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# How the First French Railways Were Planned

Ι

RANCE is often described as the country that planned its network of railroads with the greatest care, wisely arranging for private construction and operation under control of the Government. She deserves criticism, it has been said, only because it took ten years to make these excellent arrangements. Yet most of the writers who have painted this rather attractive picture have not looked beyond the well-known books of Audiganne and Kaufmann, studies based chiefly upon collections of French statutes and legislative debates as well as the best known contemporary newspapers and literary reviews. Little attention has been paid to the Corps des ponts et chaussées, whose activities were far more important than the speeches of its director in the Chambers. Little concern has been given to the vital problem of obtaining the very large amounts of capital that were needed, or to the influence of the serious depression that began in 1837.

Construction of a systematically planned network of railroads in France was first considered after the Revolution of 1830, and was advocated by a group of brilliant young writers who were nearly all followers of the idealist Saint-Simon who had died in 1825, but whose sect had been kept together by Prosper Enfantin until 1832. Thus Michel Chevalier, who had been trained as a mining engineer but who became a writer and teacher of economics, published in the Saint-Simonian newspaper, Le Globe, in the spring of 1832, his "Système de la Méditerranée," a series of articles in which he envisioned great arteries of travel along which both men and goods could be carried rapidly and efficiently, whether by water or by land. Chevalier had influence because of the charm of his style and the clarity of his exposition, and his articles appealed to the general public rather than to technical experts. Another publication of the same year, Vues politiques et pratiques sur les travaux publics en France was written by a group of four engineers of

de fer (Paris, 1908), 45.

<sup>&</sup>lt;sup>1</sup> Armand Audiganne, Les Chemins de fer aujourd'hui et dans cent ans chez tous les peuples; Économie financière et industrielle, politique et morale des voies ferrées (Paris, 1858).

Richard de Kaufmann, La Politique française en matière de chemin de fer (Paris, 1900).

<sup>&</sup>lt;sup>2</sup> Arthur Louis Dunham, The Anglo-French Treaty of Commerce of 1860 and the Progress of the Industrial Revolution in France (Ann Arbor, Michigan, 1930), 30-33. See also Audiganne, I, 333, and Maurice Wallon: Les Saints-Simoniens et les chemins

whom the best known were Stéphane Mony and his half brother, Eugène Flachat, men who continued to practise their profession and were thus builders as well as advocates of railroads. Like Chevalier they thought in terms of national arteries of travel, whether by land or water; and to ensure that such arteries would be built they urged the Government to guarantee a minimum rate of interest to the companies building and operating such waterways or railroads, an idea which, as we shall see, aroused heated controversies, but ultimately proved of great practical value.

A third type of railroad promoter is exemplified by Émile Péreire, an exceedingly adroit journalist, who by writing articles on finance and railroads for Le National not only aroused the interest of the public, but also won the practical support of bankers like James de Rothschild, Thurneyssen, and the d'Eichthals. Possessing a genius for organization and charged with boundless enthusiasm, Péreire supplied the stimulus for the building of the railroad from Paris to St. Germain, by prevailing on Stéphane Mony and his brother Flachat to supply the technical skill while he obtained the capital. Péreire was active also in organizing the company that built the railroad from Paris to Versailles on the Right Bank of the Seine, and was possibly the first person to make practical plans for the construction of a railroad from Paris to Belgium and the English Channel. He seems to have understood better than the majority of his contemporaries that most capitalists were quite ignorant of industry and its transport needs, while most investors were fond of gambling and hence preferred dazzling projects to sound enterprises. He understood also the powerful influence exercised by the Corps des ponts et chaussées, inasmuch as this body not only judged the merits of enterprises such as railroads but also competed as an entrepreneur with capitalists in the business of actual construction. Péreire is reputed to have been the man who did most to arouse the interest of Legrand, director of the Corps des ponts et chaussées since the Revolution of 1830, in the building of railroads, impressing on Legrand that the provision of railway facilities was a national problem of urgent importance.4

The first important railroad built in what Audiganne has called the "second period of construction" (from 1833 through 1842) was the short line from Paris to Le Pecq, authorized by the Law of July 9, 1835,

<sup>&</sup>lt;sup>8</sup> Audiganne, I, 336.

<sup>&</sup>lt;sup>4</sup> Wallon, 62, 73-75; Audiganne, I, 365-372.

and opened on August 24, 1837. This has generally been called the railroad from Paris to St. Germain but, because the Seine had to be crossed and because the steep hill upon which the town of St. Germain stands had to be ascended, the railway was not completed to St. Germain until the spring of 1847. Indeed, it was the invention of an atmospheric engine by Eugène Flachat and the construction of such an engine by that excellent builder of locomotives and other machines, Hallette of Arras, which solved the technical problems involved. This railroad, although short, was of great importance because it was the first line starting from Paris; hence it was the first to attract the attention of the entire country, the first French railroad built originally to carry passengers, the first line to be an unqualified financial success from the beginning, and the first to win the support of the future railroad czar, Baron James de Rothschild.

One would have thought that the brilliant success of the railroad from Paris to St. Germain would have been a great stimulus to the building of railroads in France and would have led rapidly to the planning and construction of a national network. Yet almost immediately two railroads from Paris to Versailles were built, which were unsuccessful financially and whose failure not only frightened promoters and investors but brought to light one of the most serious problems that plagued the Government in its efforts to create a national network of railroads: the perennial problem of the rivalry of local interests. Construction of two lines from Paris to Versailles was quite unnecessary at that time and was the direct cause of the failure of both. Jealousy between the two quarters of Paris in which the lines started and, to an even greater extent, jealousy between the two quarters of Versailles where the lines ended inspired their construction. This important fact has usually been overlooked and attention has been concentrated solely on the rivalry of the Rothschilds, who supported the line on the Right Bank, with the Foulds, who promoted the line on the Left Bank. Furthermore the line by the Right Bank has generally been described as a success because it was financed by the Rothschilds, Péreires, d'Eichthals, and Mallet Frères who were close to the Bank of France, whereas the line on the Left Bank has been called a failure because it had the greatest difficulty in obtaining funds despite a loan of 5,000,000 francs from the Government. Yet the line with little capital, which every one describes as a failure, actually earned 1.9 per

<sup>&</sup>lt;sup>5</sup> Journal des économistes, XVI, 381; and Napoléon Chaix, Annuaire officiel des chemins de fer, 18.

<sup>&</sup>lt;sup>6</sup> Chaix, 99, and Audiganne, I, 375-376.

cent and the line which was so richly supported earned only 3 per cent<sup>7</sup> in a period when the prevalent rate of interest was between 5 and 6 per cent. Both were clearly failures and this unfortunate situation was an important factor in delaying the construction of a national network of railroads. For themselves the Paris-Versailles lines created problems that were not solved until 1846 when the two railroad companies were merged under pressure from the Government.

II

In the meantime plans had been made to connect Paris with the important provincial center of Rouen. But after years of discussion regarding the route and after a concession for the railway had been granted, the company that had received the concession surrendered it.8 The causes of this dramatic failure, which have rarely been mentioned because of the great success of the second Paris-Rouen railroad company, deserve careful consideration, because they throw much light upon a very confused and difficult situation. The concession requested by Lehobe, Chouquet and Company in 1838 had been the fourth applied for in thirteen years. It had been difficult for the Government to decide between the rival merits of the direct route through Pontoise and Gisors over the plateaux and the longer route through the valley of the Seine which would serve more important towns.9 The Government finally decided that the road should go across the plateaux, and it was for this route that the concession was granted. Since the engineers of the Corps des ponts et chaussées had estimated the cost of building the railroad at 80,000,000 francs, the Lehobe Company limited the capital it sought to raise to 90,000,000 francs, only to find that its own engineers, when they resurveyed the line, decided construction costs alone would be 157,846,691 francs.<sup>10</sup> This grievous error, together with the fact that the Government engineers had laid down regulations requiring expensive grades and curves, made the project difficult. Moreover, the concession had been made very short and the Government stipulated that it could be canceled on brief notice. Lastly, the rates were fixed far too low to justify the risk. Altogether these circumstances made the venture very unattractive to investors;

<sup>&</sup>lt;sup>7</sup> Alfred Legoyt: Le Livre des chemins de fer construits, en construction, et projetés ou statistique générale de ces voies de communication en France et à l'étranger (Paris, 1845), 145-147.

<sup>&</sup>lt;sup>8</sup> Marcel Marion, Histoire financière de la France depuis 1715 (Paris), V, 198. <sup>9</sup> Georges Lefranc, "The French Railroads 1823-1842," Journal of Economic and Business History, II, No. 2, 311.

<sup>&</sup>lt;sup>10</sup> Journal de l'industriel et du capitaliste, VII, 28-30.

worse than that, a panic occurred on the Bourse at the most critical time for the company, and English interests refused the support which they gave the next year to Charles Laffitte and his English partner. Finally the Government refused financial assistance to the Lehobe Company, although in the same year it aided the Orléans railroad company as it had aided the line from Paris to Versailles by the Left Bank of the Seine. When to these reasons we add the timidity of public opinion regarding railroads in 1839 and the suspicion that the Lehobe Company would supply credit rather than cash and that it lacked the necessary technical knowledge, it is not difficult to see why the Lehobe Company asked for cancellation of its concession.

In the same year preparations for the organization of another company to build a railroad from Paris to Rouen by way of the valley of the Seine were begun by the banker, Charles Laffitte, a nephew of Jacques Laffitte who could rightly call himself one of the founders of the July Monarchy, and a personal friend of the Duke of Orléans and of the directors of the London and Southwestern Railway. 12 Laffitte's company engaged the able English engineer Joseph Locke and the well-known contractors Mackenzie and Brassey; moreover, the company was able to raise the necessary capital. As a result, the French Government in the spring of 1840 granted them not only the desired concession but also a loan of 14,000,000 francs, a sum that represented about a third of the original capital.<sup>18</sup> This is the first recorded case of a French railroad financed with capital obtained partly from England and built chiefly by English engineers and contractors. Here then was established a precedent that was to be followed in extending the Norman line to Le Havre and also in connecting Paris with other points on the English Channel and with Bordeaux, a scheme of railroad finance and construction clearly beneficial to British business. The actual gains that the British obtained from further extension of the network of French railroads varied widely from one venture to another. In the case of the Paris to Lyons railway, for example, or the Paris to Strasbourg line, the profits of the British investors and contractors were not great; nonetheless, these ventures did create opportunities for investment of British capital and chances of speculation.

<sup>&</sup>lt;sup>11</sup> Jules Séguin, Chemins de fer. De leur exécution par l'industrie particulière (Lyon, 1844), 1-3.

 <sup>&</sup>lt;sup>12</sup> Joseph Devey, Life of Joseph Locke, Civil Engineer (London, 1852), 156-158.
 <sup>18</sup> Journal de l'industriel et du capitaliste, VIII, 345.

#### III

A railroad from Paris to Orléans entered into the plans of the Government at an early date, but here also engineers differed as to the routing, finding it difficult to choose between the most direct route and the longer route by way of Versailles which would probably yield more traffic. Extensions of this line were also discussed very early and both the Government and the promoters found it difficult to decide among alternative routes beyond Orléans. Each route developed its partisans, each city raised its subscription, and every faction mobilized the members of the Chambers, the prefects, and the mayors of the districts and towns concerned. Faced with contending political pressures, the Government postponed some of its difficulties by conceding only the direct line from Paris to Orléans to a company headed by Casimir Leconte, the former manager of the most important company of stage coaches, the Messageries royales, in August, 1838.14 Leconte had obtained his capital from some of the interested towns and hoped to obtain more from similar sources, and thus to dominate the company himself. He was, however, soon sidetracked by the Parisian bankers on the board of directors and their powerful friends, the Rothschilds. As a result the Orléans Company passed under the control of François Bartholony, a highly successful banker who had been interested in railroads for some time. He was an intimate friend of Beaunier who built the railroad from St. Étienne to Andrézieux, he had made plans with the Mallet brothers for a line from Paris to Le Havre in 1825, and he had been an unsuccessful bidder for the railroad from St. Étienne to Lyons in 1826.15 He proved to be a sound financier who guided the Orléans railroad through the brief period of governmental harshness until the severe conditions that had discouraged the first Rouen Company had been modified and the Government had guaranteed payment of interest at 4 per cent on the company's capital. He remained the head of the company throughout the long depression of the late thirties and early forties and was dominant at least until the Revolution of 1848.

## IV

Having described the construction of the more important railroads completed or begun during the period when the Government was trying to plan a national network, we must now survey the evolution of govern-

<sup>&</sup>lt;sup>14</sup> Audiganne, I, 385; and René Crozet, "Contribution à l'histoire de la voie ferrée de Paris à Toulouse," Revue de l'histoire moderne, XIV, 242-243.
<sup>15</sup> Audiganne, I, 387.

mental policy and inquire why it was so remarkably slow. The opening of the Liverpool and Manchester railway in 1830, followed soon thereafter by the inauguration of the line from St. Étienne to Lyons and the employment of locomotives upon it in 1832, had made the French Government realize that railroads might become a national question of great importance. Indeed their political significance was understood more quickly in France than in England for the simple reason that no Continental state could treat railroads as individual commercial enterprises because the problem of defending the country against invasion by land was always present. Moreover, the power of governmental bureaucracy, partly on account of the need for defense, was a tradition in France. The fact that many leaders in the French Government appreciated that a national railway policy must be formed has misled many historians into believing that it was formed quickly. It is true that as early as 1833 some action was taken: in that year the Corps des ponts et chaussées rejected an application for the building of a tramway on the road between Montrond and Montbrison in central France. The proposed tramway would have constituted not only competition with an existing means of transportation, but also would have involved alienation of public domain. The promoters appealed the case to the national legislature, which passed a law granting the concession and furthermore stipulated that every future concession must be authorized by an individual law. Then, in the same year Thiers who had previously scoffed at railroads asked, in his capacity of Minister of Public Works, for a grant of funds with which to plan a railroad from Paris to Le Havre. The legislature, torn by local and sectional rivalries, voted instead the sum of 500,000 francs for the planning of railroads in general.<sup>16</sup>

The planning of railroads was, as we have seen, in the hands of the Corps des ponts et chaussées, an organization of highly trained engineers, some of whom displayed outstanding ability. Yet this body was a part of the official bureaucracy, and generally used its power despotically and with outspoken distrust of individual initiative. It was not interested in trade or industry, nor in the problems of economics; it was interested in engineering, and it had no body of sound statistics that might have helped to broaden its point of view, inasmuch as the Government itself did not have really good statistics under the July monarchy. Concerned then mainly with engineering functions, the Corps promptly put its engineers to work, and at the end of 1834 it had in its possession plans for railroads

<sup>&</sup>lt;sup>16</sup> Paul Boiteau, Fortune publique et finances de la France (Paris, 1866), I, 387.

from Paris to Orléans (both by the direct route through Étampes and by the longer route through Versailles), from Paris to Lyons and Marseilles, and from Paris to Belgium. In the course of time further surveys were made and more lines studied by the engineers of the Corps.

Their quick and excellent work was performed so quietly that many people in France were unaware of its thoroughness and significance. Yet, technically accurate as the surveys of these engineers undoubtedly were, we have seen that they underestimated the cost of building a railroad from Paris to Le Havre via the plateaux by approximately 50 per cent, and there is reason to believe that they made other similar errors. Their tendency was to consider only sound construction and to ignore the cost. Their standards of construction remained high, and the rigidity of their engineering specifications was exacting and was not relaxed as rapidly as the improvement of the locomotive would have permitted. They believed in making railroads as straight as possible, no matter what important centers of trade or industry they might by-pass on the way. They felt that not only were they able to plan railroads better than any one else, which was probably true, but also that they should build and operate them; hence their director, Legrand, firmly supported a policy of government construction and ownership despite criticisms in the national legislature, despite falling ministries, and despite shifting public opinion. Unfortunately, French experience with highways and waterways had shown that government construction was usually slow and costly, and that government operation was more adapted to the collection of dues than to speed and efficiency of service. France needed railroads badly, and she ought to have them well built, but the increases in her traffic and population were slow, her distances considerable, and her financial resources hard to mobilize. All these considerations made it desirable for France to build her railroads quickly, if possible, but above all at moderate cost.

 $\mathbf{v}$ 

The problem of financing the construction of a network of railroads in France was exceedingly complex; it involved both psychological and material factors which were only partly understood. The great majority of the French people were still peasants who were inclined either to hoard their savings or to invest them in land. The middle class were more ready to invest than to hoard, but usually its members preferred real estate or government securities to business securities. There were few banks in the country, and it was hard to form even a vague idea of the volume of

private capital that could be drawn upon for building railroads. Moreover it was difficult to make existing funds available because of the scarcity of banks. Nearly every French writer on economic subjects under the July monarchy complained of the scarcity of capital and of the high rates of interest. We may have legitimate doubts as to the scarcity of the capital, but there can be no doubt of the cost and difficulty of obtaining it. Too many people still remembered the disastrous experiment of John Law in the early eighteenth century and distrusted banks because of it, even though they did not realize how grievous had been the dishonesty of the Government in helping to bring about that swindle. Yet funds sufficient to finance the construction of important railroads could be obtained only by the coöperation of the Government, since the Government was the only organization having the confidence of any great body of investors, and that of the great bankers of Paris, Lyons, and Rouen. Help from other towns could be expected only if the railroads actually passed through them, for very few French urban centers were willing to contribute to the construction of railroads that would benefit them only indirectly through the enrichment of the country as a whole. It was futile, then, to complain of the evils of the organization of railroad companies by Parisian bankers; futile for the simple reason that their leadership was essential. Nevertheless, the bankers alone could not have supplied enough railway capital, nor could they have inspired enough confidence on the part of French investors without the active support of the Government. A further element that must be considered was the tradition that the initiative in public works should come from the Government, together with the deep-rooted conviction that governmental regulation and supervision were essential to protect the public interest. Moreover, to the extent that railways were regarded as a part of a program of national defense, it seemed wholly proper that the Government should bear some of the costs of railway construction.

Many historians have felt that France was fortunate in having a bureaucratic government that planned its railroads and thereby created a unified system, and they have contrasted the French railways with English railroads which were being built as individual enterprises without any plan or guidance and with consequent useless or competitive construction. To some extent this criticism is just; yet in France there were years of delay and friction in the carrying out of a comprehensive railway plan. This delay hindered the development of French trade and industry and greatly increased the cost of the railroad system to the nation. The delay was caused less by the failure of men to realize the need of coöpera-

tion between the Government and the Parisian bankers than by the mutual distrust of the two groups that were forced to coöperate. On the one hand, the Government felt that it alone could protect national interests and ensure sound construction and honest financing. It realized that it could not obtain from taxation all the funds needed for railway construction, but it wanted the bankers simply to provide money and share in the risks without sharing in control. The bankers, on the other hand, felt that if they provided a large part of the money and shared in the risks they had a right to share in control; and they believed that they could build the railroads more cheaply and more quickly than the Government if they were allowed to go ahead in their own way. They merely wanted the Government to give them substantial assistance by guaranteeing interest on their investments in railroads, or by making loans, granting subsidies, or by paying for much of the land.

During the period from 1835 to 1842, when attempts were being made to organize the first really important French railroad companies, the Government was displaying resentment against canal company promoters, alleging that excess profits had been made. The attack on the canal companies was an excuse for an attempt to buy back the shares so that the companies might not make greater profits in the future. Some of the canal companies had brought together considerable sums of capital; so had a few of the more important insurance companies; but, on the whole, the railroad companies needed much larger amounts of capital than any of their predecessors. In the face of this difficulty of capital accumulation, the Government showed little understanding of the problems confronting the railway companies. In most cases it sought to drive as hard a bargain as possible. It granted concessions for a brief term of years only and under stern and costly regulations; it enforced taxes of great variety and weight and threatened fines or confiscation if there was not complete fulfillment of all the conditions imposed. The Government sought in these measures not only to protect the public interest, which was its duty, but to do so in a dictatorial spirit, assuming apparently that all the companies were composed of speculators and profiteers, or at least would be if not frightened into prudence and honesty. The net result was that many able financiers and sound investors kept out of railroad securities because they felt that their only chance of profit lay in the very speculation the Government wished to prevent.

The difficulty of overcoming the mutual distrust of the Government and the bankers concerning the railroad question was increased by the whims of the legislature, the fickleness of public opinion, and the uncertainties of business. The deputies, and to some extent the peers, were engaged in the exciting game of politics. They might themselves be able engineers or bankers, they might also be gifted writers and speakers, they might even be economists able to understand the railroad problem from the point of view of the welfare of the nation; yet they could rarely resist the opportunity of using railroad legislation to favor their local constituents and to weaken or overthrow political opponents. Great harm was done in this way to the railroad cause, particularly between 1837 and 1840 when political rivalries were unusually keen because of the struggle for power between Thiers and Guizot and the attempt of Louis Philippe to establish his personal authority by using weaker and more compliant ministers. It is futile to discuss whether the Government had a continuous railroad policy and whether public opinion alone was changeable, as Kaufmann, in opposition to Audiganne, has contended. No government in those years held office long enough to do more than appoint a commission to study the railroad question and to introduce one bill. Meantime the legislature reflected public opinion clearly, but any attempt to make a distinction between public opinion and the Government as a retarding influence on railway legislation is difficult. Thus in 1837 the Government introduced a bill for the construction of six important railroads chiefly by companies, and in 1838 another government introduced another bill framed largely by Legrand favoring construction by the Government itself. Both bills were defeated through a combination of legislative maneuvers and changes in public opinion. It is a mistake to try to isolate one of the three forces acting on this problem and attributed to it major importance. The Government, the legislature, and public opinion all were variable.

## VI

Finally in completing an explanation of the delays in planning and building the French railroads we must consider the developments in business. The period from 1833 to 1837 was one of rising prosperity and industrial development. Many business companies were formed and there was a great increase in the securities listed on the Bourse. Toward the end of this period there was a boom in France, as in the United States and England, followed by a serious business crisis from which France was not exempt, as has generally been supposed, on the ground that her industrialization was slight. Far too many companies had been launched in France, especially those with partnerships of limited liability, "Sociétés en commandite par actions." At the very moment when

a reaction against this overdevelopment of companies had begun in 1837, came the introduction of railroad securities on the Bourse. Then came the financial difficulties of the railroad which was being built from Paris to Versailles on the Left Bank of the Seine. In 1838 there was a lull in these developments, but in 1839 came a severe business depression and a sharp drop in the values of railroad securities on the Bourse. To complicate matters further, the diplomatic situation, which had been growing worse for several years, became suddenly tense, and the country was seriously alarmed in 1839 and 1840 about the danger of war over the Eastern Question.

Delay in planning and building a network of railroads in France is ascribable to no single factor, but to a balancing of forces that were in conflict, when they should have been coöperating. Thus the ability and intelligence of the Government's engineers were neutralized by the bureaucratic methods and intolerance of the Corps des ponts et chaussées; the advantage of a centralized government in planning a uniform network of railways was offset by political strife and undue distrust of individual initiative; and the great resources of the country were not available for railway construction because of the difficulty of mobilizing them effectively in view of governmental and popular distrust of financial leaders. Finally the whole railroad question became acute when the country was alarmed by the danger of war and was sinking into a serious business depression.

Yet even during the worst period of the depression some progress in planning and building railroads was made. As we have seen, the Government revised the harsh conditions of the concession to the Orléans railroad company in 1839 and guaranteed it 4 per cent interest on its investment in 1840. Moreover in 1840, when the crisis over the Eastern Question was at its height, the Government awarded a contract for a line from Paris to Rouen on terms that were acceptable to English capitalists. Meantime the Government went on planning a network of railroads; moreover commissions of the legislature and experts continued to consider railway plans, so that the introduction in February 1842 of the bill that became the Law of June 11 was neither sudden nor unexpected. Defeat of this bill was averted because the Government had an able Minister of Public Works in Teste who had replaced the rather weak Martin du Nord; because public opinion was more anxious to have railroads and hence the legislature showed itself less obstructive; and finally because recovery from the depression had begun and capital was again seeking investment.

The Act of June 11, 1842, 17 was no more surprising in its terms than in its successful enactment, nor was it remarkably wise. It ought properly to be regarded as an inevitable compromise between divergent points of view and hostile interests that had been unwilling to cooperate before. The Act provided for several main lines with a mileage of approximately 3,600 kilometers, but the details of the routing were left to be settled by future laws. It stipulated that the railroads that were built would be the property of the Government, but might be leased to companies provided each lease were sanctioned by a separate law. The Act of 1842 provided that the land needed for right of way would be supplied or bought by the national government, although the departments and communes through which each line passed were to pay two thirds of the cost of the land. The Government was to prepare the roadbed, build structures and bridges, while the lessee companies were to supply all equipment and maintain the railroad in good condition. The length of the lease, the regulations governing operation, and the rates to be charged were to be decided separately for each lease, and were to be approved by the Minister of Public Works, and ratified by a law.

The Law of 1842 authorized construction of a line from Paris to Belgium by way of Amiens and Lille with a branch to some port on the English Channel; a second line to Germany by way of Nancy and Strasbourg; a third to the Mediterranean by way of Lyons; a fourth to the Spanish frontier by way of Tours, Poitiers, Angoulème, Bordeaux, and Bayonne; a fifth from Tours to Nantes; a sixth from Orléans into central France by way of Bourges; a seventh connecting Lyons and Dijon with Mulhouse; and an eighth connecting Bordeaux with Toulouse and Marseilles. This legislatively planned network was the most valuable and permanent part of the statute, for it decided the general routing of the main lines, even if it stipulated routes that were quite obvious. It seemed to contemporaries to end decisively a period of futile discussion, although historians cannot agree that the Law of 1842 settled railway planning definitely.

The provision in the Law of 1842 that the Government should build the railways and that private companies should operate them was a useful compromise between the advocates of government construction and op-

<sup>&</sup>lt;sup>17</sup> Audiganne, I, 252-329; Kaufmann, 19-24; Comte Napoléon Daru, Des chemins de fer et de l'application de la loi du 11 juin 1842 (1843), 4-7; Henry Ferrette, Étude historique sur l'intervention financière de l'état dans l'établissement des lignes de chemin de fer (Paris, 1896), 23-26; Adolphe Blaise, "Les chemins de fer et le crédit," Journal des économistes, XVIII, 44-53.

eration and the proponents of private ownership and operation. In principle the Government retained title to the railroad, but, since the Law of 1842 made no stipulation regarding the length of leases, and, since many leases were granted for short periods, in actual practice a given railroad virtually belonged to the operating company in time of peace. Moreover in actual fact many railroads were built by private companies. Inasmuch as the Law of 1842 was an ordinary statute, it could easily be modified by later laws. It should, therefore, not be regarded as a railroad constitution. Some of its provisions, such as the payment for two thirds of the land by the departments and communes affected, proved impossible of enforcement and were soon replaced. Others, like that providing for the building of the railroads by the Government, were maintained in principle and violated frequently in practice. The Law of June 11, 1842, was, therefore, a useful compromise that provided a convenient basis for the construction of the national network of railroads which nearly every one desired; but, like the Constitution of the Third Republic, it did not satisfy extremists. To the legally minded writers of Continental Europe this statute has appeared as one of decisive importance, but to the economic historian it must be construed as a measure that merely served to facilitate activities that would have occurred in any event because business activity was reviving and because the time for a compromise had come.

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