Abstract: While traditional accounts of the Haussmann reconstruction of Paris allege that the reconstruction was completed for military reasons, namely to ensure government control of the city, this paper proposes a second cause: sanitation. By examining the prints of photographer Félix Nadar, it becomes obvious that sanitation played a key role in the Haussmann reconstruction. This paper begins by addressing classic arguments for the reconstruction and proceeds to analyze several of Nadar’s most important works. The paper concludes with a brief discussion of Nadar’s contemporaries and addresses competing hypotheses.

By Declan Riley Kunkel
Yale University

At the end of Victor Hugo’s 1862 novel, *Les Misérables*, the protagonist, Jean Valjean, is stranded behind in a barricade in the middle of Paris. The French army slowly advances towards him. Thinking quickly, Valjean picks up a wounded friend, lifts him over his shoulder, and disappears into the sewers for safety. As he runs through the small tunnels, he stoops over so that he can fit in the narrow pipes, knowing that the slender gutters are his only opportunity for escape. The sewers allow him to outrun the advancing armies, and he escapes a free man.

Unlike Valjean, scholars have not always recognized the importance of Parisian sewers. Historians Roger V. Gould and Michel Carmona hold that Valjean’s barricades—those erected during the 1832 Lemaître revolution—prompted major urban renovation. Gould and Carmona both assert that Emperor Napoleon III collaborated with Baron Georges-Eugène Haussmann, an administrator, to bulldoze and rebuild Paris with wide streets so that barricades could never again be constructed, and thus citizens could not take the city. While compelling, this view fails to consider the larger history of the reconstruction. Valjean’s escape highlights another part of the story—the sewers of Paris.

In trying to understand the city’s reconstruction, most historians have focused on street-level renovations that benefitted military strategy, but contemporary documents and photographs reveal the importance of something else entirely: sanitation. In examining urban photographs from the period, we can see that not only did sanitation play a large role in the Haussmann reconstruction of Paris, but it was part of a larger effort that highlighted the scientific advancement and theatricality of Paris. This paper will argue that Haussmann-commissioned photography by French photojournalist Félix Nadar and his contemporaries show that sewers were an integral part of Haussmann’s renovation and his vision for modernization. To accomplish this, this article will examine the pre-Haussmann sewer failures—namely the backing up and overflowing of old systems, and the water contamination that resulted. These flaws, contrasted with modern sewers in with Nadar’s photographs and methods of capturing images, sewer design, and urban planning, show that the sewers of Paris were renovated purposely, and with great attention from the outside world.
Academics and historians have tended to focus on the reconstruction’s role in the fall of the commune as a political process. In June 1871, Karl Marx noted in his pamphlet, *The Civil War in France*, that the 1851 reconstruction was “designed to disarm” the people of Paris. Marx reasoned that the reconstruction caused the defeat of the commune, and the dismantling of the spirit of the French people. In 1995, Roger V. Gould, a professor at Yale University, argued along similar lines. He asserted that the Haussmann reconstruction caused a “disruption...for the city’s population” by preventing the “crystallization of militant forms” of popular uprising. In 2002, Michel Carmona, a professor of geography and history at Paris-Sorbonne University, found that “some continue to regard ‘haussmannization’ as the criminal work of a modern Nero bent on vandalizing...Paris” through the creation of situations resembling “the apocalypse of the Paris Commune.” The traditional post-commune account holds that the government “tried to gloss over its authoritarianism (the reconstruction) with a theatrical show of creative initiative (rebuilding theaters and operas).” Part of the reason for this focus may be the dramatic suppression of the Paris Commune itself, an event that highlighted the immediate importance of street-level changes to Paris. In March of 1871, after the Haussmann reconstruction that dramatically reshaped the sewers of Paris, as well as the boulevards that ran above them, the citizens of Paris attempted to barricade the streets and declared Paris to be a sovereign commune; a city outside of the purview of the Versailles-based government. This occupation ended when the government sent armies to brutally crush the city in the so-called “bloody-week” of 21 to 28 May, 1871. Though the defenders fought bravely, the army was able to use the wide boulevards created during the Haussmann reconstruction to maneuver and overcome the barricades.

**THE REBUILDING OF SEWERS**

The rebuilding of sewers, however, was motivated by necessity, not authoritarian desire. Paris was in desperate need of sanitation reform, and long reeked of “horrific smells.” For centuries before 1850, the city had only small amounts...
of narrow piping, which caused blockages that spewed sewage into the open streets. Storm runoff would often sit and pool in gutters and in alleyways, creating a significant health hazard for the rich and poor alike. Haussmann detested the resulting stench of Paris, and recognized there was an urgent need for improved sanitation. He ordered the construction of new sewers, and commissioned Félix Nadar, a photojournalist, to document the construction. Haussmann sought to turn Paris into "an institutional space as necessary to the happiness of great people as the insights of a wise government." Nadar’s photographs captured Haussmann’s vision and were a way to show others that the renovation would improve life.

The style of Nadar’s photographs suggests that these images were for public display rather than structural documentation. Because of this desire for attention, Nadar became one of the first photographers to experiment with electric lighting in photography. In his View of a Gallery, Nadar set up flashbulbs and magnesium strips so that the entirety of a sewer chamber could be illuminated. This combination allowed complete and total exposure to the underground world of the Parisian sewers. In the image, the viewer is looking down a long brick tunnel deep underground, and can see sewage running along deep sluices in the floor to a collecting bin. Such an image was almost entirely new to both photography and to the general public. This practice, which was decried by photography experts, was done at Haussmann’s personal instruction. He wanted the world to see what Paris had become.

To Nadar, the legacy of the reconstruction was sanitation, not demolition—precisely what Haussmann wanted. By preventing disease, modern sewers would save Nadar, and France, from the “nothingness of the human condition,” meaning it would prevent early death. In his own words, the photographer said that the reconstruction was important because it would open up “an infinite field of operations” that would improve the quality of life for all Parisians. Nadar thought that the reconstruction was sparked, at least in part, by concern over raw sewage leaking into food products. Nadar asserts in his own biography that the sewage was “poison[ing] fish,” and that such waste would greatly harm the citizens of the Paris. In his first photographs of the reconstruction, Nadar depicts the changes in sewer technology beneath a Parisian market. In the photograph, large sewer pipes crisscross the walls, separating waste from various houses so that there is no spillover. The fish market, from Nadar’s prospective, was safe. Interestingly, Nadar took this first photograph under the same marketplace where illustrator Edmond Morin had done one of the earliest drawings of sewers. The difference in sanitation quality between the two depictions could not be more shocking—Morin depicted an open sluice system where waste could flood the streets, and Nadar showed waste pipes cleanly and efficiently carrying filth away. The fact that Nadar used his photograph to capture the changes over time caused by the reconstruction of a known site sets the tone for the evolutionary scheme of his documentation. He wanted to show changes because he knew the sewers were important.

Nadar’s photography highlights another benefit of new sanitation—agricultural growth. Parisian farms needed water so that their crops would grow. Prior to the reconstruction, farmers used water that came from any source, including sewage runoff. His pictures demonstrate that the sewers installed were designed to “separate ‘clean’ storm water [runoff] from ‘dirty’ human waste” so that the water could be re-used to irrigate crops and thus feed Paris’s growing population. In short, the renovation of the sewer had benefits that exceeded simply reducing diseases. Nadar’s photograph entitled The Sewers (sluice system) clearly demonstrates this by focusing on the reconstruction’s use of dual-lined sewer pipes. These pipes allowed for the Parisian sewers to control the flow of two different sources of water—storm drains and toilets—without mixing the waste. The separate piping allowed for “clean” water to be controlled, stored, and ultimately used to grow food for the rest of the city. This water, combined with the “advent of inorganic fertilizers,” led to a complete urban revitalization and “the modernization of urban infrastructure”; the Haussmann reconstruction.
In addition to capturing such practical reforms, Nadar’s commissioned work was staged in a way that revealed an ambition for cleanliness and publicity. Beyond simply requiring the sewers to be constructed and documented for sanitary reasons, Haussmann wanted his underground world to be remembered. Nadar’s photographs document this desire well, often relying on artifice to create a particular effect. In his *View of a Gallery of the Sewers of Paris*, Nadar poses mannequins along the lengths of exposed pipes. He highlights the cleanliness of the workers, showing well dressed men in clean clothing constructing tunnels, riveting pipes. This depiction, however, is highly stylized and not entirely realistic. Engravings from the same period show that while workers did labor in relatively sanitary and safe conditions, they did not look or dress in the clean and modern style that Nadar depicts. Nadar shows real workers in some of his later photographs, capturing grubby-looking men in dark clothing working in dangerous conditions. So why might Haussmann also commissioned Nadar’s photographs to highlight the dramatic architectural reforms that were enacted to create the sewers. Architectural and engineering reforms were not limited to the street level—the photographs ask the viewer to marvel at the unseen workings of the city. In his photograph entitled *Sewers: Chambre du pont*, Nadar captures a magnificent underground chamber nearly fifty feet in height that connected the newly-built sanitation infrastructure with the historic catacombs of Paris. Nadar depicted these “constructions” as not simply as marvels of engineering, but also as revolutions in sanitation technologies. In his photograph titled *The Sewers*, Nadar demonstrated that small-gauge rail cars could travel up and down some of the wider tunnels of the city. In his own autobiography, Nadar mentions sitting in the “little wagon[s]” that led home passed the “enormous iron pipe[s]…that contained poisons.” Impressed, Nadar took pictures and testified that the remarkable structures within the sewers “testified to [Haussmann’s] glory.”

Valjean’s Escape

GREATER EFFECTS OF THE SEWERS

Haussmann’s intention of generating interest worked—other sanitary engineers and artists either directly reprinted Nadar’s work, or drew their own schematics of the Parisian sewers. One artistic rendering, circulated in the *Illustrated Magazine of Art*, depicts massive quarries excavated underground to provide “clean water while carrying off dirty water.” This engraving showed that buildings were demolished in part to better public sanitation. Beyond buildings, streets were demolished and rebuilt at least in part for sanitary purposes. Pictures from the time show that the large *Rue d’Arcole* was created to allow for massive pipe positions so the sewers could flow better. Even more, the historic Rue de Rennes had to be completely destroyed to allow for the replacement of the “large[ly] mutilated” public health infrastructure.

Haussmann’s unique combination of documentation and advertising influenced people beyond the borders of France. At the same time that Haussmann was designing and advertising the sewers, other cities in other countries began to model their own sanitation systems off of Haussmann’s newly built Paris. Philadelphia similarly improved public health by renovating its sewer systems in the 1850s, relying on Nadar’s photographs and site tours in France as models. The municipal government was inspired by Haussmann’s desire of “controlling subterranean waste,” and recognized the importance of sanitation in disease prevention.
City leaders feared “miasmas,” which was loosely defined as anything that gave off a foul odor—from corpses, slaughterhouses, or fermentation—and found Haussmann's renovations to be the solution.39 Just as Haussmann had removed all slaughterhouses from the center of the Paris and placed them in “distant neighborhoods” where they could not “infect” any members of the public, Philadelphia transferred meatpacking to the suburbs.40 Soon after, Philadelphia banished all meat-packing industries and slaughterhouses from the city entirely.41 Some historians, however, may contend that Haussmann simply included sanitation as an afterthought, preferring to raze the city for tactical purposes and then including a sewage system after-the-fact. This conclusion, however, overlooks historical precedent. During Haussmann's period, urban designers began to recognize the importance of cleanliness and sewage management. Following the Enlightenment, urban planners worked hand-in-hand with architects to develop cities that functioned “like bodies,” allowing “a circulation of waste, air and water from house to house.”42 Haussmann sought to copy this in his reconstruction, arguing that the “organs of the metropolis function like those of the human body, without ever seeing the light of day.”43 Sanitation was certainly one of Haussmann's central concerns. Even more than simply wanting to design a city that allowed “pure and fresh water, along with light and heat [to] circulate like the divers fluids whose movement and replenishment sustain life itself,” Haussmann wanted Paris to be a beacon of scientific advancement, and the sewers were a necessary part of fulfilling that vision.44 Haussmann's renovation did not cause a revolution of urban design, but rather was a continuation of evolving sanitary thought.

CONCLUDING THOUGHTS
Haussmann did not rebuild Paris simply to allow for a “blunt, efficient, [and] authoritarian,” end to rebellion, but rather wanted to create a city that Jordan himself notes heralded “cleanliness, [and] an urban life [with] quality.”45 So why, then, do historians remember his reconstruction as an authoritarian act designed to crush rebellion? This is at least in part due to a lens historians use to evaluate the war-torn reign of Napoleon III. Many assert that he detested the “long-continued intrigues of treason,” that Paris harbored, and wanted it gone.46 Revolution makes for interesting scholarship. Sewers are simply less compelling.
Endnotes


[3] Ibid.


[9] Ibid.

[10] Ibid.


[12] Ibid., 84.


[16] Ibid., 86.

[17] Ibid., 92.


[21] Ibid., 30


[23] Ibid.


[25] Haussmann was particularly fond of his sewers and “wanted everyone around him” to understand what he did for the city. He was often “pleased to boast” about his accomplishments in the sewers. See J.M. Chapman and Brian Chapman, The Life and Times of Baron Haussmann (London: Weidenfeld and Nicolson, 1957), 127.


[38] Ibid.


[40] Stephanie Kirkland, Paris Reborn: Napoléon III, Baron Haussmann, and the Quest to Build a Modern City (New York: St. Martin's Press, 2013), 171.

[41] Ibid.


[44] Ibid.
