



## The Parisian Subway, 1880-1900: A Local or a National Interest Line? On the Concept of Globalization

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The aim of this paper is a new reading of the opposing arguments about the Métro project, using the concept of globalization (regarded as the integration of a network into a larger network, vital for the smaller system). This concept arose later than the two decades (1880-1890) we examine, but in the archives, we discover a desire to integrate the Métro network into a bigger network, owned by the great railway companies. The city refused this scheme, facing the national government in a political, not a technical, quarrel. A short analysis of some contradictory documents in this debate led us to change our views regarding the great railway companies: they are not the lobbying power described by their enemies, but, rather, in the 1880s, the only skilled actor able to build a Métropolitain railway in Paris. Finally, the Parisian “Métro” was built, ending a long quarrel opposing Paris and the state.

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The birth of the Parisian subway was the result of a complex and lengthy process, from the first mention of a railway line specific to Paris in 1845 to the first swing of a pick in November 1898. Many reasons account for such slow development. Various technical, financial, legal, and political factors were to blame, the latter playing a more important role than expected.

The debate concerning the status of the Parisian subway in fact concerned the integration of the capital's future network into a larger environment: the national railway network. Although the various protagonists (or would-be protagonists) agreed that some integration of the future network into its immediate environment was necessary, they disagreed on the extent of this integration. Indeed, a full integration into the national railway network was the real issue of contention. Regardless of the Métro's possible future autonomy as far as its status and management, it could in no way be considered strictly for transport within the city of Paris.

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The concept of globalization can shed some light on the events surrounding the initial discussions about the Parisian subway. I define globalization as the integration of a network into a larger network that is vital to the smaller system.<sup>1</sup> This definition includes the geographical, administrative, and political aspects of such a process. We will see that the political side of things was a major obstacle. My aim is to analyze the relevance of using this concept to interpret the events and historical sources pertaining to the project of the Métro's construction, and thus to contribute to the general history of the Métro. Why was there a debate about the Métro's status? Do the archives of the municipality of Paris reflect the idea of globalizing the Métro? What decisions were finally made as to the integration of the Parisian Métro into a more global transport infrastructure?

I base this paper on specific archival materials: the documents used by the different protagonists in the City Council, for the debate about the project of a new Métro. We have to keep in mind the fact that these documents and their arguments are sometimes fragmentary. Each side has its arguments and makes them in short papers (possibly distributed before the meetings of the Council), a kind of pro- or anti-project propaganda. We found only pro-Métro leaflets, but we can find the opposite discourse, which favored the national interest line, behind the pro-municipality Métro arguments.

### **Why Such a Debate? Local Interest, General Interest, and Guaranteed Interest**

Had a single institution or a single individual been in charge of laying out a route for the Métro, things might have been quite simple. Indeed, a law dating from 1865 defined two possible statuses for railway lines: national interest lines, where the state was the arbitrator (and sometimes even a participant in the project), and local interest lines, where the cities whose territory through which the lines passed were in charge of having the lines constructed and of organizing the network. There was never any form of nationalization. During the twenty years in which we are interested, and long afterward, private companies worked the railway lines. One could say the Métro's fate had been decided: it was to be a local interest line. In Paris, however, things are never quite as they are anywhere else. The status of a line also depended on its general usefulness and on the extent of the network concerned. As it happens, Paris was both the capital and the largest city. To reaffirm this predominance, an imperial decree had placed Parisian streets under national highway legislation, which meant that streets in Paris came under state rather than City Council jurisdiction: legally they were not a part of the city. This favored giving the Métro a national line status, because according to the law, streets in Paris were the same as major national routes. What is more, since 1843, the city of Paris

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<sup>1</sup> Thus, "globalization" here has a different meaning than is usually understood.

was at the heart of the country's main transport networks.<sup>2</sup> This element partly explains the long debate that took place between the state and the city of Paris, between the government and the City Council. In addition, a law of June 11, 1880, concerning local interest railway lines and trams allowed these lines to be financed in the same way as general interest lines. The guaranteed interest system stipulated that the state could take a private company's place if the latter encountered financial difficulties. The state guaranteed the payment of the interest on the bonds that financed the construction of an infrastructure. The counterpart to this was that the private company in charge committed itself to extending the network.<sup>3</sup> This legal change sparked a new interest on behalf of large companies (because they were used to such procedures) even if they would have preferred general interest status for the Métro, following the "path dependency" pattern. The authorities, for whom the network's extension was a priority, looked for companies able to ensure the network's durability. This law, however, was not the only element that disrupted the smooth set-up of a railway network intended to ensure public transport for passengers in the Parisian region.

### Paris, a Rebellious City

During the 1880s, relations between Paris and the government were rather troubled. The "Commune," which saw the uprising of the Parisian population against the reactionary government entrenched in Versailles, was still on everyone's minds. The confrontation had ended in a civil war, and every Parisian street had literally flowed with blood. In 1880, the Republic was still young. The construction of a subway system in Paris would be a social and technological triumph, the same way the World Fairs were. Most of the members of Parliament were conservatives, but in Paris the Social Republicans were much more influential. In 1884, three socialists sat on the city council; in 1887, there were seven, then fourteen in 1896.<sup>4</sup> They strongly supported the construction of a subway, which they wished to be a cheap way for workers and poor people to travel long distances (cheaper at least than surface-operating transports). In the 1887 municipal elections, voters elected forty-six radicals of a possible eighty. The radicals had an absolute majority; indeed, never before had they obtained such an important number of seats, and they would never again. Afterwards, they retained a relative majority. The Parisian City Council

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<sup>2</sup> Dominique Larroque, "Le Métropolitain: histoire d'un projet," in Dominique Larroque, Michel Margairaz, and Pierre Zembri, *Paris et ses transports, XIXe-XXe siècles* (Paris, 2002).

<sup>3</sup> Cf. Jean Bouvier, *Initiation aux mécanismes économiques contemporains*, 5<sup>th</sup> ed. (1977; Paris, 1993).

<sup>4</sup> For more information on exact numbers concerning the political forces in Paris at that time, cf. Philippe Nivet and Yvan Combeau, *Histoire politique de Paris au XXe siècle* (Paris, 2000). The first 30 pages of this book concern the 1880-1900 period.

was therefore much more Left Wing than the Parliament or the government. The question of the Métro's construction offered an ideal topic for dispute. It was not that the different parties argued so much about the construction of a subway. What was at stake was the support given to a social-minded Republic or to a conservative one, to Parisian autonomy or to submission of the city to the state. The Métro was a pretext for the Parisian representatives to assert their power over the authority that had supervised them since the recent political unrest. Indeed, Paris not only was a city unlike any other, it was also a municipality different from the rest. A law dating from April 14, 1871, placed it under a set of very restrictive administrative regulations that deprived it of any political independence. The election of councilors was for only three-year terms (the duration for such terms was four years in other cities), and there was no mayor or permanent commission. The City Council gathered only at the Prefect's request and debated only those questions the government's envoy allowed them to debate. This system, which ensured the city's submission, was a punishment for a city that had revolted five times in the last century, and it did not change noticeably until 1939.<sup>5</sup> Ironically, the Métro gave the city councilors an excuse to set up a permanent commission. The Third Commission, in charge of "promenades," took to discussing the Métro, then became associated with the Commission on Public Lighting to form the "Commission du Métropolitain," the existence of which was tacitly accepted by the Prefect and by the government because of the technical nature of the commission's concerns. The commission's existence was nevertheless a circumvention of the law. A February 15, 1877 note, in the archives that mentions the creation of a Special Subway Commission is the only indication of its discreet birth. The members of this barely legal commission took two trips to study the Underground in London, in 1877 and 1891. They also took trips to Vienna and to Berlin in 1885. In the minds of the city councilors, the Parisian subway was to have its own specificity, but globalization also concerned technical information: thus, they thought it useful to gather information from the other networks of the world.

### **On the Globalization of a Network To Be**

How is the concept of globalization relevant here? It is an underlying concept that was present, although the word was never used at the time. Both parties, in defending opposite views, used the idea. The integration of the Métro into a wider environment was for some a hateful idea, for others a positive one. The stakes exceeded the construction of the network itself. At the heart of the debate were the major railway companies. They were linked to the state through the Civil Engineering Institute, where both the companies' engineers and various members of Parliament and of the government had studied. The Institute itself was in favor of making

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<sup>5</sup> Cf. Nivet and Combeau, *Histoire Politique*.

the Métro a general interest line. The project supported by the major railway companies consisted in creating links among the main Parisian train stations (Montparnasse, St. Lazare, Gare du Nord, Gare d'Orléans, Gare d'Austerlitz, Gare de la Bastille, and Gare de Lyon). Their aim was to develop nationwide railway traffic by facilitating access to the national lines' respective terminals. As for the Parisian councilors, they wanted to develop and to have control over Paris's urban network, free from state tutorship and the railway companies' power. "The major railway companies are very powerful. Nothing can go against them. Born under the monarchy, they grew during the rule of the Empire. The Republic has made them into giants." wrote Mssrs. Vauthier and Deligny, two city councilors who had their own plans for a network, which they presented in a little booklet published in 1894.<sup>6</sup> The authors thus equally criticized all three political systems that ruled France during the nineteenth century, however different they may have been from one another. At the same time, the major companies were mentioned with a sort of respect: whatever happened politically (and we know that France went through times of extreme political unrest during the nineteenth century), the companies seemed to prosper, proving that economic growth and accompanying globalization were not dependent on the political system. Overall, the companies did not appear to be the progeny of one political system or the other, but rather an answer to the growing demand of the economy for fast and reliable transport. The Republicans could hardly blame the companies for having collaborated with the July Monarchy and the Second Empire, and neither could they blame the political rulers who governed before the Republic for having helped the new means of transport to grow when this new technology had allowed communications and commerce to develop.

Thus, the condemnation of all three political systems in the same caustic sentence was first a denunciation of the Republic and of its opportunistic dealings with large companies, the aims of which were not urban development but profit. The city councilors wished to ease traffic inside Paris and to facilitate access for the workers to the industries located in the town center. Indeed, since the creation of the Haussmann boulevards, much of the working class lived outside Paris. There was even talk of lowering ticket prices for morning and evening trips, so that workers could make the day trip—that is, be hired in the morning and go home at night. The councilors thus saw the Métro as a local interest line.

Finally, fear inspired by the vastness and the novelty of the project slowed decision-making. For instance, the continued ventilation of underground tunnels was an ill-mastered matter, as were the principles of traction energy, with which there was little experience. As mentioned the members of the Special Commission for the Metropolitan made trips to

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<sup>6</sup> Archives de Paris et de l'Ancien Département de la Seine [hereafter, APADS], V108 article 9. All the documents referred to are registered under the same classification mark; there is no further classification.

study other subway systems abroad. Following initiation of planning for the London underground in 1855, construction began in 1863. With connection to the national networks, the Tube rapidly extended toward London's periphery. The Berlin subway was built from 1871 to 1877, and New York's Elevated from 1871 to 1874. Finally, Vienna had its own subway network built shortly before that of Paris; it covered 25 kilometers.<sup>7</sup> The circumstances of these networks differed from that of Paris: the underground soil was dissimilar, whether solid in London, or swampy in Berlin; laws on expropriation varied (ownership of the underground wasn't as developed in London as it was in Paris); and, while there was a relative plenty of usable space in New York and Berlin, it was harder to find in London, and downright scarce in Paris. Such were the intricacies of the conflicting parties. How does the issue of "globalization" (of the integration of the Métro into a larger environment) arise in the historical sources?

### **The Historical Sources as Seen Through the Concept of Globalization: Which Sources Were Relevant?**

The concept of globalization, which was at the heart of the debate concerning the Métro's status, we find only in the documents that preceded the state approval of the Métro, as this approval ended the dispute. The archives concerning the Métro are of two sorts. On the one hand, they contain the technical plans and maps, the result of the imagination and know-how of various engineers and inventors. On the other hand, they contain all the official documents pertaining to the debate on the Métro's status. Although there are not many of these documents, going through them is quite arduous. Thus, I am basing my study on a single cardboard box of documents from the Parisian Archives. In this box are documents covering the years 1884 to 1895. I will not attempt to make an exhaustive list of documents pertaining to the Métro; on the contrary, I focus on the minutes of a session held by the General Council of the Civil Engineering Institute and on several printed declarations handed out during sessions held by the Parisian City Council from 1888 to 1894. These sources are not the only ones that mention the idea of a globalization of the railway lines running inside Paris. I am ignoring the bits of railway line belonging to the major train companies, which were only the Parisian parts of the national tracks that extended to the rest of the country. Other sources sporadically mention the global nature of the urban network. For example, Emile de la Bedolliere talked of the "*petite ceinture*" (or "small belt"), a circular railway track running around Paris (this famous track is now a "ghost" track, replaced by buses, but the route the buses follow is still called the "PC," for *Petite Ceinture*): "this important line which serves as a link between Bordeaux and Lille, between

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<sup>7</sup> Roger-Henri Guerrand, *L'aventure du Métropolitain* (Paris, 1986), 29.

Marseille and Cherbourg.”<sup>8</sup> The PC line does not literally link these cities up, but rather makes going from one major Parisian train station to another much easier. Thus, seeing railway transport in Paris as a link between major train stations is not an idea that originated with the Métro project. In going against the idea of the Métro as a simple link between train stations, what the city councilors refused was the submission of the future Parisian railway network to non-Parisian interests. Thus, one could hardly accuse them of being reactionaries.

### **Analysis and Interpretation of the Conflicting Discourses**

Revisiting the development of railway lines in Europe at the turn of the century, the growing density of the networks is striking, although they were not yet unified. The Bern Convention in October 1890 was the result of a number of legal and technical efforts toward establishing a first common set of rules concerning international railway transport, which had started in 1874.<sup>9</sup> Thus, it is easier to understand the major train companies’ eagerness for integrating the Parisian railway lines into this huge network. To connect to the French network was to connect to the European network that was growing faster every day. This had another consequence, not much discussed at the time, but which was important when the time came to make decisions. The General Council of the Civil Engineering Institute stated that “a suburban railway line . . . going around Paris and allowing various points of entry into Paris would be of an important concern . . . to the military” and therefore should obviously become a matter for the state.<sup>10</sup> The integration of the Métro into a global, or even a regional, network had a drawback: it opened the city to possible invaders—and the invaders were not far away. It had been only twelve years since the Prussians had been on the Place de la Concorde. The fear of building a railway system that would serve as a Trojan horse was not an idle one.<sup>11</sup> However, the city councilors saw the hand of the major train companies in the intervention of the state, whatever form it took. The

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<sup>8</sup> Quoted by Éric Hazan, *L’invention de Paris* (Paris, 2002), 226.

<sup>9</sup> Cf for instance Laurent Tissot, “Naissance d’une Europe ferroviaire: la convention internationale de Berne (1890),” in *Les entreprises et leurs réseaux: hommes, capitaux, techniques et pouvoirs, XIXe-XXe siècles (Mélanges en l’honneur de François Caron)*, ed. Michèle Merger and Dominique Barjot (Paris, 1998), 283-95.

<sup>10</sup> APADS, V1 08 art 9, Procès Verbal de la séance du Conseil Général des Ponts & Chaussées, 5 Nov. 1883.

<sup>11</sup> The final route chosen for the fourth line of the Métro went beyond the Parisian defensive walls. Thus, the military feared an invasion through the Métro for some time after the network’s construction. “The vision of the Prussian cavalry springing out from the subway onto Saint-Germain-des-Prés was certainly a frightening one,” as Jean Robert humorously notes. Jean Robert, ed., *Notre Métro* (Neuilly-sur-Seine, 1983).

debate was mainly between the government and the city of Paris, which was trying to assert its independence and to forge itself a political identity.

During a session held on November 5, 1883, the General Council of the Civil Engineering Institute was asked to give its opinion on the route of the future Parisian subway, which was to be state-approved. The council only had an advisory capacity, but its recommendations received careful consideration, especially if they supported the plans made by the government. The problem of the Métro's status inevitably came up. A decree dating from July 6, 1878, stipulated that the Métro had to link the center of Paris to the major railway lines that spread out to the rest of the country. This decree also underlined the fact that the cost of the Métro's construction was equivalent to that of a national railway line's construction. So the discussion was somewhat distorted, because from the start the Métro was committed to the obligation of transporting transit passengers inside Paris. The Métro was thus seen first as a complement to the national railway lines, as a sort of conveyor belt between train stations. The council was in favor of giving the Métro a national line status, for the reasons previously discussed. Although I will not go into the details of the chosen route, let us examine council members' ideas concerning the network.

Reading the information-rich minutes of the session brings us to the conclusion that the councilors faced a dilemma. If the Métro were not linked to the Parisian train stations, it would lose much of its usefulness. However, the future network was above all an urban network, and it was obvious that a vast majority of its passengers (95 percent of them according to Vauthier and Deligny, in a text which defended a municipal project for the Métro, in 1894) would use the line to travel inside Paris.<sup>12</sup> Linking the outer suburbs where the workers lived to the industrial center of Paris also seemed a necessity; the network, strictly speaking, would exceed the limits of Parisian municipal territory. Thus, the state, the city of Paris, and the Ile-de-France region were all concerned about the new network. The Métro was of local interest, general interest, and regional interest, although the region had no legal jurisdiction. Three distinct geographical levels overlapped: the network was at once a major transportation system for traffic inside Paris, an essential link between the city and its peripheral suburbs, and a link between train stations leading out to the rest of the country. This overlap was precisely what caused all the legal problems regarding the Métro's status, as it was a novel situation for which no law existed. The council's conclusion was not a conclusion at all; rather, it stated that the Métro was a railway line apart from the rest. Thus, according to the council, although only the state could legitimately administer it, only the city of Paris could retrocede the network once the contract signed with the concessionary company expired. A few years later, in 1889, the Minister for Civil Engineering arrived at a similar conclusion, saying that the Métro's status (whether it should be declared a

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<sup>12</sup> APADS, V1 O8 art.9.



local interest line or a general interest line) should be decided “at the same moment as the line is given State-approval, and taking into consideration the different interests the line is to serve.”<sup>13</sup> The problem was that the line served various interests. Neither the Civil Engineering Institute’s conclusions nor the Minister’s declarations really helped move the debate forward.

Nonetheless, an important word appeared in the minutes of the November 1883 session: one of the members of the council stated that people came to Paris from “all parts of Europe and the World. Such traffic [was] indeed of a general and of a universal interest.” Universal is the important word here. In 1883, although there was not yet talk of “globalization,” a similar idea existed, using vocabulary inherited from the Enlightenment years: the Métro would be at the heart of world traffic. Of course, one must be wary of the pomposity of the idea, and bear in mind that this argument was used both to support the idea of the Métro having a general interest status, as well as designed to convert an audience. Nevertheless, the idea rings true; full use of the Métro required integration into a much larger flow of traffic. Although the precise extent of this flow still had to be determined, with the mention of “universality” the Métro was not just an urban or even a regional project anymore. It was a part of the worldwide globalization process, which had noticeable consequences on national economies.<sup>14</sup> The Métro was used as an element of town planning of sorts, to use another anachronistic expression, the stumbling block here being the importance of public interest over profit that town planning entails. More practically speaking, giving the line a general interest status would be, for the Civil Engineering Institute’s members, “the best way . . . to avoid conflicts with Parisian representatives, who will always be tempted to react against State interference in the management of the network.”<sup>15</sup> This threat was not an idle one. Indeed, the municipality’s men strongly advocated full autonomy for the city concerning management of the network. In December 1884, the Commission for the Métro, discussing a project emanating from the Civil Engineering Ministry, declared “the network of the Parisian subway and of the Ile-de-France region must have its own autonomy and must stay completely independent from the major companies and the [railway] syndicates.”<sup>16</sup> In case of shared responsibility over the network, if the Métro received local

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<sup>13</sup> APADS, V1 O8 art. 9, réponse du Ministre des Travaux Publics au Président du Conseil Municipal de Paris, 19 Nov. 1889.

<sup>14</sup> Here we use the word “globalization” in its usual sense, meaning the process that began with the opening of trade routes over the Atlantic Ocean during the fifteenth and sixteenth centuries, and has developed exponentially since, knitting national economies closer and closer together.

<sup>15</sup> APADS, V1 O8 art. 9, PV du Conseil Général des P&C Nov. 1883, p.8.

<sup>16</sup> The idea of developing a regional network is hardly ever mentioned. The problems linked with the development of a strictly Parisian network are already vast enough to require the various parties’ full attention.

line status, the municipal councilors would be sure to fight for increased autonomy.

Maps, among other sources, are sometimes as explicit as the texts themselves. Useful in supporting views on both sides, we should not underestimate the power of their immediate visual impact. The archives were teeming with maps and plans, the exact dating of which is often difficult, but whose respective authors we can guess thanks to the routes they suggested the future Métro should follow. Such is the case for a map with two lines drawn in ink, a north-south line, and an east-west one, crossing in the middle of Paris<sup>17</sup>. These two lines, and the elementary network they make up, beautifully fail to pass through several train stations. Of course, the route includes stops in the Gare de Lyon, Gare du Nord, and Gare de l'Est stations, but none at the Bastille, Montparnasse, or Saint Lazare stations. These two lines, drawn following the *cardo* and *decumanus* axes typical of roman urbanism, seem to bear the mark of the municipality's men.<sup>18</sup> In this suggested route, all links with the outside world are absent, no circular route is considered, and the crossing, what makes the network a network, is at the geographical center of Paris, which, during the nineteenth century, was neither the industrial center nor the business center. It is a location of symbolic significance, but to have the Métro lines cross in such a place made little sense at that point in Parisian history. It was very unlikely that such a cross-shaped route, typical of a refusal to link up the Métro with national railway lines, would provide any profit whatsoever. For the municipality's men, however, especially for Left-Wing councilors, profit mattered little. In his report concerning the Eiffel Tower Company's projects (a company that was closely linked to the powerful Northern Railway Lines Company), Frédéric Sauton, a member of the 3<sup>rd</sup> Commission, stated that "the Métro as we picture it, that is to say as a means of public transport for the citizens of Paris on its own territory and dominion, is nothing but an extension and a perfecting of the present service provided by our tramway and omnibus system."<sup>19</sup> We can observe that the idea of an extension of the network to include the peripheral suburbs has completely disappeared.

It is striking to note, in reading the various suggestions regarding the route the Métro should follow, the importance given to the main train stations, particularly when these suggestions are made by the companies' men. The train stations are the only buildings (the Town Hall excepted) used as landmarks, all other stops taking their names from the existing street names. We could interpret this as denoting a will to integrate the

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<sup>17</sup> APADS, V1 O8 art 9.

<sup>18</sup> In Roman times, *cardo* was the north-south axis, and *decumanus* the east-west axis. As an ancient Roman colony, urban patterns in Paris (then called *Lutetia*) were durably influenced by the Romans. These two axes are still noticeable on maps of Paris today.

<sup>19</sup> APADS, V1 O8 art.9, Rapport de F. Sauton, conseiller Municipal, sur le Projet Eiffel, 12 June 1891, p. 15.

future network into a more global, national network. There is, however, a more immediate and practical (and thus more likely valid) explanation. Indeed, the more emphasis placed on selecting the train stations as obvious stops for the future network, the more likely it would be that these stops be accepted as final when state approval was given.

### **The Role of the Major Railway Companies**

Quite legitimately, the railway companies were interested in profit. Their desire for money, not their concern for public interest, drove their wish for the integration of the Parisian subway into a more global network. There were two sides to their conflict with the city's representatives: they sought both to make a profit on the Métro, which went against the Social Republican views held by the majority of the municipal council, and to control the Parisian railway network, which went against the municipal council's desires for increased political autonomy. The long-standing opinion that the companies wanted to build a subway system strictly for their own benefit, and that they were not at all concerned with the city's best interest gave them a bad name. However, even according to three of the most zealous advocates of a strictly municipally managed subway system, Champoudry, Lopin, and Sauton, the reason behind the train companies' influence was that no other company was either financially trustworthy enough or technically competent enough for the job. The companies not only possessed the financial stability necessary to ensure the completion of such an immense task, but also owned machinery and workshops inside Paris that they used to repair their own lines. In addition, they alone had previous experience building railway lines. The three municipal councilors also remarked that the companies would not make much profit out of the subway network, or at least not for a long time. Indeed, most of the profit would first go to pay back the loans used to finance the Métro's construction. Any excess would be used to extend the network. Several years would pass before they could make a real profit from the Métro, assuming passengers decided to travel via the subway rather than by surface transportation.

Thus, in all fairness, we must acknowledge that the major train companies were the only candidates capable of developing a Parisian subway system, there being no credible alternative. This is why I have deliberately avoided referring to a train company "lobby," because of the derogatory undertones of the word; the train companies were the only trustworthy partners in the matter. A concessionary society whose funds came from the growing electricity market was awarded the Métro's construction and exploitation. Steam power, with which the Métro could have been financed in the 1880s or 1890s, was replaced in 1900 by that more recent source of energy and profit.

### Various Users for Various Networks: A Complex System

How could it be possible for each national railway company to benefit equally from the exploitation of a Parisian railway network? Louis Barthou, the Minister for Civil Engineering, had suggested a solution to this problem. A special concessionary company would be in charge of building and exploiting the railway lines it would take to link the main train stations together in a unified railway system. Each railway company would retain ownership of its own existing lines inside Paris and would pay a certain fee to the other companies, including the new concessionary company, in order to use their parts of the network. In turn, each company would receive money from the other companies, the new concessionary company included, when its segment of the network was used. The estimate was that approximately 25 percent of the Métro's annual travel would be on its own lines. These new railway lines, built specifically for the Métro, would also be open to national trains belonging to the train companies. In determining the fees each company should pay the others, both the extra value the construction of the new Métro lines added to the older national lines, and the number of passengers who took each line had to be taken into account. This would require establishing precisely how many passengers took each line, and which company's carriages they used to do so. As André Berthelot, a municipal councilor in favor of a strictly municipal network, eagerly remarked, this system would soon become a legal and financial nightmare. In presenting a critical study on the future subway, he stated that should the Minister's project be accepted, "the subway would be nothing more than an account number, which is quite frightening."<sup>20</sup> The central issue was clearly what identity the future Métro was to have, and along with it the city of Paris as a whole. This was not the only issue however, as Berthelot was also convinced of the train companies' dishonesty, and warned the councilors against "the financial feudalism" that menaced the city.<sup>21</sup> The Republicans hated nothing more than the idea of feudalism. This closely linked the city's political identity to the fight against unbridled capitalism.

Although the municipal councilors were constantly protesting the projects suggested by the government or by the companies (even more strongly after 1882 when the council's sessions were systematically published in the *Official Municipal Bulletin of Paris*), they were not the only ones responsible for blocking the Métro's development.<sup>22</sup> Twice, in 1887 and in 1893, the National Assembly voted against various projects, driven by the notion that Paris alone should pay for a network that benefited only Paris, or even Paris and its periphery. Moreover, there was a general fear that the real costs of constructing a subway system would vastly exceed the planned costs. The guaranteed interest system, which

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<sup>20</sup> APADS, V1 O8 art 9, André Berthelot, *Proposition relative au chemin de fer métropolitain*, 4 Jan. 1895, p. 5.

<sup>21</sup> APADS, V1 O8 art.9, André Berthelot, *Proposition*, 15.

<sup>22</sup> Larroque, "Le Métropolitain."

backed the concessionary company bonds with state money, would then force the government to pay for the excess cost of the construction. The rest of the country did not see the Parisian subway as being instrumental in accelerating the globalization process and boosting the French economy. Be it a toy in the hands of the major train companies or an asset used by the municipality in its struggle to assert its independence, Paris alone should pay for the Parisian subway. This was more or less what happened in the end.

In this debate, this was but the first step. Men of the municipality versus men of the government and the great railway companies discussed principles and laws, rather than economic studies and calculations. It is relevant to note that in 1894, when the Minister of Public Works wrote that some parts of the future line would be more remunerative than others, basing his remarks on the results of the suburban line of Auteuil (on the west side of Paris), he concluded, “it proves that in Paris, the customer base for such an important means of mass transportation takes time to be formed.”<sup>23</sup> This was a huge error in prediction: in the first year of operation, more than 17 million passengers took Line 1, the first and only one opened at that time. Thus, reading these documents, we reach the frightening conclusion that nobody had any real idea of the future and instantaneous success of the Métro.

In addition to remarks about the economic aspects of this project, I need to include some historical details. In this paper, I deal with political discourses, and show that political decisions and quarrels are fundamental in the building of large-scale urban infrastructures. However, politics was not the only element determining the existence and the form of the future Métro lines. In 1845, Florémond de Kerizouet imagined a subway line linking the stations of the great railway companies to Les Halles in the center of the city, the biggest market for fresh food. Gravity would provide this line’s energy: they would build this railway on a slope.<sup>24</sup> This solution is absolutely pollution-free, but not very efficient over long distances (this technique is still used to form trains in stations, by moving cars a few hundred meters at maximum). Compressed air also received mention (in 1893, for example, by G. Sautereau), but compressed air is not powerful enough; to move full trains would require machines too large to undertake. Finally, when the Métro of Paris was about to be built a new energy was arising all over the world: electricity. This is an important point, because if there were no electrically powered trains, the line (whatever its status) would have had to be elevated. Of course, the London Tube is partially a subway train and, at that time, steam-powered. But a Londoner was used to being in steam, smoke, and darkness: “he is in the same conditions on

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<sup>23</sup> APADS, V1 08, art 9, comments of the Public Works minister regarding the Proposition relative au projet de métropolitain de MM Champoudry, Lopin & Sauton, 21 Dec. 1894.

<sup>24</sup> Florémond de Kerizouet, *Projet d'établissement d'un chemin de fer dans l'intérieur de Paris* (Paris, 1845).

the ground,”<sup>25</sup> wrote Jules Garnier in 1884; whereas the Parisian, “used to the Sun, happiness and colour around him,”<sup>26</sup> could not bear a dark and dusty tunnel. We must note that Garnier’s text is written with a sharp polemical style, very pleasant to read, but not always completely accurate. In 1887, A. O. de Landreville presented his project for an elevated steam-powered Métro, “waiting for the electricity, so precious, so convenient, so charming.”<sup>27</sup> Electricity seems to be the panacea, but it was not well enough understood in the 1880s to lead engineers to think immediately of an electric Métro. The question of energy, and in particular of electricity, was not evaded, but for all these engineers, the most important issue in 1888-1890, was much more prosaic: to have their proposal chosen as the best project.

### **Final Decisions: The Municipality’s Victory**

The municipal council rejected Louis Barthou’s project in 1895. Berthelot’s caustic criticism of the project had left it little chance of approval. This was another defeat as far as beginning the construction of the Métro was concerned: once more, it had to be postponed because the conflicting parties had failed to reach a compromise. Failing to do so again would be disastrous, both for the municipality’s men and for the government. In 1887, many unhappy Parisian citizens had already signed a petition demanding that a subway be built, regardless of its legal status.<sup>28</sup> Disappointing the Parisian electorate as well as the millions of visitors the city expected for the 1900 World Fair was not an option. They needed a quick decision, because constructing the Métro would take time. Thus, aware of these facts, the conflicting parties reached a compromise in 1895: the Métro would be given local line status, as long as the municipal councilors agreed on the route chosen by the Minister—on the route, not on the reciprocal fee system. This agreement meant that the city councilors were largely in charge of the whole affair: there were major modifications to Louis Barthou’s project. However, it was up to the city itself to arrange the financing required for the project. According to a note written by Fulgence Bienvenue, Chief Engineer of the Paris Metro and a civil servant employed by the Paris Municipality, by 1908 the cost of building the initial network had risen to 500 million French francs; the City contributed 360 million and the operators 140 million.<sup>29</sup>

One last problem, of a strategic nature, eventually found a technical solution. Some had argued that the state should be in charge of the capital’s subway system, because such a system would allow for a quick

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<sup>25</sup> Jules Garnier, *Avant projet d’un chemin de fer aérien à voies superposées à établir sur les grandes voies de Paris* (1884).

<sup>26</sup> Garnier, *Avant projet*.

<sup>27</sup> A. O. de Landreville, *Les grands travaux de Paris: le Métropolitain* (Paris, 1887).

<sup>28</sup> Larroque, “Le Métropolitain.”

<sup>29</sup> French Ministry of Finance archives, B 34 077, note dated 02 05 1908.

takeover of the country's major city by enemy troops. As a result, the size of the Métro's tunnels and the space between rails were adjusted so that the Métro's carriages could run on national railway lines, but not the other way around—that is, regular carriages could not use the subway's lines.<sup>30</sup> Thus, the lines could carry troops out from Paris, but not into Paris from the outside. The need for such troop movements never occurred.

### **A Subway Network Insufficiently Connected to the Rest of the Country**

The concessionary company, called the Parisian Subway Company, was created for the sole purpose of the Métro's construction, and was independent from the major train companies. André Berthelot was inevitably a member of the company's board of directors. The fact that board members had to be French nationals suggests that foreign capital funded the company. Indeed, one of its major creditors was the baron of Empain, a rich Belgian businessman whose money came from operating tramway lines. Growing French nationalism would not have foreigners manage such a crucial matter as the capital's subway system. Nonetheless, at the turn of the century, global finance was already a reality, and resorting to foreign capital already a necessity, especially if such capital came from a country as closely linked to France as Belgium.

The present network still bears the mark of the initial will to develop a subway system strictly inside the limits of Paris itself. Extensions of the network reaching to the peripheral suburbs were suggested as early as 1898, but it wasn't until the 1930s that such extensions were actually built, and even then they did not reach very much farther than the immediate outskirts of Paris. The Regional Express Network (in French Réseau Express Régional, RER), starting from 1962, linked Paris to surrounding cities. The RER network and the Métro network are connected one to the other, but this connection is far from harmonious. Technically, the RER is closer to a regular train (while the Métro runs from left to right, the RER runs from right to left). Users of the Métro network and users of the RER are often different individuals, each finding the network they do not habitually use "hard to understand." Is this lack of integration of the Métro and RER networks a result of the way the Métro was first conceived or of subsequent poor management of the city's railway transport system? This of course is still a matter for debate.

### **Conclusions**

The Métro itself was not the crux of the argument between the municipality and the government. They (including the municipal councilors themselves) discussed the different possible routes for the subway exhaustively, but the real cause of disagreement was the Métro's

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<sup>30</sup> *Le Génie Civil*, tome 38, 277-93. The Métro tunnels were only 7.0 meters wide, vs. 9 meters for national railway line tunnels.

status. It had a symbolic importance. Giving the Métro local interest status meant the city was its own master as far as internal transportation was concerned. Building a subway system was a particularly eloquent way for the city to demonstrate its autonomy. It also meant, however, that the city had to find considerable sums to fund the project.

The major train companies were the most credible developers for the future Métro, at least during the 1880-1900 period. Their political disavowal of their leadership gave them a bad name, which has led to criticizing those views that went against the globalization of the Métro.

Once the local interest status was accepted, the route State-approved, and the funding for the project ensured, the actual construction of the Métro could begin. This did not mean of course that all disputes ended. Indeed, in a 1910 *Les Nouvelles* article entitled “The Troubles of Paris,” a journalist complained that the construction of the Métro would make better progress if it were not for “the scandalous autonomy enjoyed by each department of the prefect’s administrative services.”<sup>31</sup> Such a remark implies that the Town Hall should have had full authority over the matter, along with the rest of the issues regarding the city. The conflict between the city and the government had not yet ended. Another stage of the Métro’s history had begun with the initiation of its construction. The paradox of the Métro remained, and remains still, unchanged. Although the network suffers many drawbacks from being centered on Paris alone, this characteristic also makes it unique and is why it so remarkably represents the city it runs through.

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<sup>31</sup> APADS, 1602 W 53, Anonymous, “Les embarras de Paris,” *Les Nouvelles* 7 (July 1910).



Globalization offers extensive opportunities for truly worldwide development but it is not progressing evenly. By promoting trade. One proposal on the table is to provide unrestricted market access for all exports from the poorest countries. This should help them move beyond specialization on primary commodities to producing processed goods for export. By encouraging flows of private capital to the lower-income countries, particularly foreign direct investment, with its twin benefits of steady financial flows and technology transfer. Globalization or globalisation is the process of interaction and integration among people, companies, and governments worldwide. As a complex and multifaceted phenomenon, globalization is considered by some as a form of capitalist expansion which entails the integration of local and national economies into a global, unregulated market economy.[1] Globalization has grown due to advances in transportation and communication technology. in the later half of the 1980s. Since its inception, the concept of globalization has inspired competing definitions and interpretations. Globalization can be on a continuum with the local, national and regional.