are a highly deceptive form of compensation; the Congress of German Economists resolves: that patents of invention are injurious to common welfare."—Translated from "Bericht über die Verhandlungen des sechsten Kongresses deutscher Volkswirthe zu Dresden am 14., 15., 16. und 17. September," *Vierteljahrsschrift für Volkswirtschaft und Kulturgeschichte*, Erster Jahrgang (1863), III, 221.

government urging the institution of a patent system had been rejected. On the basis of a statement issued by faculty members of the Zurich Institute of Technology,<sup>9</sup> the government continued to refute arguments of engineers who urged the adoption of a patent system. Having rejected previous proposals in 1849, 1851, 1854, and early in 1863, the legislature in December 1863 renewed its opposition to the patent system with a reference to the fact that "political economists of greatest competence" had declared that the principle of patent protection was "pernicious and indefensible" (*verderblich und verwerflich*).<sup>10</sup>

In Holland the antipatent movement was even more than elsewhere linked with the free-trade movement.<sup>11</sup> This does not mean that the controversy was mainly one of ideologies. As a matter of fact, the chief issues centered around the workability of the patent laws and the difficulties of reforming them in a way satisfactory to the parties concerned.<sup>12</sup> The debate ended with a victory for the abolitionists: in July 1869 the patent law was repealed.

### *The Victory of the Patent Advocates*

At the end of the 1860's the cause of patent protection seemed completely lost. But the success of the antipatent movement in Europe was not lasting. The advocates of the patent system organized a mighty counteroffensive. The techniques of propaganda employed in the years between 1867 and 1877 were quite remarkable for the time. New societies for patent protection were formed, resolutions were drafted and distributed to the daily press, speakers were delegated to professional and trade association meetings, floods of pamphlets and leaflets were released, articles were planted in trade journals and reproduced in daily papers, public competitions were announced with prizes for the best papers in defense of the patent system, petitions were submitted

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<sup>9</sup> Bolley and Kronauer, *Gutachten über den Einfluss des Mangels eines Patentgesetzes auf die schweizerische Industrie* (Zurich, 1862). The authors were professors of chemical and mechanical technology, respectively.

<sup>10</sup> *Offizielles Bundesblatt*, Jahrgang (1864), II, 510-11.

<sup>11</sup> At the International Congress for Tariff Reform in Brussels, 1856, Professor Akersdyck of the University of Utrecht stated that after abolishing the barriers to free trade one should now turn to removing the fetters by which the patents have shackled the freedom of labor. Cf. G. Rolin-Jacquemyns, "De quelques manifestations récentes de l'opinion publique en Europe au sujet des brevets d'invention," *Revue de droit international et de législation comparée*, I (1869), 605.

<sup>12</sup> Mr. Godefroi, leading member of the Liberal party, stated during the debate in the Dutch Parliament: "I am thoroughly persuaded that a good law of patents is an impossibility."—Quoted in the *British House of Commons Sessional Papers*, LXI, doc. 41 (February 16, 1870).

to governments and legislatures, international meetings were arranged, and compromises were made with groups inclined to endorse liberal patent reforms.<sup>13</sup>

It is not contended here that propaganda alone succeeded in turning the tide. Several explanations of the rather sudden disappearance of the antipatent movement after 1873 have been offered, but the best is found in the simultaneous weakening of the free-trade movement in Europe in consequence of the severe depression in these years. The idea of patent protection regained its public appeal when, after the crisis of 1873, protectionists won out over the free traders.<sup>14</sup>

Whatever the reasons for the silencing of the opposition to strong patent protection, the reversal of opinion is clearly evidenced by the actions of the legislatures in the various countries. In England the Patent Bill of 1874, which had been passed by the House of Lords, was withdrawn in the House of Commons. In Germany a uniform patent law for the entire Reich was adopted in 1877. Switzerland, more conservative than most other European countries, held out longer against the pressures of the patent advocates. In a referendum in 1882 the constitutional amendment required for the adoption of patent legislation was rejected, though only by a small majority.<sup>15</sup> The people yielded eventually after strong external pressures had attached to the lack of a patent system the stigma of "piracy" and threatened the pirate nation with discrimination in commercial policy. A new referendum, in 1887, enabled the legislature to pass a patent law.<sup>16</sup> Holland was the last bastion of "free trade in inventions": for forty-two years after 1869 no patents were granted. Only in 1910 was a new patent law adopted, which came into force in 1912.<sup>17</sup>

## II

In the course of the patent controversy on the political scene, economists began to turn their special attention to the economic effects of

<sup>13</sup> See Grothe, *Das Patentgesetz*, pp. 7-49; Pilenko, *Das Recht des Erfinders*, pp. 96 ff.; and others.

<sup>14</sup> Representative Ackermann, opening the debate on the patent bill in the German *Reichstag* on March 2, 1877, stated that "thanks to the bad crisis" public opinion had turned away from "the pernicious theory of the dominating school" teaching the "principles of free competition and free trade."—Grothe, *Das Patentgesetz*, p. 52.

<sup>15</sup> *Botschaft des Bundesrathes an die Bundesversammlung betreffend Forderung der Landwirtschaft, Industrie und Gewerbe, und Schutz des gewerblichen Eigenthums*, June 1, 1886, p. 5.

<sup>16</sup> E. Guyer, *Einführung in das Schweizerische Erfindungsrecht* (Zurich: Fachschriften-Verlag, 1916), p. 14.

<sup>17</sup> W. Moorrees, *Het Octrooirecht* (Sgravenhage: Mouton, 1912), I, 313, 359.

patent protection. This does not mean that economists before 1850 had been silent on this subject. Some of them had given their views in their general discussions of monopolies, governmental policy, and competition.

### *Early Economic Opinion*

Before the 1850's the voices of economists were far more often approving than critical of the patent system. This is particularly true of England, where the classical writers accepted the traditional philosophy expressed in the Statute of Monopolies of 1623: the temporary monopolies in the exploitation of innovations should be exempt from the general proscription of monopoly because of their special character and function. Jeremy Bentham went so far as to say that the exclusive privilege given to inventors "has nothing in common with monopolies which are so justly decried."<sup>18</sup> Although Adam Smith found that monopolies in trade "deranged more or less the natural distribution of the stock of society," which was "necessarily hurtful to the society in which it takes place,"<sup>19</sup> he argued that a temporary monopoly granted to the inventor of a new machine could be justified as a means of rewarding risk and expense.<sup>20</sup> John Stuart Mill stated categorically that "the condemnation of monopolies ought not to extend to patents . . .," and he explained why he thought so.<sup>21</sup>

The German cameralists had reservations, if not objections. Johann Heinrich von Justi, writing earlier than Smith and Bentham, opposed the granting of patents. He was convinced that it was important to reward inventors and thereby to encourage new ventures, but not through "monopolies and similar privileges"; to reward inventions "by privileges leading to monopoly positions cannot . . . be regarded as beneficial to the welfare of the country . . ." <sup>22</sup> Ludwig Heinrich Jakob approved of patents only for inventions that had been particularly expensive and "could not just as easily have been made by others"; patents for "accidental inventions" and "insignificant artifices" could

<sup>18</sup> Jeremy Bentham, "Observation on Parts of the Declaration of Rights, as Proposed by Citizen Sieyes." First published in French, republished from the English MS. in *The Works of Jeremy Bentham*, ed. John Bowring (Edinburgh, 1843), II, 533.

<sup>19</sup> Adam Smith, *Wealth of Nations* ("World's Classics"; London: Oxford University Press, 1928), Bk. IV, chap. vii, Part III, 244 (first published, 1776).

<sup>20</sup> *Ibid.*, Bk. V, chap. i, Part III, 388.

<sup>21</sup> John Stuart Mill, *Principles of Political Economy*, ed. W. J. Ashley (London: Longmans, Green & Co., 1909), Bk. V, chap. x, 932 (first published, 1848).

<sup>22</sup> Johann Heinrich Gottlobs von Justi, *Staatwirthschaft oder systematische Abhandlung aller oekonomischen und Cameral-Wissenschaften, die zur Regierung eines Landes erfordert werden* (2d ed.; Leipzig, 1758), I, 209; II, 613.

easily paralyze the industry of others and, therefore, would be iniquitous.<sup>23</sup> Johann Friedrich Lotz wrote that it might be “fair and economically advantageous for a nation to compensate the inventor . . . for the efforts and possibly considerable expenses” but that it was “very questionable whether monopolization of his invention is the right kind of compensation.”<sup>24</sup> Karl Heinrich Rau, on the other hand, found that, though “some important inventions are made by accident,” many inventions were the result of great effort and that one “would not make such sacrifices if he could not hope for a period of protection from encroachment by competitors in the use of his invention.”<sup>25</sup>

In France, Jean Baptiste Say agreed with the English classical writers. “Who could reasonably complain about a merely apparent privilege?”, he asked. “It neither harms nor hinders any branch of industry that was previously known. The costs are paid only by those who do not mind paying them; their wants . . . are not less fully satisfied than before.”<sup>26</sup> Simonde de Sismondi, the dissenter, dissented on this issue as on most others. In his view,

the result of the privilege granted to an inventor is to give him a monopoly position in the market against the other producers in the country. As a consequence the consumers benefit very little from the invention, the inventor gains much, the other producers lose, and their workers fall into misery.

He wanted “all inventions immediately made known and immediately subjected to imitation by all the competitors of the inventor.” If the zeal of inventors should thereby be cooled, this would be a most welcome result, in Sismondi’s opinion.<sup>27</sup> On the other extreme, there was in France a large literature urging perpetual rights in intellectual products, assignable and hereditary forever. Against the claims for such *majorats* in ideas Proudhon wrote a satiric pamphlet.<sup>28</sup> But he did not object to temporary protection, for he regarded the striving toward temporary monopolies in industry as the most effective stimulus of progress. Indeed, without the possibility of monopoly, society could not progress.

<sup>23</sup> Ludwig Heinrich Jakob, *Grundsätze der Polizeigesetzgebung und der Polizeianstalten* (2d ed.; Halle, 1837), p. 375 (first published, 1809).

<sup>24</sup> Johann Friedrich Eusebius Lotz, *Handbuch der Staatswirthschaftslehre* (Erlangen, 1822), II, 118.

<sup>25</sup> Karl Heinrich Rau, *Grundsätze der Volkswirtschaftspolitik, Lehrbuch der politischen Oekonomie* (3d ed.; Heidelberg, 1844), II, 362.

<sup>26</sup> Jean Baptiste Say, *Traité d'économie politique* (1st ed.; Paris, 1803), p. 263. This passage does not appear in some later editions.

<sup>27</sup> J.-C.-L. Simonde de Sismondi, *Nouveaux principes d'économie politique ou de la richesse dans ses rapport avec la population* (2d ed.; Paris, 1827), II, 334–35.

<sup>28</sup> Pierre-Joseph Proudhon, *Les Majorats littéraires* (“Complete Works”; Paris, 1868), Vol. XVI.

Thus, he found that the grant of temporary monopolies to inventors was a "necessity" in our society.<sup>29</sup> The most prolific advocate of perpetual patent protection was the Belgian, J.-B.-A.-M. Jobard, who between 1829 and 1852 published no less than forty-eight books, ranging from brief pamphlets to five-hundred-page tomes, on the same subject. The *idée fixe* which possessed him was that everyone had a permanent and inalienable natural right to the sole disposal of himself and his work. For this right he coined the term "monautopoly," meaning a monopoly of oneself. Competition, to him, was the cause of poverty—one of his mottoes was, "Ne laissez pas tous faire, ne laissez pas tout passer"—and tariffs and patents, both institutions for the restriction of competition, were the two most important factors in progress.<sup>30</sup> This issue, tariff and patent protectionism versus free trade, external and internal, was joined by most economists of the 1860's and 1870's. Among French economists, Michel Chevalier was probably the most emphatic in the joint antagonism to tariffs and patents, declaring that both "stem from the same doctrine and result in the same abuses."<sup>31</sup>

The strength in nineteenth-century Europe of the movements against privilege and monopoly and for free international trade was such that the ideological linking of patent protectionism with tariff protectionism and of patent monopoly with monopoly privileges in general tended to help the opponents and to weaken the defenders of the patent system. It was strategically essential for the latter to separate as far as possible the idea of patent protection from the monopoly issue and from the free-trade issue.<sup>32</sup> This was attempted by presenting the case of patent protection as one of natural law and private property, of man's right to live by his work and society's duty to secure him his fair share, and of society's interest in achieving swift industrial progress at the smallest possible cost. The arguments for patents, formulated in these terms and opposed and defended during the controversy of the nineteenth century, are still used today whenever the patent system is debated. Indeed,

<sup>29</sup> Pierre-Joseph Proudhon, *Système des contradictions économiques ou la philosophie de la misère* (2d ed.; Paris, 1850), I, 235-42 (first published, 1846).

<sup>30</sup> J.-B.-A.-M. Jobard, *Nouvelle économie sociale ou monautopole industriel, artistique, commercial et littéraire* (Paris, 1844), pp. 5, 130, 239, et passim.

<sup>31</sup> Michel Chevalier, *Les Brevets d'inventions dans leur relations au principe de la liberté de travail et de l'égalité* (Paris, 1878), p. 38.

<sup>32</sup> Most authoritative support came from John Stuart Mill: "I have seen with real alarm several recent attempts, in quarters carrying some authority, to impugn the principle of patents altogether; attempts which, if practically successful, would enthrone free stealing under the prostituted name of free trade, and make the men of brains, still more than at present, the needy retainers and dependents of the men of money-bags."—Mill, *Principles of Political Economy*, p. 932.

little, if anything, has been said for or against the patent system in the twentieth century that was not said equally well in the nineteenth.

### *The Four Main Arguments*

It is possible to distinguish four fundamentally different lines of argument to justify the creation of patent rights, each of which starts from a different point but arrives at the same conclusion. The four kinds of argument are thrown together by most supporters of the patent system and presented without regard to consistency. Nearly every assumption, every assertion of fact, and every inference has been vigorously challenged by opponents of the system.

**Argument Type One:** A man has a natural property right in his own ideas. Their appropriation by others must be condemned as stealing. Society is morally obligated to recognize and protect this property right. Property is in essence exclusive. Hence enforcement of exclusivity in the use of a patented invention is the only appropriate way for society to recognize this property right.

**Argument Type Two:** Justice requires that a man receive, and therefore that society secure to him, reward for his services in proportion as these services are useful to society. Inventors render useful services. The most appropriate way to secure to inventors rewards commensurate with their services is by means of exclusive patent rights in their inventions.

**Argument Type Three:** Industrial progress is desirable to society. Inventions and their exploitation are necessary to secure industrial progress. Neither invention nor exploitation of invention will be obtained to any adequate extent unless inventors and capitalists have hopes that successful ventures will yield profits which make it worth their while to make their efforts and risk their money. The simplest, cheapest, and most effective way for society to hold out these incentives is to grant exclusive patent rights in inventions.

**Argument Type Four:** Industrial progress is desirable to society. To secure it at a sustained rate it is necessary that new inventions become generally known as parts of the technology of society. In the absence of protection against immediate imitation of novel technological ideas, an inventor will keep his invention secret. The secret will die with him, and society will thereby lose the new art. Hence it is in the interest of society to induce the inventor to disclose his secret for the use of future generations. This can best be done by granting exclusive patent rights to the inventor in return for public disclosure of his invention.

The four types of argument are independent of one another. Any one of them may be upheld if the other three should be rejected. The first two are based on ethical norms, the last two on political expediency. The first is anchored in conceptions of natural law, giving the inventor a natural right to protection; the second calls for protection in the name of fairness to secure the inventor his just reward. The third, resting on the assumption that not enough inventions would be made and utilized without adequate inducements, recommends patent protection as the best inducement. The fourth, fearing the loss of inventions through secrecy, recommends patent protection as a means of inducing disclosure and publicity. In the following, all four types of argument are in turn discussed, chiefly in the words of writers who participated, as defenders or opponents, in the controversy of the nineteenth century.

### *The Natural Property Right in Ideas*

That a man has a "natural" property right in his own ideas was a principle solemnly adopted by the French Constitutional Assembly in 1791. In the preamble of the patent law passed in that year it was stated that every novel idea whose realization or development can become useful to society belongs primarily to him who conceived it, and that it would be a violation of the rights of man in their very essence if an industrial invention were not regarded as the property of its creator.<sup>33</sup>

The notion of private property of ideas challenged the ingenuity of lawyers and philosophers, especially when many writers insisted that intellectual property was not different in logical nature from material property,<sup>34</sup> and others went as far as to say that a man's property in his ideas was more sacred than his property in things material.<sup>35</sup>

<sup>33</sup> Law of January 7, 1791, in Anton Schuller, *Handbuch der Gesetze über ausschliessende Privilegien auf neue Erfindungen, Entdeckungen und Verbesserungen im Gebiete der Industrie* (Vienna, 1843).

<sup>34</sup> "There are still today, even among the clearest thinkers, some who do not see and do not comprehend property unless it is right before their eyes in the material form of a piece of land or a house."—Etienne Blanc, "Introduction," in E. Blanc and A. Beaume, *Code général de la propriété industrielle, littéraire et artistique* (Paris, 1854). A large number of French economists, including Frederic Passy, V. Modeste, J. Simon, and Joseph Garnier, refused to admit a logical difference between property in things material and in ideas. A Belgian writer put this thesis right into the title of his article. See C. Le Hardy de Beaulieu, "La Propriété des inventions est un propriété comme une autre," *Journal des économistes*, XII (3d Ser.) (1868), 251-59.

<sup>35</sup> This was one of the main arguments Stanislas de Bouffler used in presenting the patent bill to the Constitutional Assembly in December 1790: "If there is for man any genuine property it is thought, . . . and the tree which grows on a field does not so incontrovertibly belong to the owner of the field as the idea which springs from a man's mind belongs to its author. Invention, the source of the arts, is also the source of property: it is primary property, while all other property is merely conventional . . ."—Augustin-Charles Renouard, *Traité des brevets*

The concepts of "property"<sup>36</sup> and of "intellectual product"<sup>37</sup> were carefully analyzed by lawyers, philosophers, and economists. Everyone was willing to concede that a man of course has exclusive control of his new idea before he communicates it to others; but, once he shares it with others, exclusive control is obviously gone; when others are also in possession of the idea, nothing can be done to accomplish "restitution." To restrain others from selling products that embody the same idea is obviously a possible use of state power but has nothing to do with "natural property rights." This was made absolutely clear by numerous lawyers<sup>38</sup> and economists.<sup>39</sup> They pointed out that the logical elements of the concept of property as applied to material things—occupation, possession, control, appropriation, restitution, and so forth—were largely inapplicable to "ideas" or "creations of the intellect."<sup>40</sup> In contrast to property in material things, explained the German economist, Schäffle, so-called intellectual property is neither control of a thing nor of an idea but rather "control of a market" for things embodying an idea.<sup>41</sup>

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*d'invention* (3d ed.; Paris, 1865), pp. 89–90 (first published, 1825). Among British economists who accepted this doctrine were Macleod and McCulloch: "Just as the mind of man is admitted to be of a much higher nature than his body, so is the service rendered to his mind of a much higher nature than one rendered to his body. Hence, ideas are much loftier species of property than material wealth."—Henry Dunning Macleod, *The Elements of Political Economy* (London, 1858), p. 181. "Of all the species of property a man can possess, the fruits of his mental labours seem to be most peculiarly his own."—J. R. McCulloch, "Book, Books," *A Dictionary, Practical, Theoretical and Historical, of Commerce and Commercial Navigation* (2d ed.; London, 1836), p. 139.

<sup>36</sup> See, for example, F. Charles L. Comte, *Traité de la propriété* (Paris, 1834), II, 28 ff. The concept of property and the possibility or impossibility of its application to purely intellectual products had been previously examined by Kant and other philosophers in connection with the controversy about "literary property."

<sup>37</sup> See, for example, Proudhon, *Les Majorats littéraires*, chap. i.

<sup>38</sup> For example, A. Krauss, *Geist der österreichischen Gesetzgebung zur Aufmunterung der Erfindungen* (Vienna, 1838), pp. 7–20; and Thomas Webster, "Patent Law" (an abstract of proceedings), *Transactions of the National Association for the Promotion of Social Science*, 1862 (London, 1863), p. 885.

<sup>39</sup> The French economist, Coquelin, for example, speaks of "that strange confusion of thought which puts on the same level an invention . . . the peculiar characteristic of which is that it can be disseminated through many minds and can be exploited in a hundred different places at the same time—with a material object, necessarily circumscribed, which, because it cannot be divided, can only be possessed by one man and which cannot be usefully exploited except where it is . . ."—Charles Coquelin, "Brevets d'invention," *Dictionnaire de l'économie politique* (Paris, 1873), p. 217.

<sup>40</sup> "Property in ideas, once published, is an insoluble contradiction." He who complains about the "theft" of his idea "complains that something has been stolen which he still possesses, and he wants back something which, if given to him a thousand times, would add nothing to his possession."—Hermann Rentzsch, "Geistiges Eigentum," *Handwörterbuch der Volkswirtschaft* (Leipzig, 1866), pp. 333–34.

<sup>41</sup> Albert E. F. Schäffle, *Die nationalökonomische Theorie der ausschliessenden Absatzverhältnisse* (Tübingen, 1867), pp. 113–14.

One of the favorite formulations of the property argument by the patent advocates was in terms of man's natural right to the fruits of his labor. The product of one's labor must be recognized as one's property. This form of the argument was challenged by Rodriguez, a Spanish economist, as follows:

Labor, in fact, is not the *title* to it [the invention], but only the rational *method* of acquiring it . . . . Labor results in property when it results in an *exclusive appropriation*; when the product can only belong to him who has done the work; when it would be necessary to take the article or utility created away from its possessor before it can be used by another person.<sup>42</sup>

But, as Chevalier emphasized, "an idea can belong to an unlimited number of persons; it is indeed the essence of an idea that, once published, it belongs to all the world . . . ." <sup>43</sup>

Outside France only a relatively few writers came to the defense of the concept of intellectual property. In Germany, Rudolf Klostermann tried to prove that manual labor created property in things while intellectual labor created property in ideas.<sup>44</sup> A reviewer of his book pointed out the absurdity of such an attempt.<sup>45</sup> In England, Henry Macleod, the economist noted for his theories of credit and capital, declared "that the productions of a man's mind are now recognized to be as truly his own property and the fruits of his industry as the production of material wealth" and that "it is hard to see on what grounds he can be denied the same [that is, permanent] tenure in one as in the other."<sup>46</sup>

A middle position on the question of natural property rights was taken by Max Wirth, writing a minority report in a committee on patents of the Society of German Economists. The majority report, made by Prince-Smith, had rejected the concept of intellectual property as an untenable political fabrication. Wirth defended the concept as well as the right to protection but denied that inventions were such intellectual property and deserved any protection.

Inventions do not belong in the category of intellectual property, because inventions are emanations of the current state of civilization and, thus, common property . . . . What the artist or poet creates is always something quite individual

<sup>42</sup> G. Rodriguez, in C. Le Hardy de Beaulieu, "Discussion sur la propriété des inventions," *Journal des économistes*, XXXIV (2d Ser.) (1862), 81. (Italics in the original.)

<sup>43</sup> Michel Chevalier, in session of June 5, 1869, *Annales de la Société d'Economie Politique* (Paris: Guillaumin, 1895), VIII, 114.

<sup>44</sup> Rudolf Klostermann, *Das geistige Eigentum an Schriften, Kunstwerken und Erfindungen nach Preussischem und internationalen Rechte* (Berlin, 1867, 1869), 2 vols.

<sup>45</sup> Otto Michaelis, "Zur Selbstkritik des Patentschutzes," *Vierteljahrsschrift für Volkswirtschaft und Kulturgeschichte*, Siebenter Jahrgang (1870), XXIX, 100-21, esp. 108.

<sup>46</sup> Macleod, *Elements of Political Economy*, p. 182.

and cannot simultaneously be created by anyone else in exact likeness. In the case of inventions, however, this is easily possible, and experience has taught us that one and the same invention can be made at the same time by two different persons:—inventions are merely blossoms on the tree of civilization.<sup>47</sup>

Taking up this odd metaphor, or perhaps developing it independently, Böhmert, economics professor at Zurich, claimed that patents were now being more and more recognized to be “rotten fruits on the tree of civilization” and “ripe to fall.”<sup>48</sup>

Wirth’s position—accepting the theory of property rights in ideas but denying its applicability to technological inventions—was also Chevalier’s, who said:

Literary and artistic works have a perfectly decided character of individuality, and on this account they constitute a distinct property, which the law can recognize. In contrast to this, the character of individuality is wanting in real or supposed inventions, which are the object of patents, since what one man made today, another—a hundred others—may make tomorrow.<sup>49</sup>

R. A. Macfie, the most vocal patent abolitionist in England<sup>50</sup> and a severe critic of the theory of natural property rights in inventions, declared that if there were any “natural rights” in connection with inventions it would be the inventor’s “right to use his own invention.” But just this right, he argued, was frequently denied under the patent system: all too often an inventor would find himself barred from using his own idea because somebody else had obtained a patent on it; this might happen even if his idea were better than the patented one but was considered a version of it.<sup>51</sup> This point was stressed also by J. E. T.

<sup>47</sup> Max Wirth, in “Bericht über die Verhandlungen des sechsten Kongresses deutscher Volkswirthe zu Dresden am 14., 15., 16. und 17. September,” *Vierteljahrsschrift für Volkswirtschaft und Kulturgeschichte*, Erster Jahrgang (1863), III, 222. Max Wirth, an economist on the editorial board of that journal, must not be confused with Franz Wirth, patent lawyer and author of several books on patent laws and its reform, or with Richard Wirth, another writer on the legal side of the subject.

<sup>48</sup> Viktor Böhmert, “Die Erfindungspatente nach volkswirtschaftlichen Grundsätzen und industriellen Erfahrungen; mit besonderer Rücksicht auf England und die Schweiz,” *Vierteljahrsschrift für Volkswirtschaft und Kulturgeschichte*, Siebenter Jahrgang (1869), XXV, 80.

<sup>49</sup> Michel Chevalier, Introduction to *Rapports du jury français sur l’exposition universelle de 1862* (Paris, 1862).

<sup>50</sup> Robert Andrew Macfie published several books (at least five) and made innumerable speeches on the subject before national and international conferences and in the House of Commons. One of his critics, irked by his opposition to patents, stated that Macfie’s experiences as a sugar manufacturer, president of the Liverpool Chamber of Commerce, and member of Parliament did not qualify him to pronounce upon patent theory.—See “The Patent Laws,” *Westminster Review*, XXVI (N.S.) (October 1864), 329. Another critic, however, remarked that Macfie’s views were obviously those of “a theorist rather than a practical man.”—See *Transactions of the National Association for the Promotion of Social Science*, 1862 (London, 1863), p. 885.

<sup>51</sup> R. A. Macfie, *The Patent Question under Free Trade* (2d ed.; London, 1864), p. 8.

Rogers, professor at Oxford and London,<sup>52</sup> and by the French economist, Coquelin.<sup>53</sup>

As early as 1850 an editorial in the London *Economist* presented similar views as follows:

Before . . . [the inventors] can . . . establish a right of property in their inventions, they ought to give up all the knowledge and assistance they have derived from the knowledge and inventions of others. That is impossible, and the impossibility shows that their minds and their inventions are, in fact, parts of the great mental whole of society, and that they have no right of property in their inventions, except that they can keep them to themselves if they please and own all the material objects in which they may realize their mental conceptions.<sup>54</sup>

The whole notion of natural rights of property in ideas in general, and in inventions in particular, makes sense only to those who recognize "natural law" and accept private property as part of it. To others, private property in anything is merely an institution given the sanction of positive law for a social purpose; hence it should be confined to areas where the purpose is good. Prince-Smith, the leading German free-trade economist, took this view:

Any claim for protection of private property is a demand for the intervention of the power of the state, which should follow exclusively the dictate of common welfare. With regard to property in things the dictate of common welfare is firmly established. How is it with regard to the so-called intellectual property and, above all, patents of invention?<sup>55</sup>

He answered his own question most emphatically to the effect that patents were "injurious to the progress of production and to the common welfare and, thus, illegitimate in the light of the principle of property rights."<sup>56</sup>

A distinction that Rogers made between "natural" property rights and "factitious" property rights is also designed to emphasize the dif-

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<sup>52</sup> "By a perfectly independent train of thought, another person may have discovered simultaneously exactly the same utility, but he has been last in the race [for the patent] and he must forego his natural privilege of labour . . ."—J. E. T. Rogers, "On the Rationale and Working of the Patent Laws," *Journal of the Statistical Society of London*, XXVI (1863), 125.

<sup>53</sup> Coquelin, "Brevets d'invention," *Dictionnaire de l'économie politique*, 218.

<sup>54</sup> *The Economist* (London), December 28, 1850, p. 1434. In a similar vein, T.-N. Bénard stated that to abolish patents was "not a question of expropriating the inventor, but rather of preventing the expropriation of the whole society, which in its heritage possesses all the elements used by the inventors."—*Annales de la Société d'Economie Politique* (Paris: Guillaumin, 1895), VIII (1869-70), 103-4.

<sup>55</sup> Prince-Smith, "Ueber Patente für Erfindungen," *Vierteljahrsschrift für Volkswirtschaft und Kulturgeschichte*, III, 157.

<sup>56</sup> *Ibid.*, III, 161.

ference between natural and positive law.<sup>57</sup> There are many writers who habitually call all sorts of rights by the name of property.<sup>58</sup> This may be a harmless waste of words, or it may have a purpose. It happens that those who started using the word property in connection with inventions had a very definite purpose in mind: they wanted to substitute a word with a respectable connotation, "property," for a word that had an unpleasant ring, "privilege." This was a very deliberate choice on the part of politicians working for the adoption of a patent law in the French Constitutional Assembly. De Bouffler, reporting the bill to the Assembly, knew that "the spirit of the time was so much for liberty and equality, and against privileges and monopolies of any sort" that there was no hope of saving the institution of patent privileges except under an acceptable theory. Thus, according to Rentzsch, De Bouffler and his friends in deliberate insincerity "construed the artificial theory of the property rights of the inventor" as a part of the rights of man.<sup>59</sup> De Bouffler obviously knew "what's in a name." As monopoly privileges, the patents for inventions would be rejected by the Assembly or, if accepted, would be disdained by the people; as natural property rights, they would be accepted and respected.<sup>60</sup> This appraisal of popular

<sup>57</sup> "The law may give him [the patentee] a property, as the law may allow any other privilege which invades the liberty of other men; but his right has a factitious and not a natural origin . . ."—Rogers, "On the Rationale and Working of the Patent Laws," *Journal of the Statistical Society of London*, XXVI (1863), 125. A similar thought was expressed by the Frenchman, Paul Coq, who however accepted the rights of writers and artists as natural property: "One must not confuse the property right which springs from the creation of a work of art or literature with the factitious property which is decreed for the profit of industry."—*Annales de la Société d'Economie Politique*, VIII (1869-70), 110.

<sup>58</sup> It should be clear that "a property right in a right is nothing else but the right itself."—Julius Jolly, *Die Lehre vom Nachdruck* (Heidelberg, 1852), p. 69. To speak of "property in a right" is certainly not the same as to say that "this right is a property right."

<sup>59</sup> Rentzsch, "Geistiges Eigentum," *Handwörterbuch der Volkswirtschaft*, p. 335.

<sup>60</sup> In a speech in May 1791, defending the patent law in the Assembly, De Bouffler referred to critics who "use the expression of exclusive privilege in preference to other expressions which would be just as correct but less odious."—Renouard, *Traité des brevets d'invention*, p. 103. Renouard mentioned that "the necessity of recognizing a privilege visibly embarrassed the reporter; he hardly dared to admit that he proposed a privilege, and that certain privileges were equitable."—*Ibid.*, p. 89. The same strategy was repeated in 1843, when the French Chambers considered a new patent law. But by this time the government felt that the property theory was unnecessary, and its bill did not contain any reference to the inventor's property right in his idea. Vicomte Dubouchage, in the Upper Chamber, appealed to the members to insert the omitted word, "property," in the text of the bill: "To insert the word property is not a matter of indifference, because words may have great influence upon minds, . . . , the ordinary person will respect the invention of his neighbor if he is convinced that it is property, if the law proclaims it so. But if the law is silent on this point, if on the contrary, one calls it a privilege, in an age when these are detested in France, if one says that it is a monopoly, then indeed, this true property . . . will not be respected by the envious, who will say: it is a monopoly, let's do away with it."—Chambre des Pairs, séance du 24 Mars, 1843; *Le Moniteur universel*, No. 84, March 25,

ways of thinking was certainly correct. For more than seventy years afterward scholars seriously debated the notion of a property in ideas, a notion first proposed, to put it bluntly, as a political ruse.

In the long run, however, the ruse backfired. During the third quarter of the nineteenth century, chiefly in Germany, the patent opposition was able to weaken the cause of patent protection partly by demolishing its shaky construction as a natural property right. German patent advocates found it expedient to abandon this position and retreat to stronger ones.<sup>61</sup>

### *The Just Reward for the Inventor*

A safer and sounder defense of the claims of inventors was founded on their moral rights to receive reward for services rendered. Many of those who rejected the notion of private property in ideas saw justice in securing a reward to the inventor for his labor and accepted the institution of the patent as the best method of doing it.<sup>62</sup> Thus, John Stuart Mill stated:

That he, the inventor, ought to be both compensated and rewarded . . . will not be denied . . . it would be a gross immorality of the law to set everybody free to use a person's work without his consent, and without giving him an equivalent.<sup>63</sup>

That morality and justice called for pecuniary rewards for inventors has been denied on several grounds. "Geniuses, just as the stars, must shine without pay," was a Swiss comment on this point.<sup>64</sup> To others,

1843, p. 542. The appeal of the Vicomte was in vain. The French Patent Law of 1844 omitted the word.

<sup>61</sup> One of the defenders of patents in Germany wrote in 1877, in the year of the victory of his group: "It is interesting to observe that the advocates of the patent system in Germany, correctly understanding that this theoretical and sophistic debate [about the so-called 'property in ideas'] was absolutely sterile, did not go much into this question and, if so, only to refute the crassest absurdities in the theorizing of the anti-patent people."—Grothe, *Das Patentgesetz*, p. 4. As a matter of fact, the chief draftsman of the German patent law emphasized that "property rights are . . . inseparably linked with material things."—See F. Bitzer, *Vorschläge für ein deutsches Patentgesetz* (Stuttgart, 1864), p. 122. On the other hand, French lawyers clung to the property construction. At an international congress in 1878 in Paris, they were able to obtain acceptance of the following resolution: "The right of inventors . . . is a property right; statutory law does not create it, but merely regulates it."—"Le Congrès International de la Propriété Industrielle, tenu à Paris en Septembre 1878," *Journal des économistes*, IV (4th Ser.) (1878), 89.

<sup>62</sup> "The inventor has, as other men, the right to live by his work, the results of which are so profitable to all. The products of his invention ought to be his to exchange freely, sheltered from harmful and ruinous competition, receiving a price in proportion to their utility and the value of the satisfaction they give to those who use them."—Renouard, *Traité des brevets d'invention*, p. 11.

<sup>63</sup> Mill, *Principles of Political Economy*, p. 932.

<sup>64</sup> Cited disapprovingly by Wilhelm Roscher, *System der Volkswirtschaft* ("Nationalökonomik des Handels und Gewerbetreibenden"; Stuttgart, 1881), III, 758.

the theory of the social origin of inventions was the strongest argument against rewards to individual inventors. Thus, John Lewis Ricardo<sup>65</sup> insisted that “nearly all useful inventions depend less on any individual than on the progress of society” and there was no need to “reward him who might be lucky enough to be the first to hit on the thing required.”<sup>66</sup>

Other participants in the patent controversy did not deny the inventor’s moral right to be rewarded for his work but held that such reward would come without intervention. If an inventor was really ahead of others, the time interval between his use of the invention and its imitation by his competitors would secure him temporary profits or rents sufficient to reward him for his contribution. This point was particularly stressed by Schäffle, who recognized the need of governmental protection against the pirating of books but denied similar privileges for industrial inventions. The essential difference is “the speed with which new ideas spread, the interval . . . which may afford a priority in the commercial exploitation of new ideas.”<sup>67</sup> In Schäffle’s opinion this interval is too short in the book-publishing business, where cheaper, pirated editions can be put on the market almost without delay, making it impossible for the first publisher to earn enough to pay the author. In the exploitation of industrial inventions, however, the head start of the first user should as a rule suffice to enable him to earn enough to cover a reward for the inventor.<sup>68</sup>

This theory of the innovator’s head-start profits, as it may be called, gained wide respect, but, at a time in which competition was assumed to be almost perfect, the objection that profits would be wiped out too

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<sup>65</sup> John Lewis Ricardo, author of *History and Anatomy of Navigation Laws*, was a nephew of David Ricardo. He was president of a London bank and a member of Parliament. Until his death in 1862 he was, according to Macfie, the “principal advocate of reform or abolition of the patent system” in the House of Commons.

<sup>66</sup> Reporting on the hearings of the Select Committee and on the testimony offered by Ricardo, *The Economist* wrote: “. . . nearly all useful inventions depend less on any individual than on the progress of society. A want is felt . . . , ingenuity is directed to supply it; and the consequence is, that a great number of suggestions or inventions of a similar kind come to light. ‘The ideas of men,’ said Mr. Ricardo, ‘are set in motion by exactly the same circumstances’. So we find continually a great number of similar patents taken out about the same time. Thus the want suggests the invention, and though the State should not reward him who might be lucky enough to be the first to hit on the thing required, the want growing from society, and not from the individual or from the Government, would most certainly produce the required means of gratifying it . . . .”—*The Economist*, July 26, 1851, p. 812.

<sup>67</sup> Schäffle, *Die nationalökonomische Theorie*, p. 141.

<sup>68</sup> *Ibid.*, p. 150.

quickly was plausible. Were competition to operate without any limitations or frictions, inventors could not earn a reward.

This still did not prove that justice called for a patent system. One might recognize that pecuniary rewards for the inventors' efforts were required as a matter of justice, and one might also recognize the need for governmental intervention to secure these rewards because without such intervention the competitive economy would work with too little friction to allow adequate innovator's rents, yet one might still reject patent privileges and support a system of cash prizes or bonuses paid to meritorious inventors. This was the conclusion many economists had reached. They were in favor of rewards for inventors but opposed to the patent system.

The London *Economist*, under the editorship first of Sir James Wilson and later of Sir Walter Bagehot, championed this position, maintaining: ". . . what the community requires is, that inventors be rewarded; that skillful men who contribute to the progress of society shall be well paid for their exertions. The Patent Laws are supported because it is erroneously supposed that they are means to this end."<sup>69</sup> J. E. T. Rogers wrote, in a letter reproduced by Macfie: "All that the opponents of the patent system do say is, that the present machinery gives the minimum advantage to the inventor and inflicts the maximum disadvantage on the public."<sup>70</sup> Prince-Smith was convinced that patents, "in so far as they are to secure rewards to inventors, are the worst and most deceptive form of reward, causing more often losses than profits even to the inventors."<sup>71</sup>

The alternatives most frequently recommended in lieu of patents were bonuses granted to inventors (*a*) by the government, (*b*) by professional associations financed through voluntary contributions by private industries, (*c*) by an intergovernmental agency, or (*d*) by an international association maintained through contributions from industries of all countries. Proposals along these lines were discussed in the professional journals and conferences almost everywhere.<sup>72</sup>

<sup>69</sup> *The Economist*, July 26, 1851, p. 812.

<sup>70</sup> Quoted in R. A. Macfie, ed., *Recent Discussions on the Abolition of Patents for Inventions in the United Kingdom, France, Germany, and the Netherlands* (London, 1869), p. viii. Mr. Rogers, however, was not in favor of governmental bonus systems either.—Rogers, "On the Rationale and Working of the Patent Laws," *Journal of the Statistical Society of London*, XXVI (1863), 127.

<sup>71</sup> Prince-Smith, "Ueber Patente für Erfindungen," *Vierteljahrsschrift für Volkswirtschaft und Kulturgeschichte*, Erster Jahrgang (1863), III, 161.

<sup>72</sup> See, especially, Macfie, *The Patent Question under Free Trade*, p. 24; and Viktor Böhmert, "Gründung eines Vereins zum Ersatz der Erfindungspatente und zur Belohnung unpatentierter Erfindungen in Zürich," *Jahrbücher für Nationalökonomie und Statistik*, IX (1867), 93.

The proposals for bonus systems of rewarding inventors did not receive great support. The chief objection was that their administration would give rise to partiality, arbitrariness, or even corruption—the dangers of all institutions giving discretionary power to administrators. Bentham had written, many years earlier: “An exclusive privilege is of all rewards the best proportioned, the most natural, and the least burdensome.”<sup>73</sup> John Stuart Mill clung to this view. He was still convinced that

. . . an exclusive privilege, of temporary duration is preferable; because it leaves nothing to anyone’s discretion; because the reward conferred by it depends upon the invention’s being found useful, and the greater the usefulness, the greater the reward; and because it is paid by the very persons to whom the service is rendered, the consumers of the commodity.<sup>74</sup>

This became the standard argument in the defense of the patent system as the most adequate method of securing just rewards to inventors.<sup>75</sup>

Mill’s argument was, however, flatly contradicted by a large number of authorities, including Lord Stanley, the chairman of the royal commission that inquired into the patent system in 1863–1865. On the basis of these inquiries, which changed his earlier, favorable views on the patent system, Lord Stanley objected to the “principle of patents,” because it was (1) almost impossible that the reward go to him who deserved it, (2) impossible that the rewards be in proportion to the services rendered, and (3) impossible to prevent great injury being inflicted upon others.<sup>76</sup>

If the patent system could not be credited with meeting the demands of distributive justice, it was still possible to defend it, not on the ground of justice, but on the ground of its social usefulness.<sup>77</sup> Even if the system could not qualify as a method of meting out just rewards, it might still be the cheapest and most effective device to stimulate industrial progress.

<sup>73</sup> Jeremy Bentham, “A Manual of Political Economy,” *Works*, ed. Bowring, III, 71 (date first published uncertain).

<sup>74</sup> Mill, *Principles of Political Economy*, p. 932.

<sup>75</sup> For example, the French economist, Louis Wolowski, declared that “after thorough examination it was recognized that the most equitable reward consisted in the temporary grant of exclusive rights.”—*Annales de la Société d’Economie Politique*, VIII (1869–70), 125.

<sup>76</sup> Speech of the Right Hon. Lord Stanley, M.P., House of Commons, May 28, 1868. Reprinted in Macfie, ed., *Recent Discussions on the Abolition of Patents for Inventions*, p. 111.

<sup>77</sup> “. . . the practical failure of the law to secure a reward to the inventor and the frequent disproportion between the reward and the service rendered . . . are points of no consequence so long as the public is generally a gainer by the law.”—*The Economist*, June 5, 1869, p. 657. The editorial went on to say that the public was a heavy loser.

For many of the writers who stressed the justice of rewarding the inventor, the social usefulness of the system was merely incidental. But to others the social benefits were the paramount consideration, and their position, especially since the justice of the working results of the patent system was seriously questioned, became the one by which the system could be most persuasively supported.

### *The Best Incentive to Invent*

Many writers tried to point to history as proof for or against the efficiency of the patent system as a lever of industrial progress. Continental writers were prone to take the rapid industrialization of England and the United States plus the fact that these nations had patent systems as sufficient grounds from which to infer a causal relation between patents and progress. On the other hand, there were some German and Swiss economists who attributed industrial progress in their countries to the absence of effective patent protection.<sup>78</sup> Rogers branded all attempted historical "proofs" as instances of "the fallacy of *post hoc ergo propter hoc*."<sup>79</sup> Some writers held that patents may promote technological innovation in earlier stages of industrial development while at more advanced stages they become retarding influences.<sup>80</sup> With a relation between patents and progress as complex as this, most writers relied primarily on logical analysis.

The main thesis demonstrating the beneficial effects of patents rested on the following assertions: (1) industrial progress is desirable, (2) invention is a necessary condition of industrial progress, (3) not enough inventions will be made or used unless effective incentives are provided, (4) patents are the cheapest and most effective means of providing these incentives. The opponents of patents did not deny the first two propositions, but they rejected one or both of the others.

To say that patents are effective incentives to inventive activity is one thing; it is another to contend that they are necessary for inducing an adequate amount of such activity. For both assertions, usually not kept

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<sup>78</sup> "German industry undoubtedly owes its present prosperous condition also to the fact that only a few patents have been granted in Germany . . . ."—Böhmert, *Die Erfindungspatente*, p. 48. Böhmert also suggested that England developed industrially *in spite* of her patent system but less than she would have without it.—*Ibid.*, p. 79.

<sup>79</sup> Rogers, "On the Rationale and Working of the Patent Laws," *Journal of the Statistical Society of London*, XXVI (1863), 129.

<sup>80</sup> Rentzsch, "Geistiges Eigentum," *Handwörterbuch der Volkswirtschaft*, p. 634; also several British experts, whose opinions are criticized in the *Westminster Review*, XXXVI (N.S.) (July 1869), 125.

apart, scores of authorities can be quoted. As representative samples we select Friedrich von List and John R. McCulloch. List said: "The granting of patent privileges offers a prize to inventive minds. The hope of obtaining the prize arouses the mental powers and gives them a direction towards industrial improvement."<sup>81</sup> McCulloch said: "The expediency of granting patents has been disputed; though, as it would seem, without any sufficient reason. Were they refused, the inducement to make discoveries would, in many cases, be very much weakened."<sup>82</sup> Of statements to the contrary, we select for quotation the brief assertion, "Man does not need a property or a privilege as a stimulus to invent,"<sup>83</sup> and the explanatory proposition by a British scientist, "the seeds of invention exist, as it were, in the air, ready to germinate whenever suitable conditions arise, and no legislative interference is needed to ensure their growth in proper season."<sup>84</sup>

Even if the need for a special incentive through "legislative interference" is accepted, the question whether patents are the best or cheapest means to that end arises just as it arose in connection with the method of doing justice to the inventor. There was the same argument, some claiming that money grants were cheaper and more effective incentives than patents.<sup>85</sup>

The counterclaim that patents were the cheapest means of providing effective incentives turned attention to the comparison between the social benefits and social costs of the patent system.<sup>86</sup>

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<sup>81</sup> Friedrich List, *The National System of Political Economy* (London, 1885), p. 307 (first published, 1841). Certainly no one has expressed the stimulus theory in terms as impressive as Abraham Lincoln, who said: "The patent system . . . added the fuel of interest to the fire of genius . . ."—"Discoveries, Inventions, and Improvements," lecture (1859), *Complete Works of Abraham Lincoln* (New York: Tandy-Thomas, 1905), V, 113.

<sup>82</sup> J. R. McCulloch, "Patent," *A Dictionary of Commerce and Commercial Navigation*, p. 881. The most famous statement of the incentive theory of patents for inventions is Bentham's: "With respect to a great number of inventions in the arts, an exclusive privilege is absolutely necessary, in order that what is sown may be reaped. In new inventions, protection against imitators is not less necessary than in established manufactures protection against thieves. He who has no hope that he shall reap, will not take the trouble to sow."—"A Manual of Political Economy," *Works*, ed. Bowring, III, 71.

<sup>83</sup> Rodriguez, in De Beaulieu, "Discussion sur la propriété des inventions," *Journal des économistes*, XXXIV (2d Ser.) (1862), 82.

<sup>84</sup> Sir William Armstrong, opening address of the president, *Report of the 33rd Meeting of the British Association for the Advancement of Science*, held at Newcastle in 1863 (London, 1864), p. lii.

<sup>85</sup> Macfie, *The Patent Question under Free Trade*, p. 29.

<sup>86</sup> "Whether the public is benefited or taxed by the granting to inventors a monopoly of their inventions by letters patent? The lawyer declares the public is taxed . . . . The manufacturer takes the same view . . . . But on the other side, the political economists . . . declare that great

The majority of British economists obviously accepted Mill's endorsement of the social benefits of patents, which did not substantially qualify Bentham's opinion that the exclusive privilege of inventors "produces an infinite effect and costs nothing."<sup>87</sup> Nevertheless the reports of the British patent commissions pointed out that a heavy social cost of the operation of the patent laws was unavoidable. And a group of economists joined the opposition, so vocal on the Continent, claiming that the social costs of the patent systems were too high and the social net benefits negative.

To the extent that the stimulus of the patent system is effective, in the sense of causing people to do what they would not do otherwise, its effectiveness may consist chiefly in diverting existing activity into different, perhaps less productive, channels. This is one of the main contentions of the economists opposing the patent system. The diversion may be from ordinary productive pursuits into "inventing,"<sup>88</sup> or from innovation or research activities in one field to the same kind of activities in another field in which the results enjoy patent protection.<sup>89</sup>

The sacrifice of the production that would otherwise have occurred through the alternative uses of the productive resources steered into different channels by the patent incentive must of course be considered a social cost of the patent system. But three other factors were counted among the cost: First, the cost of the bureaucracy administering the patent system: the court personnel, lawyers, agents, and others engaged in prosecuting patent applications and litigations. Second, the economic disadvantages connected with the extension of the monopoly power of certain firms, an extension that often goes far beyond the scope of an

benefits accrue to the public."—Henry Dircks, *Inventors and Inventions* (London, 1867), p. 5. Dircks was a lawyer; apparently he had noticed only the views of economists of Bentham's and Mill's persuasion. The voices of the opposition may have failed to come to his attention because economists in England at that time did not have a professional organ for their publications. French economists had had the *Journal des économistes* since 1841. In Germany there were two economic journals in the eighteen sixties, and a third was started in the seventies. Also Spain, Holland, and Belgium had economic periodicals. In England the economists' discussions of timely questions had to appear in nonprofessional or nonspecialized magazines or in individual pamphlets.

<sup>87</sup> Bentham, "A Manual of Political Economy," *Works*, ed. Bowring, III, 71.

<sup>88</sup> "One of the assertions of the patent advocates is that they have the effect of stimulating inventions. This is at least dubious. What is stimulated . . . is the desire, on the part of a large number of people, to obtain a patent to get rich. They rack their brains to find a pretext for a patent. God knows how often these pretexts are in vain!"—Chevalier, *Les brevets d'invention*, p. 88.

<sup>89</sup> "They [patents] do not promote inventive activity, for they merely steer it into uneconomic channels,—they are injurious to the progress of production."—Prince-Smith, "Ueber Patente für Erfindungen," *Vierteljahrsschrift für Volkswirtschaft und Kulturgeschichte*, III, 161.

individual patent grant.<sup>90</sup> And, third, the social loss involved in the temporary prevention of the use of the most efficient processes by most, if not all, other producers.

It was this social loss that some writers felt was the worst effect of the patent system, and they emphasized the obstacles that the system put in the way of improvement by others of patented inventions:

The privileges granted to inventors by patent laws are prohibitions on other men, and the history of inventions accordingly teems with accounts of trifling improvements patented, that have put a stop, for a long period, to other similar and much greater improvements. It teems also with accounts of improvements carried into effect the instant some patents had expired. The privileges have stifled more inventions than they have promoted, and have caused more brilliant schemes to be put aside than the want of them could ever have induced men to conceal. Every patent is a prohibition against improvements in a particular direction, except by the patentee, for a certain number of years; and, however, beneficial that may be to him who receives the privilege, the community cannot be benefited by it . . . . On all inventors it is especially a prohibition to exercise their faculties; and in proportion as they are more numerous than one, it is an impediment to the general advancement, with which it is the duty of the Legislature not to interfere, and which the claimers of privileges pretend at least to have at heart.<sup>91</sup>

It had been one of the strongest arguments of the patent advocates that the exclusive rights granted to inventors did not deprive others of anything they had had before and that the patent system, therefore, stimulated invention at no cost to anybody, merely delaying the general use of the new inventions for a number of years. This argument was now sharply rejected. According to the patent opponents, the patent grants *did* deprive others of what they had had before: of the opportunity to evolve and use the same idea that the patentee has had.<sup>92</sup> Where many people work simultaneously on the solution of technical problems posed by consumer demand and the current state of the arts, the patent granted to the one who first arrives at the solution deprives all the others of the chance to use their own, independent ideas and deprives society of the benefits that would flow from the more widespread use of these ideas.<sup>93</sup>

<sup>90</sup> ". . . a few great firms in any branch of business, buying up . . . any new patent applicable to their business, and prepared to fight for it, could so hamper other competitors as to secure a practical monopoly." Speech of the Right Hon. Lord Stanley, M.P., in Macfie, ed., *Recent Discussions on the Abolition of Patents for Inventions*, p. 112.

<sup>91</sup> *The Economist*, February 1, 1851, pp. 114-15.

<sup>92</sup> Cf. T.-N. Bénard, "Les Inventions, sont-elles une propriété?", *Journal des économistes*, XI (3d Ser.) (1868), 53.

<sup>93</sup> ". . . it commonly happened that half-a-dozen men who were competing . . . were upon the track of the same discovery. Each of these . . . would probably have hit upon the invention

Very often the advocates as well as the opponents of patents discussed the economic effects of the system on the assumption that the inventor was also the owner of the firm using the patent. It was not overlooked, however, that most inventors are either "employed by a manufacturer or capitalist"<sup>94</sup> or must sell their patents to them for a "pittance."<sup>95</sup> This separation and possible conflict of interests between the inventor and exploiter not merely added to the arguments against the "just-reward" theory<sup>96</sup> but weighed heavily also against the theory that inventive activity requires a special incentive. If the inventors could not hope to reap the fruits of their work, the patent system could hardly be the incentive to their activity that it was represented to be. But another theory could be substituted for the weakened theory of the patent as an incentive to invent: a theory of the patent as an incentive to venture capital for the financing of the development and pioneer exploitation of inventions. It is hardly surprising, however, that the function of the patent as a stimulus to the inventor's financier was not given, in the period here examined, the full emphasis that it now has.<sup>97</sup>

### *The Best Incentive to Disclose Secrets*

Whether or not it is necessary for society to provide special pecuniary incentives to induce people to engage in an adequate amount of inventive activity was controversial. A supplementary or substitute argument in support of patents for inventions was advanced proposing that patents were necessary as incentives to induce inventors to disclose their new inventions instead of keeping them secret. Perhaps there would be enough inventive activity without patents, but could one count on disclosure of inventions so that they would become part of society's general fund of technological knowledge?

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which was wanted, independently . . . . But the first who hit upon it, and who took out a patent for it, was thereby entitled to exclude the general public and competitors from the use of that which, if he had never existed, they would probably have hit upon within a few weeks."—Lord Stanley, in Macfie, ed., *Recent Discussions on the Abolition of Patents for Inventions*, p. 113.

<sup>94</sup> *The Economist*, June 5, 1869, p. 656.

<sup>95</sup> "No patent brings its holder any immediate pecuniary right. He can only sue people who infringe his patent, and the costliness of patent suits is such that he is seldom able to protect himself. To make the property worth anything, a capitalist must take it up; but the capitalist, in doing so, stipulates for the lion's share of the profit. Probably in ninety-nine cases out of a hundred the reward was obtained by such speculators, and not by inventors."—*The Spectator*, June 5, 1869. These observations reflect a House of Commons debate of May 28, 1869.

<sup>96</sup> Rogers held that inventors as a group would fare better without a patent system and that "the claim urged upon the public is a fiction in which the nominal plaintiff is the inventor, but the real one is a speculative capitalist."—Rogers, "On the Rationale and Working of the Patent Laws," *Journal of the Statistical Society of London*, XXVI (1863), 133.

<sup>97</sup> Nevertheless, it was said that patents "are not required as an inducement either to inventors or capitalists, and the reason of the law fails."—*The Economist*, June 5, 1869, p. 657.

The "incentive-to-disclose" theory of patent protection was often formulated as a social-contract theory. This use of the Rousseau conception was another part of the strategy of the French politicians to avoid interpretation of patents as privileges. The patent was represented not as a privilege granted by society but as the result of a bargain between society and inventor, a contract in which the inventor agreed to disclose his secret and the state agreed, in exchange, to protect the inventor for a number of years against imitation of his idea.<sup>98</sup> Why should anybody object to such a fair bargain with such a reasonable *quid pro quo*?

But there were objections and rather serious ones. They were based on the following lines of reasoning: (1) If inventors should prefer to keep their ideas secret and if they should succeed in doing so, society would not lose much, if anything, because usually the same or similar ideas are developed simultaneously and independently in several quarters. (2) It is practically impossible to keep inventions secret for any length of time; new products, new tools, and new processes are soon found out by eager competitors. (3) Where an inventor thinks he can succeed in guarding his secret, he will not take out a patent; hence, patent protection does not cause disclosure of concealable inventions but serves only to restrict the use of inventions that could not have been kept secret anyway. (4) Since patents are granted only on inventions developed to a stage at which they can be reduced to practical use, the patent system encourages secrecy in the developmental stage of inventions; without patents, inventors would hurry the publication of their ideas at earlier stages in order to secure recognition and fame, and this would hasten technological progress on all fronts.

The first of these objections was expressed in this rather extreme form by the London *Economist*:

Society would not be in the least injured though all such secrets died with their possessors . . . against all such suppositions that an individual may discover something of such pre-eminent importance that society will be injured if he be not encouraged by a patent law to make his discovery known . . . it is more con-

<sup>98</sup> All these points were contained in the exposition of the social-contract theory of patent protection in De Bouffler's report to the French National Assembly in 1790. He said: "As long as an inventor has not disclosed his secret, he is in full control and nothing can prevent him from keeping it concealed . . . He is free to enter into a contract about it with society, just as society is free to contract with him." Quoted from Renouard, *Traité des brevets d'invention*, p. 90. This contract theory was vigorously defended by the French economist, Louis Wolowski, in 1869: "The patent constitutes a genuine contract between society and inventor; if society grants him a temporary guaranty, he discloses the secret which he could have guarded: *quid pro quo*, this is the very principle of equity."—*Annales de la Société d'Economie Politique*, VIII (1869-70), 126.

clusive that nearly all useful inventions depend less on any individual than on the progress of society.<sup>99</sup>

The second objection, that inventions could not long be concealed and that by granting patent protection society was giving something for nothing, was ubiquitous, though usually qualified by reservations that there were exceptional instances. But the patent advocates were willing to support the principle of "protection in exchange for disclosure" even if the possibility of maintaining secrecy was confined to special circumstances.<sup>100</sup>

If both advocates and opponents of patents agree that most inventions are difficult to conceal while some inventions can be kept secret, the third objection becomes more forceful. It says, roughly, that concealable inventions remain concealed and only unconcealable inventions are patented. Thus Rogers finds this so-called bargain between the public and the inventors "thoroughly one-sided" since the inventor discloses his secret only if he expects his profits from a temporary monopoly enforced by the state to be greater than those from an uncertain monopoly guarded by a tenuous secrecy.<sup>101</sup> The same thought is elaborated by Rentzsch, who describes the difficulties facing a patentee: how expensive it is to obtain a patent, how difficult to discover the infringers and to sue them, how costly to press the litigation, and how small the hope of success. Why, under these circumstances, should the inventor bother to give up his secret—unless he knows he could not possibly guard it? Hence, he discloses only what he cannot hope to keep secret.<sup>102</sup> And this, in the view of Rentzsch and others, disposes of the contract theory and of the argument that a patent system serves to achieve disclosure of inventions.<sup>103</sup>

The fourth objection, asserting that the patent systems encourage secrecy rather than disclosure, was advanced by Prince-Smith, who gave the following description of the consequences of the abolition of the patent system:

<sup>99</sup> *The Economist*, July 26, 1851, p. 182.

<sup>100</sup> Thus, McCulloch wrote: ". . . it would plainly be for the interest of every one who made a discovery, to endeavour, if possible, to conceal it. And notwithstanding the difficulties in the way of concealment, they are not insuperable; and it is believed that several important inventions have been lost, from the secret dying with their authors."—McCulloch, "Patent," *A Dictionary of Commerce and Commercial Navigation*, II, 274.

<sup>101</sup> Rogers, "On the Rationale and Working of the Patent Laws," *Journal of the Statistical Society of London*, XXVI (1863), 128. He adds (p. 134): "No one can call that a fair bargain which is voluntary on one side, and involuntary on the other."

<sup>102</sup> Rentzsch, "Geistiges Eigenthum," *Handwörterbuch der Volkswirtschaft*, p. 629.

<sup>103</sup> Similarly also Böhmert, *Die Erfindungspatente*, pp. 67 ff.

. . . secret and isolated work on inventions would cease and its place would be taken by a cooperation of all qualified talent (Kräfte) . . . Men with inventive minds would hasten to publish their happy ideas in order to secure recognition of their priority . . . Technicians . . . would listen to them more willingly than now when they are inclined to see in each would-be inventor a visionary blinded by the gold mine expected from a patent . . . The ablest of them would succeed fastest, without the many unlucky attempts which regularly occur when the work has to be done secretly, attempts which fail because they are undertaken without [the co-operation of] adequate knowledge and skill. Where it should be necessary to make expensive preparatory experiments, it would be easy with good publicity to obtain voluntary contributions in the public interest.<sup>104</sup>

If ideas are published at an early stage, before they have developed into patentable inventions, they would—as scientific research does now— attract the attention of people elsewhere working along similar lines; the ideas would ripen more quickly into practical inventions and would much sooner be available for practical application everywhere.

Although Prince-Smith was not answered directly, we may well imagine that the patent advocates regarded him as a visionary blinded by the glittering notion that nonpecuniary incentives could ever match in effectiveness the pecuniary incentives of “patents for inventions granted in exchange for disclosure.”

### III

The patent opponents were thoroughly convinced that the patent laws had a harmful influence on the nation at large, and they concluded that their repeal would be beneficial. The patent advocates, on the other side, were “thoroughly convinced that the patent laws have a beneficial influence on the nation at large” and concluded “that to repeal them would be suicidal.”<sup>105</sup> Conviction was pitted against conviction, argument against argument, assumption against assumption.

The academic controversy about the patent of invention did not end in any “decision.” But the political controversy, as we reported in the early pages of this article, ended with a victory for the patent advocates. On the Continent, especially in Germany, this was a victory of the allied forces of protectionism: the acceptance of the idea of protection of

<sup>104</sup> Prince-Smith, “Ueber Patente für Erfindungen,” *Vierteljahrsschrift für Volkswirtschaft und Kulturgeschichte*, III, 160.

<sup>105</sup> *Westminster Review*, XXVI (N.S.) (October 1864), 355. The article, like all others in that journal, is unsigned. But the occupation of the writer can be easily detected. For he proposes reforms of the patent laws, including the following: that the term of the patent be lengthened to twenty-one years, that solicitors be admitted as patent attorneys only upon special examination and registration, and “that no restriction be imposed as to the fees they may charge for services rendered to their clients.”—*Ibid.*, p. 357.

industry against competition from abroad as well as from domestic imitators.

It is not surprising that, once the controversy in the legislatures was settled, economists turned to other questions. After the 1870's, the agenda of their professional meetings rarely included debates on the patent system. Only the old participants in the controversy continued to write about the topic that had been so heatedly discussed between 1850 and 1875. The "younger" economists were not interested. The controversy all but disappeared from the economic journals. Economists who wrote general treatises on economic theory and policy had, of course, to make passing references to the subject of patent protection. But, to judge from their usually brief remarks, most of them did not study the controversy that had been waged in pamphlets and journals; instead, they took the observations of the classical writers, J. S. Mill in particular, as their point of departure if not as their only authority.

When patent-reform plans came up for hearings before legislative committees in various countries, economists were usually not present, and lawyers and engineers appeared as the "experts" on the economic effects of the patent laws and their possible changes. This was just as it should be, in the opinion of the leading patent lawyer in Germany, who decided that "after jurisprudence has taken hold of any area treated by the law, it is up to this science to develop it, and all other disciplines . . . must resign; from now on it is the method of juridical thinking which must rule."<sup>106</sup>

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<sup>106</sup> Joseph Kohler, *Handbuch des deutschen Patentrechtes in rechtsvergleichender Darstellung* (Mannheim: Bensheimer, 1900), p. 30.