

on the line of the present Rue Royale and the inner boulevards (the boulevards des Capucines, des Italiens, and the others that extend the line eastward to the Place de la Bastille), and enclosed but 1400 acres. Louis XIV, more secure than his predecessors, demolished much of the fortified wall, but a century later the government raised a new ring around the capital, this one *not* to protect the citizens of Paris against foreign enemies but to protect tax farmers against the Parisians. The farmers had contracted to collect the *octroi*, a levy on goods entering the city, and even in the eighteenth century Parisians were skillful at tax evasion. This "Wall of the Fermiers-généraux," broken by sixty gates, encircled Paris on the present second ring of boulevards, and in 1850 with but one minor change it still marked the legal limits of the city. In the 1840's a timid government fearful of the renewal of the anti-Napoleonic coalition against France threw a new ring of fortifications around the capital, but lying generally about a mile beyond the tax wall it was not yet confining in 1850.

The royal governments discouraged construction of buildings outside the city's walls, and as the population waxed, the city instead of expanding outward had grown by crowding ever more people into the central quarters. Houses were raised story above story. Gardens and open spaces were built over, courtyards omitted, little more than wagon tracks left for streets. By 1850 the area within the inner ring of boulevards on the Right Bank, the seventeenth century line of fortifications, was an almost impenetrable hive of tenements and shops. Here in an area not twice the size of New York City's Central Park, piled one above another in rooms or tiny apartments, lived more than one-third of the city's one million inhabitants. The density of the population was higher than on the lower East Side of New York in the 1930's.²

This concentration of Parisians was more oppressive than one familiar only with twentieth century Paris might assume, for in 1850 few parks and open spaces relieved the overcrowding. In prosperous quarters private gardens, more common

² David H. Pinkney, "Napoleon III's Transformation of Paris: The Origins and Development of the Idea," *Journal of Modern History*, xxvii (1955), 128.

This Paris of 1850 betrayed centuries of existence behind a ring of fortified walls. The first fortifications, built by Philip Augustus at the end of the twelfth century, enclosed only about 600 acres immediately opposite the islands on both sides of the river. In the next four centuries the walls on the Right Bank were twice moved outward, but by 1650 they were still only

then than at present, offered some relief to the well-to-do, but there were no municipal parks except the dusty Champs Elysées and the Place des Vosges. A few nationally owned gardens were ordinarily open to the public: the south bank of the river had the Luxembourg Garden and the Jardin des Plantes, but on the Right Bank only the Tuileries Garden broke the built-up area, and it was on the edge of the heavily populated districts. The center and east end of Paris were without adequate public parks. The garden of the Palais Royal and the tree-lined boulevards provided touches of greenery in the city, but in 1850 many of the trees were gone, cut down in 1848 for barricades. The forty-eighters' subsequent ventures in tree planting, some one hundred "trees of liberty" scattered haphazardly about the city, were never a real replacement, and most of them had died before the spring of 1849.³

In the crowded areas enclosed by the inner boulevards of the Right Bank lay some of the city's worst slums. Late in the Empire the republicans blamed Napoleon III and his Prefect of the Seine, Baron Haussmann, for having created the slums of eastern Paris. Demolition of old houses in the central and western quarters had, they claimed, expelled the poor from these sections and concentrated them in the neglected eastern quarters and suburbs. Mixing memory with fancy they depicted Paris of the good old days before Napoleon III as a city where all social classes lived happily side by side in all parts of the city. Distinctions in wealth were reflected in the floors on which tenants lived, the poorer tenants occupying the lower-rent rooms on the top floors, the wealthy the large apartments on the second floor, and the moderately well-off the intermediate levels. A sense of solidarity united all the residents, and in times of distress the more prosperous tenants cared for the poorer.⁴ It was a pretty picture with a small measure of truth in it. The social differences between quarters had been less marked in Paris than in London and perhaps other large cities, but the

³ *Journal officiel de l'Empire français*, Supplément, May 1869, p. 7 (hereafter cited as *J.O.*); Charles Merruau, *Souvenirs de l'Hôtel de Ville de Paris, 1848-1852* (Paris, 1875), pp. 287-88, 356-57.

⁴ *J.O.*, Mar. 6, 1869.

mixture of classes and fortunes was breaking down well before Napoleon III's time. An American resident observed in 1850 that in the high apartment buildings the tenants never knew their neighbors, and the English novelist, Edward Bulwer Lytton, had the same experience. Certainly the supposed mutual understanding had not prevented the bitter class warfare of June 1848.⁵

Class quarters did exist in Paris at mid-century, and the poorest of them were dismal slums. In the crowded center of the city eastward from the Church of Sainte-Eustache and the Rue Montmartre rose a mass of ancient and decaying tenements, ordinarily five or more stories high, without courtyards, and with frontages of only some twenty feet. The streets were narrow and winding. Many had no sidewalks, and they were usually wet from the open sewers that ran in the gutters. The sunlight seemed never to penetrate these dark caverns, and by night peaceful citizens avoided them. Here, especially in the streets near the Rue Saint-Denis, in miserable furnished rooms rented by the night lived the outcasts and the disinherited of Paris, men and women without fixed abode or occupation, living by theft and prostitution. Yet this same section of Paris was a part of the city's principal industrial district, which extended eastward beyond the boulevards into the old faubourgs. From thousands of tiny shops and the dark rooms of piece-workers poured forth a stream of clothing, jewelry, artificial flowers, bronze and gold work famous throughout the fashionable world.⁶

But while these crowded quarters produced wealth they also bred disease and social unrest. The death rates here and in the slums of the southeast were the highest in the city. Here the epidemics of cholera that plagued Paris in the nineteenth century usually had their beginnings and their heaviest inci-

⁵ Merruau, *Souvenirs*, pp. 330, 353-55; Catherine Gore, *Paris in 1841* (London, 1842), pp. 244-45; J. J. Jarves, *Parisian Sights and French Principles* (N.Y., 1852), pp. 8-12; Edward Bulwer Lytton, *Night and Morning* (Philadelphia, 1879).

⁶ Pinkney, "Napoleon III's Transformation of Paris," pp. 128-29; Paris, Chambre de Commerce, *Statistique de l'industrie à Paris . . . pour les années 1847-1848* (Paris, 1851), Part 1, pp. 82-190; *Moniteur universel*, Jan. 2-3, 1851.

dence, and here were the strongholds of revolutionary resistance in 1830, in 1834, in 1839, and again in 1848.⁷

The entire east end of Paris was a working class district, and within this half of Paris the slums were not confined to the area enclosed by the inner boulevards. The peripheral sixth and eighth arrondissements had sections of extreme poverty comparable to those around the Rue Saint-Denis, and the center of the Ile de la Cité between the Palace of Justice and the cathedral was another blemish on the city's face, a maze of dark and twisting streets. "The mud colored houses," wrote Eugène Sue, "broken by a few worm-eaten window frames, almost touched at the eaves, so narrow were the streets. Black, filthy alleys led to steps even blacker and more filthy and so steep that one could climb them only with the help of a rope attached to the damp wall by iron brackets."⁸ Fourteen thousand people lived within the narrow confines of the island, and, Sue recorded, it swarmed with "released convicts, thieves, murderers. When a crime is committed the police cast a net into these depths and almost always drag out the guilty persons."⁹ In the years of the cholera, 1832 and 1849, the death rate on this little island was exceeded in only two other quarters among the forty-eight into which Paris was divided.¹⁰

The fashionable residential districts were already in the western half of the city: in the neighborhood of the Rue de la Paix and the Rue de la Chaussée d'Antin and along the Rue Saint-Honoré on the Right Bank and in the Faubourg Saint-Germain across the river. Even these wealthy districts frequently adjoined surprising islands of slums. One lay between the Rue de Richelieu and the present Avenue de l'Opéra, and just to the west of the present Gare Saint-Lazare around the Place de Laborde was a center of vagrants as bad as anything in the east end. Another slum had risen in the most unlikely spot of all—in the space between the Louvre and the courtyard

⁷ Département de la Seine, *Recherches statistiques sur la ville de Paris et le département de la Seine* (Paris, 1826-60), vi, 457, 677; Merruau, *Souvenirs*, pp. 184-88, 198-99.

⁸ Eugène Sue, *Les Mystères de Paris* (New edit., Paris, [n.d.]) 1, 1-2.

⁹ *Ibid.*, 1, 1.

¹⁰ Seine, *Recherches statistiques*, vi, 457.

of the Tuileries Palace.¹¹ Balzac spoke of it as "one of those protests against common sense that Frenchmen love to make." Clearing of the area was started in 1849, but in 1850 most of it remained untouched. Balzac described the appearance of a part of it during the July Monarchy:

Beyond the little gate that leads from the Carrousel bridge to the Rue du Musée, anyone visiting Paris . . . is bound to notice a dozen houses with dilapidated façades, whose discouraged landlords have not troubled to repair them. . . .

In passing this dead wedge and happening to notice the Impasse du Doyenne, one experiences a chilling of the soul, and wonders who could possibly live in such a place, and what goes on there at night, when the alley becomes an ambush, and where the vices of Paris, wrapped in the mantle of the night, are given full scope.¹²

"Our grandsons will refuse to believe," he added, "that such a piece of barbarism existed for thirty-six years in the heart of Paris. . . ."

In sharp contrast with crowded quarters of the center was the present west end of Paris. Beyond the Rond Point des Champs Elysées and the Place de Laborde only the lines of houses along the principal streets, such as the Avenue des Champs Elysées and the Rue du Faubourg Saint-Honoré, and a few scattered structures marred the open fields and woods. North of the Gare Saint-Lazare the Quartier de l'Europe, laid out in lots in the 1820's, remained deserted a quarter of a century later, and the Park of Monceau was "returning to virgin forest," its environs almost uninhabited. To the south, Passy, part of the present fashionable Sixteenth Arrondissement, was only a rural retreat for Parisians seeking relief from the heat of summer in the city, and a guidebook described Auteuil, now in the same arrondissement, as "a charming village, a league to the west of Paris."¹³

On the south bank of the Seine lay a second maze of medieval

¹¹ Pinkney, "Napoleon III's Transformation of Paris," p. 129.

¹² Honoré de Balzac, "La Cousine Bette" in *Oeuvres complètes de Honoré de Balzac* (Paris, 1912-14), xvii, 61-62.

¹³ Merruau, *Souvenirs*, p. 356; *Moniteur*, April 16, 1852, Feb. 19, 1853; Galigani, *New Paris Guide for 1851* (Paris, [1851]), p. 514.

streets like the labyrinth within the inner boulevards on the Right Bank. Vestiges of this old Left Bank still exist, and one familiar with the area between the Place Saint-Michel and the Rue Dauphine can imagine the appearance of much of the Left Bank a century ago. The fortifications had perhaps been even more confining on this side of the river than on the other, for Philip Augustus' wall had remained unchanged for nearly five centuries, and in 1850 a narrow belt extending less than a mile back from the river included nearly half the inhabitants of the Left Bank. Beyond it one came upon lightly settled streets and wide stretches of open fields still within the city's legal boundaries.¹⁴

At the eastern end of the Left Bank the Bièvre River, now covered over in its course through the city and almost unknown, had attracted a variety of industrial plants that required water for their operations, and from its entrance into the city at the present Boulevard Auguste Blanqui to its confluence with the Seine above the Pont d'Austerlitz, the stream was bordered by a succession of tanneries, laundries, and chemical works. Adjoining this industrial district on the north, between the Jardin des Plantes and the Rue Saint-Jacques, lay another conspicuously blighted area. In the eighteenth century the residents of this benighted district were scarcely thought of as Parisians, and the taunt of having learned one's manners in the Place Maubert was a French, eighteenth century equivalent of having been born in a barn. When Victor Hugo, in *Les Misérables*, wanted to emphasize the extremity to which Marius had sunk after his grandfather cut him off he placed him here in a lodging house on the Boulevard de l'Hôpital. Like the slums of the Right Bank the district was made up of narrow streets lined with rented lodgings in which misery found a refuge and crime a breeding ground. In the cholera epidemic of 1832 the two quarters that included this slum area were among the half

¹⁴ Département de la Seine, *Résultats statistiques du dénombrement de 1896 pour la ville de Paris et le département de la Seine* (Paris, 1899), p. 438; Galignani, *Guide for 1851*, p. 46; Jarves, *Parisian Sights*, p. 63; *Siècle* (Paris), Aug. 26, Dec. 20, 1847, June 7, 8, 1858; *Moniteur*, Nov. 30, 1857.

dozen quarters with the highest death rates, and in the epidemic of 1849 one of them again stood equally high among the quarters most seriously affected.¹⁵

Scarcely a fourth of the population of Paris lived on the Left Bank, and this part of the city had grown less rapidly than the Right Bank in the first half of the century. Property owners protested that the national and the city governments had neglected their side of the river while lavishing expenditures on the opposite bank, attracting residents away from the Left Bank and depreciating property values. Until 1848 toll bridges owned and operated by private concessionaires hampered free movement between the two banks. Of the sixteen bridges across the Seine within Paris in 1848 only six were free, and four of these served only the old city opposite the islands. If a man wished to cross the river below the islands, he had the choice of the public Pont Royal by the Louvre, the Pont de la Concorde, or one of the toll bridges, but if he were above the islands he must pay a toll or go out of his way to the nearest free bridge, across the Ile Saint-Louis. The toll bridges were not popular, and in February, 1848, rioters destroyed the collection booths, and neither the owners nor the government dared reinstitute the tolls. In the succeeding two years the city bought back the concessions and thereafter maintained the bridges as part of the public way.¹⁶

Even with the tolls gone two of the bridges retained startling survivals of earlier centuries. The Pont Notre-Dame was disfigured by a water pumping station erected during the seventeenth century on wooden piles in mid-stream adjoining the bridge. Two rows of shops lined the sidewalks of the Pont Neuf. Louis XIV had originally authorized their establishment on condition that they be removed each night, but they soon became permanent fixtures and overran the sidewalks. Suppressed at one time in the eighteenth century, they were shortly reestab-

¹⁵ *Moniteur*, Nov. 25, 1851; *Siècle*, June 8, 1858; Chambre de Commerce, *Statistique . . . 1847-1848*, Part I, pp. 82, 138, 143, 151, Part III, pp. 977, 981-83; Seine, *Recherches statistiques*, VI, 457; Léon Lesage, *Les Expropriations de Paris (1866-1890)*; 1^{re} série, 1866-1870 (Paris, 1913), pp. 29-30.

¹⁶ Merruau, *Souvenirs*, pp. 141-42; *Moniteur*, Aug. 19, 1851, Mar. 3, 1852.

lished and continued there until the city rebuilt the bridge in the 1850's.¹⁷

The toll bridges had handicapped free movement between the two banks, but they were minor obstacles to traffic compared with the medieval street system. Evolved in a city of a few tens of thousands, for pedestrians, sedan chairs, and horsemen, it was ill-suited for the carriages and wagons of a city of one million inhabitants. Except on the boulevards or along the quais, which offered only circuitous routes to most traffic, one could not on the Right Bank travel directly across the city from east to west. The Louvre, the Palais Royal, and the Bibliothèque Nationale lay like a long barricade athwart the western end of the inner city, and the maze of ancient streets and houses just to the east formed a second and broader barrier. Only two passages pierced the first. One, between the Louvre and the Palais Royal, was used by the Rue Saint-Honoré, the principal street from the western limits of the city, but once past this point it narrowed to the width of an alleyway and then ended in an impasse less than half a mile east of the Palais Royal. The Rue de Rivoli was to pass through the same break, but in 1850 this broad avenue, projected by the first Napoleon to cut across the entire city, ran only from the Place de la Concorde to a point about at the end of the present Avenue de l'Opéra. A quarter of a mile to the north the Rue des Petits-Champs led from the boulevards and the Rue de la Paix through the gap between the Palais Royal and the Bibliothèque Nationale, but ended at the central barrier just short of the Place des Victoires. The Rue Rambuteau, the principal contribution of Louis Philippe's regime to the solution of Paris' traffic problems, provided the only direct passage through the central labyrinth, but over most of its length it was only thirty feet wide (compared with the Rue de Rivoli's seventy-two feet and the boulevards' one hundred or more feet). Moreover, on the west it never got past the Church of Sainte-Eustache, and the narrow streets that continued it ran into the barrier of the Palais Royal.¹⁸

¹⁷ *Moniteur*, Sept. 9, 1852; Eugène Belgrand, *Les Travaux souterrains de Paris* (Paris, 1873-77), III, 256-57, 290, 293.

¹⁸ Galignani, *Guide for 1851*, attached street plan; Merruau, *Souvenirs*, pp. 343, 350-52; *Moniteur*, Dec. 11, 1867.

Hausmann might be suspected of exaggerating to emphasize the value of his subsequent work, but one will search a contemporary street plan in vain for a more direct route between the two terminal points.

Hausmann's long daily trek from home to work was, however, unusual in the Paris of his youth and even later. Parisians of a century ago ordinarily lived, worked, and found their pleasures within the confines of a few blocks, having yet to acquire that "dizzying idea" that Jules Romains noted among Parisians of the twentieth century that "they could move about just as they liked and that distance was the last thing that counted." Balzac's Jules and Sylvia Rogron living in Paris in the 1820's knew nothing of the city beyond their own street, and even a substantial citizen like César Birotteau in the normal routine of his life as businessman, deputy mayor, and judge never went beyond the inner boulevards and only rarely crossed the river. The next thirty years brought no change in common habits. Gervaise Macquart, the heroine of Zola's *L'Assommoir*, who came to Paris in 1850, lived first on the Boulevard de la Chapelle. After her marriage she moved to a lesser street nearby, later opened her laundry shop a few doors away, and when she had to give it up she took a room in the same building and lived there until her death in 1859. On only a few occasions did she leave the neighborhood. Following her marriage in the local mayor's office a member of the wedding party proposed a visit to the Louvre, and although they were all residents of Paris only one of the twelve in the party had ever been there, and their behavior on the walk to the Louvre and back betrayed that the center of Paris was strange to them.

Neither the wedding party nor Hausmann apparently ever considered taking a bus, although Paris had been served by public buses since 1828, and in 1850 had thirty lines (with fascinating names like Gazelles, Doves, and Reunited Women) and more than 300 buses. They were equipped, moreover, with cushioned seats, and every passenger was assured of one, for once all the places were filled no more riders were taken. But old habits were not likely to be broken down while the fare remained at 30 centimes, about one-tenth of an ordinary work-

The confused street pattern made even a short trip across the city a complex journey. Baron Hausmann, who as Prefect of the Seine later carried out Napoleon III's transformation of Paris, described the tortuous route he followed in his student days in the 1830's from his home on the Right Bank to the School of Law in the Latin Quarter:

Setting out at seven o'clock in the morning from the quarter of the Chaussée d'Antin, where I lived with my family, I reached first, after many detours, the Rue Montmartre and the Pointe Sainte-Eustache; I crossed the square of the Halles, then open to the sky, among the great red umbrellas of the fish dealers; then the rues des Lavandières, Saint-Honoré and Saint-Denis; . . . I crossed the old Pont au Change, which I was later to rebuild, lower, widen: I next walked along the ancient Palais de Justice, having on my left the filthy mass of pot-houses that not long ago disfigured the Cité. . . . Continuing my route by the Pont Saint-Michel, I had to cross the poor little square [Place Saint-Michel]. . . . Finally I entered into the meanders of the Rue de la Harpe to ascend the Montagne Sainte-Geneviève and to arrive by the passage de l'Hôtel d'Harcourt, the Rue des Maçons-Sorbonne, the Place Richelieu, the Rue de Cluny and the Rue des Grès, on the Place du Panthéon at the corner of the School of Law.²²

²¹ Galignani, *Guide for 1851*, street plan; Merruau, *Souvenirs*, pp. 352-53; *Moniteur*, Jan. 8, 1853.

²² G. E. Hausmann, *Mémoires* (Paris, 1890-93), III, 535-36.

er's daily wage in 1850, and while fashionable Parisians would not be seen on the public buses. In 1856, the first year for which information is recorded, the average number of fares paid by each of the city's residents during the entire year was only thirty-nine.²³

This localized existence, contrasting so oddly with urban life today, appears less strange when considered against the pattern of Paris' streets in 1850. Continued toleration of such a system of streets reflected perhaps a distaste for movement, but the streets themselves discouraged mobility. And it was not only their dimensions and their aimlessness that dismayed the traveler. They were paved with nine inch cubes of sandstone whose edges quickly crumbled under constant wear and produced a surface that was jolting and noisy and offered an uncertain footing for pedestrians and horses alike. The slightest rain turned the dirt from the paving sand into black mud. Although the administration under the July Monarchy had built sidewalks along most streets, the pedestrian on the narrow ways often had to depend on the hospitality of shop doors to avoid being run down or splattered with mud and the filthy water that flowed in the gutters. In the winter when this water froze, ice was an added hazard. By night the streets were little inviting either to carriages or to pedestrians. During six months of the year some 12,000 gas lamps and 1,600 surviving oil lanterns were lighted nightly along the streets. During the remainder of the year only a fraction of them was used and for only part of the night. The permanently fixed gas lights installed during the July Monarchy were an improvement over the oil lamps that swayed like ships' lanterns on ropes hung across the streets, but even they cast little light on the streets.²⁴

Certainly an inconvenient city, Paris of 1850 was also a smelly city. Perfumery was not a major business for no reason. The crowding together of tenements with factories and shops produced a concentration of industrial and domestic odors in areas

²³ Galignani, *Guide for 1851*, p. 8; Alfred Martin, *Etudes historiques et statistiques sur les moyens de transport dans Paris* (Paris, 1894), pp. 86-87.

²⁴ Haussmann, *Mémoires*, III, 137-38, 145, 152-54; Galignani, *Guide for 1851*, pp. 38-39; *Moniteur*, Dec. 12, 1861, Dec. 4, 1862; *Revue générale de l'architecture et des travaux publics* (Paris), XII (1854), 257-58.

where air could not easily penetrate to disperse them. The droppings of the city's 37,000 horses, removed only once a day, and the garbage nightly piled on the street for collection added to the city's odors, but the principal assault upon the Parisian's nostrils must have come from the sewers, the gutters that substituted for them on many streets, and the cesspools and carts used in the disposal of human excrement.²⁵

The city had built its sewers over the course of centuries, adding to them bit by bit to satisfy the immediate needs of the time. In the course of the first half of the nineteenth century successive administrations made many improvements: they extended the total length of the system more than five-fold and nearly completed the centuries-old project of enclosing the principal sewers, but in 1850 the system was still shockingly inadequate for a growing city of one million inhabitants. The three principal collector-sewers were still those used in the Middle Ages: the Seine River itself, the Bièvre River on the Left Bank, and the ancient stream of Ménilmontant (called the Ceinture Sewer), running eastward from Ménilmontant between the inner boulevards and the *octroi* wall to the Seine at Chaillot. The latter two were enclosed, but, of course, the Seine, which received the discharge of the other two collectors and of a number of smaller sewers as well, lay open both to sight and to smell. A manual system of removing toilet sewage spared the river the city's human excreta, but pollution came from the wastes of households and shops, and the seepage of cesspools and cemeteries. Ordinarily the flow of the river assured self-purification quickly enough to avoid serious offense and to prevent any menace to health as long as the river was not used for water supply.²⁶ Nevertheless, a speaker in the Legislative Body near the end of the Empire recalled with distaste "the black torrents" that two decades earlier poured into the river from sewers under the Pont Neuf, the Pont Royal, and the Pont de la Concorde.²⁷ Zola watching the river near the Pont Royal in those days saw "the surface . . . covered

²⁵ Marc Caussidière, *Mémoires* (3d edit.; Paris, 1849), II, 168; *Builder* (London), VIII (1850), 50-51, XII (1855), 481, 514; *Moniteur*, Dec. 7, 1854.

²⁶ *Moniteur*, Dec. 7, 1854; Belgrand, *Travaux*, v, 30-31.

²⁷ *J.O.*, Feb. 28, 1869.

with greasy matter, old corks and vegetable parings, heaps of filth. . . ."²⁸

The Seine was not the only sewer disguising under a different name. Two-thirds of the city's streets ran with the waste water of the adjacent shops and houses, for despite the extension of the sewer system since the Revolution, Paris had in 1851 only eighty-two miles of underground sewers to serve more than 250 miles of streets.²⁹ Most streets still depended on streams in the gutters to carry rain and waste water to the nearest underground sewer. At best these waters were unsightly and gave off a slight odor. When allowed to stand for twenty-four hours, as they might if caught in a depression of a gutter, or when they included liquid excreta, which were permitted in the gutters after 1850, they emitted a nauseating odor.³⁰ In the covered sewers the excreta hastened fermentation, making worse the noxious smell issuing from the openings, despite twice weekly cleanings. Rains caused the gutters to overflow, spilling their contents into cellars, courtyards, and vestibules of neighboring buildings. The underground sewers, too, had been built without any thought of the amount of water they might be required to carry during a heavy rain. Every down-pour brought a torrent of water from the slopes of Montmartre and Belleville into northeast Paris. It overflowed the sewers and flooded sections of the outer boulevards and neighboring streets and penetrated into cellars of adjoining buildings.³¹

The method of removing human excrement seemingly might have been designed to spread bad odors. Each proprietor provided a cesspool in the form of a masonry ditch or some less satisfactory receptacle in which his tenants deposited this sewage, and each night some 200 carts overran the sleeping city to collect the contents of filled ditches. When the carts were loaded to overflowing they made their dripping way to La Villette, where a pump, supplemented by canal boats, awaited to move the vile smelling mass on to a disposal plant in the

²⁸ Emile Zola, *L'Assommoir* (N.Y., 1924), p. 77.

²⁹ *Moniteur*, Oct. 1, 1851; Belgrand, *Travaux*, v, 145-46.

³⁰ Belgrand, *Travaux*, v, 266.

³¹ *Moniteur*, Jan. 22, 1853, Dec. 7, 1854, Feb. 9, 1859; Galignani, *Guide for 1851*, p. 51.

Forest of Bondy, six miles to the east of Paris. Not until 1849 was disinfection of the household ditches made obligatory, and even then the process used failed to neutralize the bad odors, nor did covers confine them. They spread through streets and houses, and at night the heavy wheels of the carts bumping over the cobblestones awakened Parisians so that they might not miss the revolting smell broadcast by the leaking wagons.³²

Sewage disposal and water supply are ever closely related problems, and in Paris a century ago there was one shockingly direct connection. The city drew part of its water supply from that main collector sewer, the Seine, and pumped it largely at points downstream from the mouths of sewers emptying into the river. Most of the remainder of the city's water supply came from sources little more inviting.

The water system of Paris, like the sewers, was a haphazard creation of centuries, expanded from time to time to meet immediate needs. Before the first Napoleon the city had depended on the Seine and on springs or wells for its water. Napoleon added 21,000,000 gallons daily of waters of the Ourcq River, which he brought to Paris by a canal also used for navigation. Succeeding regimes made a few lesser additions, and by the middle of the century the city had at its disposal an average of twenty-six gallons daily for each inhabitant, far below New York City's present average of about 150 gallons though near the thirty to thirty-five gallons then accepted as adequate for large cities. But the antiquated distribution system permitted use of only about half the available supply, and most of it was of such poor quality as to inspire wonder that consumers took even that much.³³

Only one house in five had water piped to it, and in all Paris fewer than 150 houses had running water above the first floor. This niggardly equipment was not owing alone to the stinginess of Parisian landlords. A quarter of the city's streets had no water conduits, and where water was available the uncertainty of supply must have repelled customers. In the summer when

³² Belgrand, *Travaux*, v, 250-52, 268-69.

³³ Haussmann, *Mémoires*, III, 274-83; *Moniteur*, Dec. 5, 1854; *J.O.*, Supplément, May 1864, p. 7.

demand was heavy the customer could frequently get only a trickle from his water tap, because most of the secondary distribution pipes were so small that they emptied more quickly than they could be refilled, even though the reservoirs were full. In the winter flow was frequently cut off by freezing of water in pipes laid too close to the surface.³⁴

Large sections of the city, owing to their elevation, could not get water above ground level. The Ourcq Canal provided more than two-thirds of the water supply, but a fifth of the city lay above the level at which it could be distributed, and in another two-fifths it could not be delivered higher than the ground floor of buildings. In the first Napoleon's time no one expected to have water except in hydrants and fountains at street level, and the Ourcq system with a few supplemental sources for high districts had sufficed. By 1850, however, it was thought essential to distribute water to every house, as in London and other English cities, and then the Ourcq was a practical source of supply for only two-fifths of the city's area and half its population. The water available from springs and artesian wells could furnish but a tiny fraction of the remaining demand, and the aging pumps on the Pont Nôtre-Dame, those installed before the Revolution at Chaillot and near the Invalides, and a newer machine above the Pont d'Austerlitz lacked the capacity to pump Seine water in adequate quantity to three-fifths of the city.³⁵

With water taps still a rarity Parisians ordinarily obtained their water from individual wells, from public fountains, or from water sellers. Most houses had their own wells, but the water from them, infected by infiltration, was at best suitable only for washing and cleaning. For drinking and cooking water Parisians went to the 1700 public fountains that lined the streets and there obtained water for only the trouble of carrying it home. More well-to-do citizens bought their water from dealers who, like the milkmen in our time, delivered a standing order to the customer's door each day. The smaller dealers supplied themselves without cost at public fountains,

³⁴ Haussmann, *Mémoires*, III, 237; *Moniteur*, Dec. 5, 7, 1854.

³⁵ Haussmann, *Mémoires*, III, 281-85; *Moniteur*, Dec. 5, 1854.

but the more substantial merchants equipped with tanks drawn by horses or large casks hung over the carrier's shoulders, bought filtered water at commercial fountains maintained by the city.³⁶

According to the best standards of the time water distributed in a city should be soft, agreeable to taste, limpid, and at an even temperature in all seasons. None of the water of Paris met the requirements. All of it contained chemical impurities that made it at least moderately hard. The waters of the Seine and the Ourcq were warm in the summer and excessively cold in the winter. They arrived in Paris turgid from clay in suspension and infected with organic matter, and the Seine picked up much more organic matter as it passed through the city. Except at the merchant fountains the city made no provision for filtering and, indeed, made no effort to purify the water. It was simply distributed as it arrived.³⁷

In the first half of the nineteenth century Paris had suffered two fearful epidemics. Cholera, a pestilence unknown or unidentified in the West before the 1830's, had moved westward out of India in the preceding decade and descended on Europe in 1831. In Paris it attacked 39,000 persons and killed 18,400 of them, including the Prime Minister himself. It struck again across Europe in 1848-49, and this time 19,000 Parisians died. Among medical men a great controversy had raged between the contagionists and the anti-contagionists over the means of transfer of this and other epidemic diseases, but by the time of the second epidemic the anti-contagionist view was generally accepted in France and in Britain and Germany as well. Although subsequently proved erroneous, its influence was salutary, for the anti-contagionists believed that cholera arose from local causes: accumulations of filth, over-crowding, lack of air and light, faulty drainage, infected sewers, polluted water, unwholesome food; and this belief tended to turn attention away from usually fruitless quarantines at frontiers, to efforts to remedy the evil within. The two great epidemics aroused popular and official alarm, and the anti-contagionist theory

³⁶ *Moniteur*, Dec. 5, 1854; Feb. 7, 1859; *Buider*, XVII (1859), 13; Belgrand, *Travaux*, IV, 430, 438-47.

³⁷ *Annuaire des eaux de la France pour 1851* (Paris, 1851), pp. 13-14; *Moniteur*, Dec. 5, 1854; Belgrand, *Travaux*, I, 457-58.

directed it toward problems of public hygiene. In the teeming slums of Paris and in the sewers and water supply it found abuses crying for reform.³⁸

Americans forever puzzling over why Frenchmen behave so oddly like Frenchmen can find in Paris of a century ago another paradox wanting explanation. Here were the highly civilized and reputedly luxury-loving Parisians tolerating the inconveniences and hazards of an overgrown medieval city: alley-like streets without issue, slums without light and air, houses without water, boulevards without trees, crowding unrelieved by parks, and sewers spreading noxious odors. The needs of the city were apparent, and the daily congestion of traffic, the death rate (the highest in France), the two great cholera epidemics proclaimed them for all to see. Successive administrations had made efforts to meet them—a new street there, a passageway widened here, new sidewalks, more sewers, a few thousand gallons added to the city's water supply, but their efforts had been fragmentary. They had lacked the courage, the imagination, and the temerity to attack the staggering problem of virtually rebuilding the city, and if Paris were to support a growing population without peril to public order and public health, nothing less would suffice.

³⁸ Pinkney, "Napoleon III's Transformation of Paris," pp. 129-30.