# THE PORCELAIN GOD

## A SOCIAL HISTORY OF THE TOILET



JULIE L. HORAN

Illustrations by Deborah Frazier

A CITADEL PRESS BOOK

Published by Carol Publishing Group

For John Muraca
and Mary Kaye Collins

Thank you

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Illustrations by Deborah Frazier

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Servants attended to every need, requested or anticipated, of the nobleman. A footman followed his master so closely that he earned the name "fart catcher." The servant expected to attend to all of the private needs of his master, and he considered himself to possess the best job in the household. As manservant to the master, he assisted his lord with dressing and toiletry. The servant provided a clean towel, warm water, and a basin for the morning ritual of cleansing. In the evening, the "lucky" servant provided a cushion for the board covering the privy, or "house of easement" as it was often called. After making sure the privy was clean and did not smell, his last act for the evening was to place a urinal next to the bed for nightly use by the master.

Politically, the bourgeoisie, or middle class, used the poor to advance themselves against the aristocracy during the French Revolution. However, the middle class had opinions concerning the poor and the rich that went beyond governing. The cosmetics, outrageous wigs, and heavy perfume worn by aristocrats were thought to be indicative of their lazy, indulgent nature. To the other extreme, the peasantry were viewed as superstitious fools who believed dirt and urine were beneficial to personal hygiene. Bourgeois writings, such as the *Journal de Santé* in the 1780s, called for the cleaning of the environment and promotion of personal health. Unfortunately, the call was not heeded. It was easier to pursue a political than a sanitary revolution.

Benjamin Franklin was famous for his many interests and pursuits. He invented bifocal lenses, published several books, and conducted science experiments with electricity. Another first for Franklin was his design of a second-story privy in his Philadelphia home. The drains of the privy on the second floor were located directly over the first-floor privy.

# 5

# The Victorian Age: Prim and Proper Piss Pots

## *1800–1920*

"A sewer is a cynic. It tells all."

Victor Hugo, *Les Miserables*

Moral propriety marked the era bearing Queen Victoria's name. Books published in nineteenth-century Britain and America described the proper way to serve a dinner or have sex with your husband. Victorians may have been clean in their souls, but their bodies and city streets were filthy. Slums were home to millions of people who worked in factories for pennies a day. Streets were filled with garbage and human waste from overcrowded urban dwellings. City maps from some western American states showed the location of dung, attesting to its permanence as part of the landscape. Cleanliness was not a priority of the government. A street in London went uncleaned for fifteen years.

Prior to the nineteenth century, sanitation regulations instituted by state governments in the Western world occurred

infrequently and were rarely enforced. Laws concerning disposal of excrement generally appeared only after a major epidemic of disease. But the remarkable influx of people to city centers during the Industrial Revolution of the nineteenth century, first in Britain and then in the United States, moved citizens, charities, and politicians to call for government intervention for a healthy environment. Responding to the increasing calls for action, the chancellor of the Exchequer of Britain proclaimed, "Sanitary reform is a humbug." In Lyon, France, an official at the Royal College claimed that loos would lead to the end of respectability and morality.

Not until a series of smallpox, cholera, and typhoid epidemics occurred during the mid-1800s in Europe and North America did people begin to take notice and make sanitation improvements. The slow response in establishing sanitary regulations as a means of curbing disease was due to debate in the scientific world as to whether a connection between poor sanitation and disease existed. In 1854, a British doctor, John Snow, was able to trace an outbreak of cholera to a neighborhood water supply contaminated with feces. However, there was no concrete evidence to support Snow's claim, and it was dismissed. Without verification of a connection between disease and sanitary conditions, British lawmakers refused to infringe on citizens' property by passing a law to build sewers. When possible, such as after a fire, city planners included provisions for sewers in rebuilding. However, only minor changes could be justified until science could prove the connection of poor sanitation facilities to disease. Finally in 1883, scientist Robert Koch confirmed the beliefs of many sanitary reformers by isolating the germ for cholera under the microscope.

By the late 1800s, the golden age of toilets had arrived. Suddenly, toilets were on everyone's mind. Architects earnestly began incorporating flush water-closets (toilets) into building plans. Inventors and entrepreneurs scrambled



to corner the new market. However, because of Victorian modesty, dealing with the body's personal needs demanded creative minds.

## Squeamish Squalor

Understanding the mammoth task faced by city officials, engineers, and inventors in ridding Victorian cities of their foulness requires an appreciation of the truly squalid conditions in which people lived. Even cities in pristine Australia did not escape problems arising from increasing population and the waste that accompanied it.

Doctors in Melbourne, Australia, during the nineteenth century advocated replacing trenches with a modern sewage system. The city had been dubbed "Smelbourne" because of the odor arising from open sewage gutters running through town. But their pleas fell on deaf ears until the 1890s when the Melbourne Metropolitan Board of Works formed to combat the pollution of nearby rivers by sewage. Despite a population density of only six persons per acre as compared to London's forty persons per acre, Melbourne's mortality rate exceeded that of London. The installation of modern sewers and drains decreased contamination found in the water, effectively lowering Melbourne's mortality rate.

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As always, the poor were the last to benefit from sanitary reforms. While sewers and privies were increasingly common in neighborhoods serving the rich and middle class, the poor used common privy pits found in tenement buildings or their backyards. It took 2,300 night-soil carts to empty the tenement privy pits in Paris. In Limoges, there were no winners. Gutters continued to collect raw sewage and garbage as they had in medieval times.

As the population of Paris increased, modernization of the small medieval streets and buildings became necessary. Emperor Napoleon III (1808–1873) supported the redesign of Paris in the mid-1800s to widen streets to enable the passage of a large army. The Opera House and Les Halles, the town market, were built during this period. More importantly, by 1870 most of the city's 805 kilometers of streets had sewers beneath them. The discharge from the sewers flowed into the Seine River, which then transported the foul waste to communities downstream.

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Houses in Manchester, England continued to rely on the "pail system" until the turn of the century. This consisted of petroleum casks placed in front of every house for collecting the inhabitants' waste from chamber pots. Specially colored casks were placed in front of the houses of sick people to warn of disease.

Charles Dickens in Britain and American reporter-photographer Jacob Riis in his book *How the Other Half Lives* (1890) raised people's consciousness with their descriptions of children growing up in the slum tenements of newly industrialized nineteenth-century cities. The images of despair awakened the hearts of middle-class citizens. Reform movements developed calling for changes in the environment and morality of the poor. The Women's Christian Temperance Union (1874), formed in Cleveland, pressured local governments to abolish the sale and use of alcohol, believing it to be the cause of crime, disease, and broken homes. Political reform, through the Progressive Movement of the late eighteenth century in the United States, secured national laws concerning child labor and instigated a push for sanitary reform. The intensity behind nineteenth-century social-reform movements matched the growing intolerance of filth.



Poverty can lead people to desperate acts. In Victorian England the poor scoured the sewage and garbage dumps along the Thames during low tide, searching the muck for food or valuable items. So prevalent was the behavior that they became known as "mudlarks."

Working children were common in Victorian England. Factories were full of them. Eight-year-olds were employed for pennies a day. Some children worked as "pooper-scoopers" around the city. They roamed the streets of London collecting the dung left behind by dogs and sold it to tanners for use in tanning leather.

-I-

Despite the pressures of overcrowded cities, rampant disease, and pure stench, many people managed to just ignore the unpleasantness. Victorians believed in circumspect behavior: Anger or any display of extreme emotion was abhorred. Thus, Victorians tried hard to deny natural emotions and bodily functions. "You won't enjoy sex, dear. Just close your eyes and think of Britain." Such was the stereotypical advice given to daughters of marriageable age. Of course, stereotypes are seldom true. But when it came to relieving themselves, the Victorians went to great lengths to hide the action.

Furniture designs during the nineteenth century hid the presence of the necessary, but offensive, chamber pot. The furniture produced was reminiscent of James Bond's toys. Gadgets and secret doors were hidden in every corner of a seemingly innocuous cupboard. In 1833 John Loudon described the "wash-hand stand" as enclosed in a bureau with the washstand opening to accommodate a basin, soap dish, and a comb box. The underside of the cover could be raised via a rack and horse. Below was a space capable of holding an ewer, a basin, and a chamber pot. George Jennings designed a combination bidet, footbath, sitz bath, and commode pail. The

ambitious invention was reversible and fit in one piece, taking up little space.

Close-stools and night tables built in the nineteenth century tried to draw attention away from the act of defecating and toward the enjoyment of music. One type of close-stool played chamber music when its lid was lifted. A night table provided music when its door was opened for access to the chamber pot. As Victorians found bodily functions embarrassing, the musical cover-up relieved the anxiety of being heard while relieving oneself.

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The Hundred Years War between France and Britain ended in 1453, but the war of words has continued through the centuries. During the Victorian era, the British often accused the French of licentiousness and rudeness. The Frenchman Louis Simond, traveling through Britain in 1810, returned the compliment. Writing of his travels, Simond described his horror at the uncivilized sight of a chamber pot or close-stool occupying a dining room corner in many of the English homes he visited. Simon wrote that the British used the facility with no show of modesty and often while in conversation with guests. Apparently, by that time, the French had exported their custom of "French Courtesy," the practice of receiving guests while sitting on the pot.

Continuing the condemnation of the odious, gauche British, Jean-Anthelme Brillat-Savarin described the British reliance on the chamber pot as follows.

> The 'curious facility' had been enjoyed for a great number of years, not only by diners but also by gentlemen travelling in their coaches (silver or pewter), ship's captains (silver or pewter) and judges on the bench (pewter or occasionally porcelain vases). Nowadays the facility is rarely made use of although still, on an English night, the moon

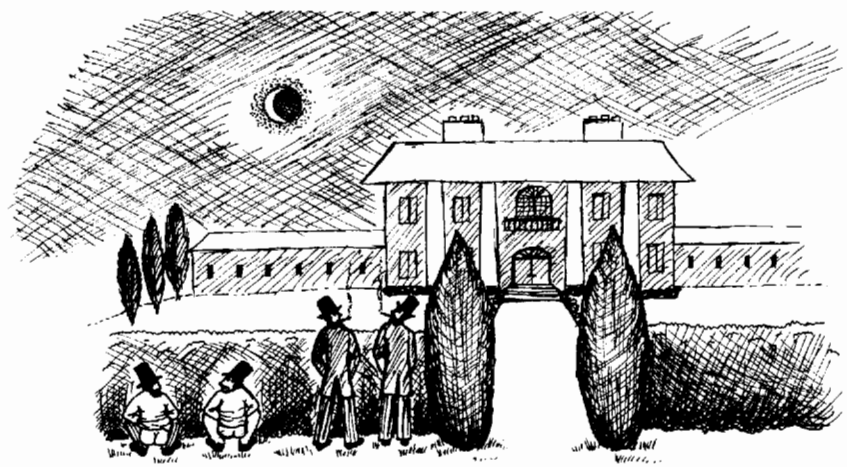


> shining over an estate will illuminate a crocodile of dinner-jacketed figures, wreathed in cigar smoke, picking its way carefully towards the compost heap, or lined up like a firing-squad opposite the rose-bed."

⊣⊢

Morality dominated French life in the mid–nineteenth century as it did the lives of Englishmen under the rule of Queen Victoria. The attorney general of France, Pinard, believed his position as a public administrator included defending public chastity. He targeted immorality in all areas of society. As part of his duty, Pinard arrested Gustave Flaubert in 1857 for writing the novel *Madame Bovary*.

Operating on a tip from a competing manufacturer, Pinard investigated a manufacturer of chamber pots for obscenity. The manufacturer had produced a chamber pot with a large eye painted inside the bottom of the pot. I SEE YOU was the inscription that accompanied the eye. Pinard was not amused. The attorney general arrested the manufacturer, who was then sentenced to one month in jail.



English aristocracy taking a break

Pinard had a counterpart in the fight against licentiousness. Perhaps the inspiration for the obscene chamber pot, Madame de Celnart recommended to her readers that they close their eyes when cleaning their private parts.

-I-

The French may have lost their sense of humor, but the British had not. They tweaked their own prudish tendencies in a euphemistic poem that created a stir with its allusions to using the toilet. An anonymous Victorian poet offered a humorous prayer directed to the ancient Roman goddess of the sewer, Cloacina.

> Oh Cloacina Goddess of this place,
> Look on thy servant with a smiling face
> Soft and cohesive let my offering flow
> Not rudely swift nor obstinantly slow.
>
> *Temples of Convenience*

## Our Heros

Astronauts were to be the heros of the twentieth century; but in the nineteenth century, toilet inventors were the giants that walked among men. Even royalty responded to the lure of the heroic plumbing entrepreneurs.

The drive to reform sanitation was encouraged by the Prince of Wales in 1871. While visiting the house of the countess of Londesborough, the prince caught typhoid. The disease was traced to the house's sewer drains. The Prince of Wales nearly succumbed to typhoid as his father Prince Albert had in 1861. Two other persons visiting the countess died from the disease. The legitimacy of sanitation reform was born when the prince supposedly uttered, "I should like to be a plumber if I were not a prince."



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Building on the groundbreaking inventions of Cummings and Bramah, three British entrepreneurs parlayed the concept of a toilet into a viable industry. The Three Musketeers of plumbing were George Jennings, Thomas Crapper, and Thomas Twyford. They proved to be the most successful of toilet traders in England. Rather than designing an original system, these nineteenth-century inventors tinkered with the existing "Bramah" until each problem was solved.

George Jennings designed a siphonic wash-down closet that greatly increased the pressure of the water entering the toilet bowl. As a result, the rush of water emptied and cleaned the bowl better than previous models had. Thomas Crapper designed a pull-chain that worked in conjunction with a valveless cistern, thus decreasing noise and preserving water. Thomas Twyford contributed to the appearance of the toilet. Removing the wooden chair covering the metal working parts of the water closet, Twyford encapsulated this mechanism in porcelain. The move to porcelain provided an aesthetic and functional addition to the toilet. Porcelain bowls made cleaning much easier. In addition, the bowls designed by Twyford were works of art. They were molded into lions, dolphins, and flower motifs.

The achievements of these men were no small matter. The water closet they had inherited consisted of a cast-iron bowl cleansed by a cistern of water released by a handle and emptied directly into the drain below. There was no effective means of preventing sewer gas from escaping into the house. In fact, hotel guests had no need to ask for the location of the "loo" on their floor. They merely followed their noses.

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Construction flaws produced many of the sanitation problems of late nineteenth-century homes. All drains, kitchens,

bathtubs, and water closets in the house connected to a main soil pipe that led to the sewer pipe. Unfortunately, the drains had no valve traps. Stench and bacteria permeated the house and water. In addition, poor ventilating systems contributed to the odors.

The smell of backed-up sewer gas was offensive even to the conditioned noses of the nineteenth century. Plumbers tracked breaks in drains by tracing peppermint oil released into the pipes. Where the peppermint smell overwhelmed the normal stench a break was indicated. Faulty drains and sewers were more than a mere nuisance. The buildup of methane gas created a dangerous situation for homeowners and plumbers inspecting obstructions.

Poor design and lack of ventilation in Victorian plumbing made a plumber's job a dangerous one. If a plumber did not die from disease contracted on the job, he was apt to die from explosions. Rats became the friend of the plumber. The appearance of rats in the sewer indicated all was well. Dead rats meant poisonous air and a possible explosion if a match was struck. Primitive water closets provided breeding grounds for water-borne diseases such as cholera. Houses hooked up to the sewer system offered no respite, as the first sewer drains were made of brick and moved slowly if at all.

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Edwin Chadwick was Britain's leading health reformer in the nineteenth century. In 1842, Chadwick published a general report entitled *The Sanitary Conditions of the Labouring Classes in Great Britain.* This work is credited with highlighting the connection between overcrowded conditions, lack of adequate disposal for human waste, and diseases such as dysentery, cholera, and typhus. Most important, Chadwick proposed modern sewers to correct the problem and emphasized that prevention of these diseases could be obtained for as little as 4 pounds sterling per house.



In response to Chadwick's report and an outbreak of cholera in 1848, London's government conducted a survey on the conditions of its sewers. The results were astounding. One sewer line produced dead cats, dogs, and rats, the remains from a slaughterhouse, horse dung, ashes, pans, stoneware, bricks, and other rubbish. Following the report, London passed its first Public Health Act. The act failed to require strong action to combat the city's filth. But successive sanitary acts put in place the regulations required for disease control. The most important regulations called for local governments to make provisions for human-waste disposal through use of sewers and the cessation of water companies selling water drawn from areas on rivers where sewage was dumped. In 1872, the London legislature passed the Metropolis Water Act, which condensed eight separate water companies into one. Moving toward a standardized sewage system was paramount in the effort to serve all inhabitants of the city. However, technical problems threatened to disrupt the common sewer. Water closets with a water-tight valve were required to prevent standing water, the breeding ground of disease, and loss of water through valves that would not refasten. Instead of saving London from epidemic diseases, an inadequately designed sewer system could act as a conduit of disease throughout the environs.

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Responding to the call for an improved water closet was the now-famous Thomas Crapper. Crapper perfected the valve system of the toilet with his 'Valveless Water-Waste Preventer' in 1884. As its name implies, the Valveless Water-Waste Preventer prevented the loss of water from cisterns equipped with loose-fitting valves. The novelty of Crapper's design was in the way the water could automatically refill without a slide valve. The pull-chain, attached to a circular chamber above the cistern, unleashed water when engaged. The water traveled up a pipe,

displacing the pipe's air. The force created from the water's movement emptied the cistern tank, sending the water into the flushing bowl. The design became known as the Pull and Let Go because the user need not hold the chain until the contents of the tank emptied. The importance of his work in the sanitation field won Thomas Crapper a knighthood from the queen. However, Thomas Crapper is not a household name because of his obscure patent. We have the American army to thank for making the name Crapper infamous.

Stationed in Britain during World War I, American GIs noticed a pattern in the water closets of London. The majority of WCs bore the stamp of Thomas Crapper & Company. The GIs returning from England after World War I brought with them a new word, "crap" or "crapper." The ignoble origin of the word derives from young men saying, "I'm going to the Crapper."

Before Thomas Crapper set up shop in the Marlbourgh neighborhood of London, George Jennings convinced Prince Albert to allow him to display a water closet in the Crystal Palace Exhibition of 1851. Jennings believed that "the civilization of a people can be measured by their domestic and sanitary appliances." Unfortunately, the Victorians were slow to accept the exhibition of WCs in public. When a replica of the Crystal Palace was built, Jennings's WCs were not installed.

But George Jennings saw an opportunity to advance public hygiene by connecting his WCs to the new sewage system built in 1859. He persisted, and by the turn of the century public toilets bearing the "washdown" closet invented by Jennings graced several railway stops, parks, and other public thoroughfares around the world in places such as America, Argentina, South Africa, and Mexico. As the first modern public toilets, they were disguised behind iron arches, pillars, panels, and lamps. Some public toilets were built underground to avoid offending "delicate minds." Jennings's vision of the public toilet included an attendant



who, for a fee of a penny, would provide a clean towel, comb, and clean each seat after use with a damp piece of leather. In addition, a shoe shiner would be on the premises for the patrons' needs.

Travelers to Europe will see the remains of public urinals built at the turn of the century. Located at the intersection of busy streets or in a park, the urinals, commonly called pissoirs, accomodated men only. With no doors and merely a drain in the floor, the pissoirs enabled men to quickly attend to business and be on their way.

The favorite toilet of royalty in the nineteenth century was the Optimus. It was installed in Buckingham Palace, Windsor Castle, and Hampton Court Palace. In addition, the czar of Russia, the king of Thailand, and the duke of Wellington all owned an Optimus. Designed by Stevens Hellyer in 1870, the Optimus was a valve closet that concealed the pipes by placing the whole apparatus in a chair.

The trials and errors in producing a WC may surprise the modern reader, who takes this device for granted. Constant testing of new inventions improved the quality of the toilet. To determine a toilet's ability to flush matter effectively, objects of different sizes and weights were flushed down it. Jennings tested his Pedestal Vase by flushing ten apples, one flat sponge, and four pieces of paper. It was a success. The Pedestal Vase won the gold medal at the Health Exhibition of 1884. An entrepreneur named Shanks developed a cheaper version of Jennings's invention. A cheaper test was needed. He grabbed the hat off his assistant's head, flushed it down the toilet, and cried, "It works!"

Jennings deserves to be known as the father of the toilet. His "closet of the century" improved on the siphonic system of

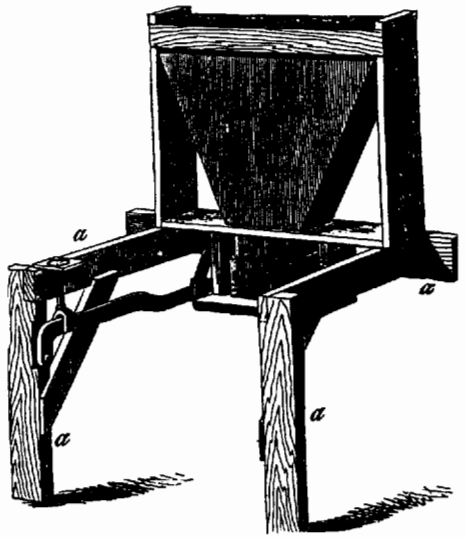
flushing and became the model for modern toilets. The siphonic action allowed for a fast flush followed by a slow flush emptying the bowl more efficiently.

Besides the problems with trapped sewer gas, exploding sewer lines, and disease, the most embarrassing dilemma associated with the new water closets was the noise they created. The loud noise emitted upon flushing the WC announced to the entire neighborhood that someone had used the toilet. Statements such as "Excuse me while I take the scones out of the oven" fooled no one when the house vibrated from the impact of water gushing through the pipes. Discovering a way to silence the toilet became paramount to the Victorian public. Unfortunately, success eluded these modest citizens. A kindlier, gentler, quieter toilet was not invented until the next century.

Problems associated with the water closet—lack of a sufficient water supply, smell, and noise—led to the development of alternative methods. The Reverend Mouler of Britain invented the earth closet. Using the "silent" earth, or ash, rather than noisy water to clean the bowl, the earth closet appeared very similar in design to the water closet. A pull-handle opened a hopper releasing earth to cover the excrement lying in the bowl beneath the seat.

Dr. Vivian Poore invented an ecological closet that he described in his book *The Dwelling House.* Similar to the earth closet, the ecological closet used earth to catch the dung. In addition, a box was provided for composting the human dung into fertilizer. To complete the operation, Dr. Poore suggested growing a clatlava tree nearby in order to use its leaves for toilet paper.






Reverend Moule's Earth Closet patent, 1860

## French Sewers

Early sewers in France resembled little more than street gutters. Because they were open and relatively shallow, the sewers overflowed during heavy rains. Men called *pontonniers volants* took advantage of the situation to earn some money. They placed planks over the sewers for pedestrians to cross the street, for a small fee. These early sewers numbered few and often were private. As a consequence, the French sewers were rarely maintained.

As the city of Paris began to build sewers beneath city streets, the repulsive tunnels became sanctuary and home to the city's criminals. After mugging pedestrians or stealing from shopkeepers, thieves would slip into the depths of the sewer confident that no one would follow them. Citizens feared the sewers, viewing them as a criminal underworld. Victor Hugo found the atmosphere of the sewers synonymous with a civi-

lization. In his book, *Les Miserables*, Hugo wrote, "The history of man is reflected in the history of sewers. . . . The sewer of Paris had been a formidable old thing. It had been a sepulchre; it has been an asylum. Crime, intelligence, social protest, freedom of conscience thought, theft, all that human laws prosecuted or have prosecuted, was hidden in this pit. . . ."

The sewer's reputation for subterfuge expanded during the French Revolution. The revolutionary, Jean-Paul Marat (1743–1793) was rumored to have hid during the Revolution in the sewers of Paris. The theory of his hiding place fit nicely with his diseased appearance of open, oozing sores and severe body odor.

In *Les Miserables*, Victor Hugo described the Parisian sewers of the early eighteenth century through the character of a city official. "The lanterns would scarce burn in the mephitic atmosphere. From time to time a sewerman was carried away unconscious. At certain spots there was a precipice; the soil had given way, the tiling had crumbled, the drain had become a cesspool; nothing solid could be found."

Summing up the environment of Paris during the nineteenth century, Edwin Chadwick, a British public-health leader, stated, "Fair above, foul below." Although Chadwick was undoubtedly correct in his assessment, the reputation of the Paris sewers changed dramatically during the mid-nineteenth century.

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During the great building projects of Napoleon III's reign, the Parisian sewer system was expanded throughout the city and constructed large enough to allow men to walk upright and boats or carts to travel its length. Prior to the French Revolution in 1789, Paris had sixteen miles of underground sewers; in 1840 the sewage system measured sixty miles, and its length was eighty-nine miles in 1853. In the years that followed, the system expanded to 480 miles of sewer line. A cholera epidemic and progressive attitudes toward sanitation



reform accounted for the rapid building of sewers. But the engineers assigned to the construction improved on the old design of the sewers by increasing their size and concentrating on effective methods for cleaning the underground passages.

Parisian fascination with the engineering feat of the new sewers rivaled that of the ancient Roman statesman, Agrippa, who had traveled the course of the Cloaca Maxima. The government, wishing to promote the utility of sewers, encouraged tours of the facility. After the king of Portugal toured the sewer, it became a tourist attraction for the genteel society. Passengers traveled the tunnels in wagons and boats or on the vehicles designed to clean the sewers. The dark underground passages were lit by lamps, and smell was minimal because of the fast-moving water.

J. Bertrand, author of *Eloge historique d'Eugène Belgrand*, found it difficult to describe the one-hour tour of Parisian sewers. "The charm of a boat excursion in well-diluted sewage does not lend itself to being recreated in the tale one can tell of it." An aristocratic woman added, "The presence of lovely women can add charm to the sewer." The allure of visiting a sewer system firsthand has continued into modern times. Today, tourists visiting Paris can still tour the sewers.

## Royal Tails

The nineteenth century produced its share of royal stories on the use of the toilet. Some of them are a bit bizarre.

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The royals fall victim to penis envy apparently in the same manner as do their subjects. A courtier told this story about George IV of England (1820–1830), then Prince of Wales. "One of his [the Prince of Wales's] stories was about the huge size of the penis of one of his royal brothers, a fact that he had dis-

covered one night while riding with him in a carriage. His brother had felt the need to relieve himself. When he did so out the carriage window, the water flowed as from a fountain and the driver urged the horses forward to escape what he thought was a rainstorm!"

-I-

Houses not connected to city drains relied on cesspits. All the problems associated with the pits in previous eras continued during the Victorian age. The accumulation of all that waste had surprising results.

Queen Victoria dominated the age that bears her name. Her personal life and morals became a model for Britain's citizens. By all accounts the marriage of Queen Victoria and Prince Albert proved successful. They were married for twenty years and raised nine children. Prince Albert's untimely death in 1861 from typhoid devastated the queen. For forty years following her husband's death, Queen Victoria insisted on wearing black mourning dresses. To honor his memory, Queen Victoria had statues and memorials built throughout the British Empire. She even went so far as to demand that no changes be made to their living quarters at Windsor Castle after his death, effectively freezing time in the year 1861.

Unfortunately, the order that all remain the same at Windsor extended to the cesspits. No cesspits were emptied in the years following Prince Albert's death. They soon began to spill over. The fifty-three overflowing cesspits contributed to disease and the death of servants and inhabitants of the castle.

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Overflowing cesspits were not uncommon. One evening a lord threw a party for his privileged friends. He stood at the door of his manor house greeting his guests as they arrived. Anticipation ran high as everyone was dressed in evening



attire for the festivities. While watching the approach of a horse-drawn carriage, the lord cried in horror as the ground seemed to open and swallow the carriage. The vehicle had crossed over a cesspit, creating a sinkhole. Passengers in the carriage died in the cesspit's muck as the lord stood by helplessly.

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The queen is always the last to know. Shortly after her marriage to Prince Albert, Queen Victoria discovered toilet paper. Before the advent of sewers, raw sewage and toilet paper were disposed of in the river. While visiting Cambridge University in 1843, the queen walked along the banks of the river with Dr. Whewell, master of Trinity College. As the story goes, Queen Victoria glanced over the bridge and asked, "What are those pieces of paper floating down the river?" Not wishing to embarrass the queen, Whewell replied, "Those, ma'am, are notices that bathing is forbidden."

-I-

Innovations in the WC encouraged the planners of Queen Victoria's coronation to install a number of toilets in Westminster Abbey for the huge event. Proud of their modern accommodations, the organizers believed they had solved an old problem associated with a large gathering. Then a skeptic raised his voice. Suppose, during the crowning of the queen, the toilets should be flushed simultaneously. The noise would be deafening and embarrassing. With the help of the royal guards and officials, a test using decibel readers was performed to determine if a "royal flush" would disturb the event. No such disaster would happen. The test revealed the sound of flushing toilets would not reach the hall in which Queen Victoria's coronation was to take place.

In 1850 Queen Victoria had a train car built for her private travel. The royal saloon contained a private washroom, but the

"convenience" was hidden inside the sofa. Water closets began to appear in Pullman cars in 1874 and finally reached the third-class cars in the 1880s.

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While the Industrial Revolution in Britain ushered in new technologies, not all practices connected with industry were a result of a modern invention. Similar to the practices of the Asians and the ancient Romans, the British collected urine for use in industry. During the eighteenth and nineteenth century, urine was used for bleaching wool. The wool industry was a thriving one in Britain and required large quantities of urine. Mill owners would provide local town residents with large barrels to store their urine. The urine was collected weekly, and the residents were paid for the service. Urine used for the processing of wool was referred to as "lant."

## Cleanliness, American Style

The American poet Henry Wadsworth Longfellow (1807–1882) was credited with installing the first water closet in America in his home. However, the United States did not formally begin importing water closets from Britain until the 1870s. Finding the British imports expensive, American manufacturers replaced imported toilets by entering the market with their own. The American versions were initially inferior to those of their cousins. Their designs were crude in comparison to the stylish British porcelain and were initially constructed of earthenware. Porcelain bowls sturdy enough to be incorporated into a water closet proved difficult to develop.

Thomas Maddock from New York was the first American to manufacture the porcelain toilet bowl in the United States. In 1873, he overcame the pitfalls of competing with the higher quality British product by improving his design and producing



it more cheaply. To sell his porcelain bowl, Maddock carried his fifty-pound demo in a sack over his shoulder door-to-door in New York City. His perseverance paid off and his business succeeded.

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Flipping through newspapers and catalogs of the late nineteenth century, one realizes that consumerism is not new. Each page of a catalog contains several choices and variations of sanitary devices, more than in the present market. Just as modern technology generates new electronic gadgets only slightly improved from last year's models, trade in toilets at the turn of the century offered the consumer new ways to "lay waste." There was the Syphon Jet Bowl, the Washdown Syphon Bowl, the Combo Hopper and Trap, or the Chemical Indoor Closet.

The Chemical Indoor Closet was billed as the alternative to tramping through the mud to reach the privy. It was guaranteed to "protect the morals of your children." A combination of chemicals and water were required to sanitize the facility and prevent odor. The reliance on chemicals meant a nasty burn for anyone falling in.

Joining the burgeoning sanitation market, Bates Company sold the Leighton Patent Enema Chair in 1846. Designed to replace the syringe, the enema chair looked like an ordinary armchair, but was equipped with an apparatus for injections. The patient remained seated and used any quantity of liquid desired.

## Celebrating Cesspits

The vast majority of nineteenth-century Americans placed their trust in the outhouse for their bodily needs because water closets proved too expensive for the average person. Houses were built back-to-back in order to share a cesspit placed on the backyard dividing line. Some families built a

cesspit under the house to avoid going outside. Unfortunately, problems with rats, odor, and disease often developed from this convenient arrangement. Catharine Beecher (1800–1878), the sister of the famous author Harriet Beecher Stowe, presented her views on privies in a series of homemaking books. As an advocate of female educational reform, Catharine Beecher believed women needed to be educated in home economy. According to Beecher, women had the most influence in the home. As such, a woman needed to have knowledge on home design, landscape, and cooking in order to provide the best environment for her family.

In her book, *A Treatise on Domestic Economy, for the Use of Young Ladies at Home and at School*, Beecher addresses the problems associated with keeping a clean house. She suggests that two privies be built for the purpose. The privies should be attached to the rear wall of the house. Ventilation could be achieved without attracting flies by installing a window that opened when needed and a spring door that insured the privy stayed sealed. Beecher does not mention why two privies are needed other than for family comfort. However, the presence of two privies is consistent with Victorian sensibilities of separating the sexes in all intimate actions.

The sanitation problems of New York City during the nineteenth century illustrate the challenges faced by city planners contending with the sudden rise of population due to an influx of immigrants. Conditions deteriorated quickly as the city could not keep up with the amount of human waste produced. Managing garbage and sewage challenged city planners as early as the eighteenth century and reached formidable proportions during the nineteenth century. As with other major cities of the period, New York's problems centered on the collection and disposal of human waste.

New York City passed regulations requiring its citizens to dispose of waste in the city-approved manner. Public law



stated that privies be lined with brick, stone, or wood, be built a specific distance from the building, and be emptied and disinfected periodically. Lime was to be sprinkled into the pits to assist in breaking down organic materials. According to the regulations, the inspector of lots could enter a home at any time without notice to perform his duties.

By 1871 legislators mandated a sewer system for the city. To pay for the sewer, a tax was levied on landowners. Many landlords refused to connect their buildings to the sewer. The sewer was viewed by the landlords as a luxury their tenants did not deserve. Thus, the sewer system in New York City grew in piecemeal fashion with the rich neighborhoods being connected first.

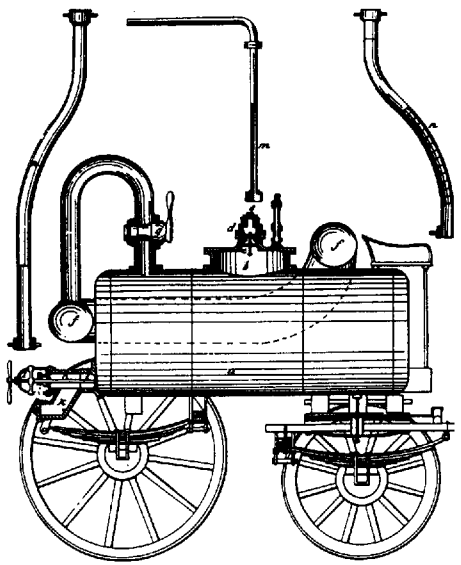
Privy pits collected the contents of chamber pots for individual tenement houses and private residences. As the city grew, the pits needed to be emptied fairly often. Nightmen, often called "scavengers," emptied the privy pits into a horse-drawn cart. The contents of a full cart were then dumped into the surrounding waters. Obnoxious smells resulted from this dubious method of dealing with waste. In addition, small ships moored in the harbor fell victim to the weight of dung thrown over the wall. Many ships were sunk as a consequence.

The office of superintendent of scavengers was formed to regulate the nightmen and prevent dumping into the rivers. Finding an alternative location for human waste led New York City managers to New Jersey. Waste recovered from the privies of the Big Apple was transported by boat across the river and dumped in New Jersey.

Still, New Jersey could handle only so much of New York's refuse. Another method of disposal had to be found. Turning to the country that gave them the Statue of Liberty, New York investigated a French method of recycling human waste. *Poudrette*, a composting process, turned France's sewer waste into a rich fertilizer, or nightsoil. Animal manure had long been used as fertilizer, but many objected to human dung being

used in the same manner. *Poudrette* was voted down by the city council, who could not overcome the aversion to turning human waste into plant feed. Fortunately technology came to the rescue. Early in the new century, the city sewer system had been connected to the majority of buildings. Shortly afterward, progress in the science of waste treatment enabled New York to continue dumping waste into water systems.

Working in New York City has always been dangerous. In the 1800s watchmen were hired to protect the nightmen as they traveled the city emptying privies. Many of the nightmen had been mugged while working. Technology slowly rescued the nightman from the other horrors of his job. The scavenger no longer needed to be physically in the privy pit to remove the contents. With the advent of a vacuum that sucked up the dung into a tank, the nightman found his job much less repulsive.



Privy Vacuum patent by F. Daitchy, 1850



Excavations of privies are a fascinating way to learn how people lived in the past. Recent excavations of New York City tenement privies reveal that the diet of middle-class New Yorkers in the mid-1800s consisted mainly of stews made with beef, as well as fish, bread, potatoes, and fruit. Popular condiments were English pickles, French olives, and American sauces.

Other secrets divulged by the pit included a tenant who dyed his hair black and another who suffered from a respiratory ailment. Garbage was banned from the privy, but most people ignored the directive and used the pit as a garbage dump. Interestingly, seventeen chamber pots were also found in the pits.

The enclosed spaces and flammable contents of the cesspit combined to increase the dangers of explosion. City planners of the growing metropolis were well aware of risk. In 1855, the city of Brooklyn ordered that privies be constructed according to cited building requirements. "No sink, privy or cesspool, shall hereafter be constructed or made within the limits of the lamp and fire districts, unless the same shall be constructed of brick and stone, and be at least ten feet in depth from the surface of the ground when such depth is practicable, under penalty of fifty dollars, to be recovered from the owner and builder of the same, severally and respectively."

Before the invention of the earth closet by Reverend Moule, Central Park *was* the "johnny on the job." In the late nineteenth century, to prevent the defilement of Central Park, city administrators ordered over one hundred earth closets.

During the nineteenth century in New York City, the Swamp Angels terrorized the city with their crime sprees. The crimi-

nal gang took their name from their modus operandi. They used the sewer system to travel to and escape from the scene.

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A leader in American bathroom sanitary ware, Kohler Company, traces its beginning to the late nineteenth century. John Michael Kohler, an immigrant from Austria, founded the company in 1873. Beginning with an enameled hog scalder–cattle watering trough that could double as a bathtub, Kohler successfully traversed the burgeoning sanitation market. A father of six children (four from his first wife and two from her sister, his second wife), Kohler developed his company into one of the few family-owned businesses still in existence dating from the turn of the century.

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The American spirit is best studied through the settlement of the Old West. The sanitary arrangements in the West testified to the obsession settlers had with making money. Many persons moving west believed they would remain there temporarily, until they got rich. Thus, conveniences such as sewer systems were ignored.

It is difficult to romanticize the Old West in America when you consider the following directions given by a man in Tucson during the 1880s on how to find the governor's house. "You want to find the Governor's? Wa'al, podner, jest keep right down this yere street past the Palace s'loon, till yer gets ter the second manure pile on yer right; then keep to yer left past the post-office, 'n' yer'll see a dead burro in th' middle of th' road, 'n' a mesquite tree 'n yer lef', near a Mexican 'tendajon' (small store), 'n' jes beyond that's the Gov's outfit. Can't miss it . . ." (from *On the Border with Crook*).

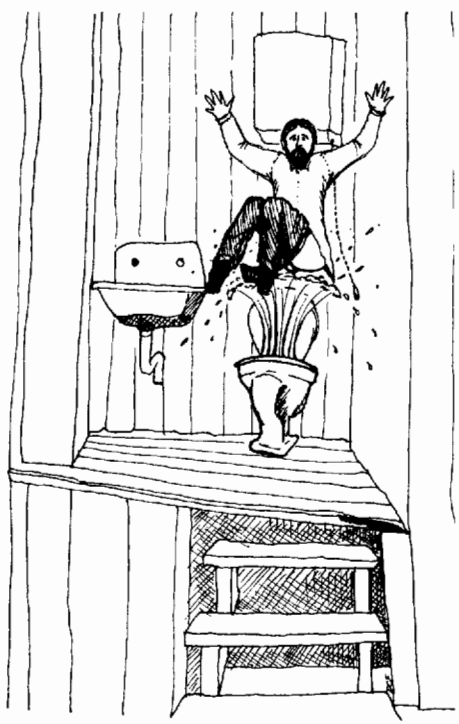
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Seattle is proud of its heritage as a timber town in the Old West. The most popular tour in present-day Seattle is the trip



through the underground city with an old toilet as the highlight. Initially Seattle was settled on a patch of land below sea level. As the town grew, so did problems with rescuing the dirt streets from floods. Problems of building a city on lowland multiplied. Similar to the monk's latrines built over tidal rivers, the toilets in Seattle were subject to the tides of Puget Sound. High tide caused many of the toilets to explode water three feet into the air.

The attempts made to remedy the problem revealed the stubborn nature of the pioneers. The city constructed paved streets ten feet higher than the previous streets. Shop owners refused to abandon their shops or raise the entrance to street level. Ladders had to be used to cross the street from shop level. Some were thirteen feet high.



High tide in Seattle