

The Politics of Defecation in Bangkok of the Fifth Reign

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ABSTRACT—A series of ostensibly modernising reforms was initiated by King Rama V of Siam (who reigned from 1868 to 1910) using means both public (such as the Canal Acts of 1870 and the Police Law of 1875) and personal (the examples of himself, his household and royal court). Manuscripts from the King’s official and private correspondence in the royal archives permit the following interpretation of reasons behind his reforms. King Rama V aimed to enlarge royal authority in Bangkok by imposing his ideas of civic order and neatness. That his reforms were anti-traditional was precisely why they provoked popular opposition. The King did not simply want Bangkok to look clean and tidy—he wanted to mould the personal habits of its inhabitants, breaking Siamese customs where they were manifested as eyesores. To do so, he would import and use contemporary objects and practices (such as water closets and foreign experts like the British Medical Officer of Health). The thrust of King Rama V’s reform policy was not “modernisation”; but rather an aesthetic makeover of Bangkok and of rural Siamese attitudes towards personal hygiene and civic appearances, reflecting the monarch’s ideas of propriety in a modernizing social setting.

King Rama V of Siam began a policy of reform during his reign (1868–1910) that today might look like a strategy of hygiene. He wanted to transform the appearance of Bangkok through provision of crematoria, water supply and public lavatories, thereby removing from sight unattended corpses and human and animal waste from Bangkok’s waterways and thoroughfares. He also instituted changes in the dress code of court officials and civil servants and, as well, new codes and laws to govern how Bangkok’s inhabitants should dress, both in public and private realms. Great attention was placed on the introduction of water closets to the palaces and an associated attempt to impose the use of public lavatories on Bangkok’s inhabitants.

In the following pages such early formal attempts at what might be called sanitisation are documented with reference to archival materials available at the National Archives of Thailand, as well as royal correspondence. King Rama V makes plain in personal letters¹ his distaste for the appearance of the city, referring especially to the Siamese custom of leaving corpses to rot by the roadside, the open disposal of raw sewage and the preponderance of bare-breasted women in the streets of Bangkok. The tasks of supervising such reforms were indisputably

¹ Chittawadi Chitrabongs, “The politics of dressing up”, *AA Files 60* (London: The Architectural Association, 2010), pp. 80–88.



King Rama V of Siam
Wat Phra Pathom Chedi Museum, Nakorn Prathom
PHOTO Chusak Voraphitak

of highest concern. King Rama V assigned them to his half-brothers: disposal of the dead to Prince Naris in 1896, sewage disposal to Prince Mahis in 1899 and reform of sartorial culture to Prince Nares, also in 1899. Such close relatives might normally have expected to take charge of the Army or the Navy. The significance for the monarch of how Bangkok appeared to the world was such that he felt he could entrust solution of the problems only to the authority of central royal figures.

King Rama V's distaste for the physical appearance of waste in Bangkok beclouds the true nature of Siamese reforms. Historians of Siam have tended to say that his reforms were symmetrical with those in the West, partly because he sent his sons and other Siamese students to study in Europe and partly because he employed European personnel in the Siamese public services. David K. Wyatt, for example, has characterised King Rama V as a moderniser with "single-minded dedication to the ultimate good of the nation".² Wyatt subscribed to the view that King Rama V was virtually the author of modernisation with an almost 1960s mindset for social development policies that would lead the way to modernisation.³ This idealisation of King Rama V rapidly spread amongst other historians of Siam including the Thai scholar Monruethai Chaivises.⁴ She has interpreted the establishment of the Sanitary Department in 1897 and the introduction of public lavatories in Bangkok as the result of a policy of public health reforms, apparently similar to developments in Europe in response to problems of rapid urbanisation. My own research reveals that his reforms were not aimed at modernisation, but were governed by King Rama V's aesthetic concerns.

Public and personal concerns about reforms

At the turn of the twentieth century, King Rama V implemented a major engineering programme. The royal government expended a vast amount of revenue and labour on new waterways, roads, bridges, tramways, lampposts and other infrastructure, which in turn had to be maintained. The extensive canal network and street drains should not be clogged. Many of the duties and responsibilities of civic maintenance were carried out by a company of Danish origin, the Siam Electricity Company, in which Danish capital was principally employed. They contracted with the government to water certain streets, operate one half of the

² David K. Wyatt, "Interpreting the history of the Fifth Reign", *Studies in Thai History* (Chiang Mai: Silkworm Books, 1994), p. 275.

³ Examples of the argument that mirrored Wyatt's tradition included the following texts: Tej Bunnag, *The Provincial Administration of Siam, 1892–1915: The Ministry of the Interior under Prince Damrong Rajanubhab* (Kuala Lumpur: Oxford University Press, 1977); Fred W. Riggs, *Thailand: The Modernization of a Bureaucratic Polity* (Honolulu: East–West Center Press, 1966); James C. Ingram, *Economic Change in Thailand Since 1850* (California: Stanford University Press, 1955).

⁴ Monruethai Chivises, ประวัติศาสตร์ว่าด้วยสังคมและเครื่องสุขภัณฑ์ในประเทศไทย [Social history: Lavatories and sanitary ware in Thailand], (Bangkok: Phikanet Printing Centre, 2002), chap. 3.

tramways, and supply the city with electric light. But late in the nineteenth century, the electrification of Bangkok was not proceeding as expected. In 1892, King Rama V's Privy Purse advanced 20,000 pounds sterling as a first payment on property for the Siam Electricity Light Company that was described as the "only solution of the tangle".⁵ The monarch also bought 8,000 pounds sterling worth of shares at 10 pounds sterling each when the Company was capitalised at 33,400 pounds sterling.⁶ If such major engineering projects were to reflect King Rama V's reforms, Bangkok should no longer appear untidy. Piles of excreta on the ground became an insult to his reforms.

Beyond entrusting a member of his family to resolve the problem of sewage disposal, how did King Rama V understand Bangkok? Even if it were called a city by virtue of its size or population, Bangkok was not perceived as a distinct urban phenomenon, but as a type of extreme densification of rural habitation.⁷ While King Rama V was enthusiastic about importing objects of modernity, he did not introduce an alternative way of life to Bangkok's inhabitants. Nowhere is this more apparent than in the introduction of water closets to the palace. When the flushing levers became stuck, King Rama V complained about the "uselessness" of Maple & Co. bathroom furniture. He said: "I feel that Maple has sold us something [water closets] they can no longer sell in Europe ... The want of comfort can create such a meddlesome feeling!"⁸ The fascinating aspect of this royal frustration is that the king directed his attention to the mechanics of the water closet rather than how each lavatory was connected to the urban infrastructure. More than a century later, Bangkok still has no public sewage system. King Rama V's water closets were merely symbolic. They bore no relation to the functions of life on the city streets.

Given the symbolic nature of King Rama V's rules, the key to his reforms of the city beyond the palace is to be found in the "inner city" of his own Grand Palace. The inner city was a town complete unto itself— a town of women, governed by women. The only man who lived there was the monarch himself. His residence was a walled palace contained within the inner city, which was itself walled and contained within the Grand Palace, which was inside the walled city of Bangkok.

⁵ "The Siam Electric Light Company", *The Bangkok Times*, 30 July 1892, p. 2.

⁶ "พระขลยทฐา กราบบังคับมทูลขอให้เข้าแชร์ไฟฟ้า" [Buying shares of Siam Electricity Company], NA R5 LG 5.10/7, 20 August 1899–18 September 1901.

⁷ For a history of Bangkok's urbanisation, see Marc Askew, *Bangkok: Place, Practice and Representation* (London: Routledge, 2002). For a history of the growth of Bangkok, see Nangnoi Saksri, องค์ประกอบทางกายภาพกรุงรัตนโกสินทร์ [History of the growth of Bangkok's physical components in Rattanakosin period], (Bangkok: Chulalongkorn University, 1991).

⁸ Rama V, King of Siam, สำเนาพระราชหัตถ์เลขาส่วนพระองค์ พระบาทสมเด็จพระจุลจอมเกล้าเจ้าอยู่หัว ถึงเจ้าพระยา ยมราช (ปั้น สุขุม) กับประวัติเจ้าพระยายมราช [Letters of King Chulalongkorn to Chao Phraya Yommaraj and Chao Phraya Yommaraj's biography; published in the cremation book of Chao Phraya Yommaraj, 10 April 1939], p. 70.

At the centre of this mandala of power, King Rama V was the absolute ruler and patriarch of all outside it.

In the inner city, female court servants traditionally defecated in a building called the *oumong*. Next to the west wall of the Grand Palace, the *oumong* was a one-storey building with thick walls made of brick and mortar. Inside it, excretion was conducted as a collective activity. Female court servants squatted within wooden partitions, which only went up to the level of the head. The waste would be washed away to the river for, before the reforms, the waterways of Bangkok were the primary means of sewage disposal from the inner city of women. That was true for the King's faeces. Excreta of Siamese kings could not, however, be simply tossed out of palaces. After the King had defecated, his faeces would be transferred from the chamber pot to a *kratong kood* (กระทงทงคูถ) or "banana-leaf vessel for faeces". At a particular site, guarded by the Palace Police, a trusted servant would float the *kratong kood* down the waterways.⁹

The inner city was one of the filthiest habitats in Bangkok. In the congested inner city within the Grand Palace, with no system of sanitation, the atmosphere has been described as extremely unpleasant. When the sun beat down on the granite pavements, it was stifling and the stench was intolerable. The denizens of the inner city were clean, as the Siamese normally bathed twice a day, but the method of disposing of their excreta was primitive. In the palace complex, excreta were generally removed in pails. King Rama V's inner city was engulfed in the smell of night soil and urine. Between the barracks and the outer Palace wall, there was a small space, about five feet wide, that had two "latrines" of no more than 10 rooms for at least 500 people. One of them was described as not very offensive because the floor was made of cement and was washed frequently but the other at the southwest corner was evidently in the filthiest of conditions. Buckets of night soil were simply placed on the ground approximately three feet from the heads of the soldiers' beds. Having identified the most offensive corner of the Grand Palace, Dr. Campbell Highet, the Medical Officer of Health, concluded that: "I am not surprised at the fact of plague breaking out there owing to overcrowding and filth".¹⁰

King Rama V was very sensitive about how European residents and visitors might perceive Bangkok.¹¹ Everything had to appear well maintained and orderly.

⁹ Damrong, Prince of Siam, สาส์นสมเด็จพระเจ้าบรมวงศ์เธอ กรมพระยาเดโชไชย [Correspondence between Prince Naris and Prince Damrong on cultural subjects, 26 June 1914–1 November 1943], (Bangkok: Khuru Sapha, 1961), vol. 6, pp. 58–59; Monruethai Chivises, *ibid.*, pp. 74–75.

¹⁰ Campbell Highet, the Medical Officer of Health, "รักษาความสะอาดในพระบรมมหาราชวัง" [Cleanliness preservation in the Grand Palace], NA R5 LG 5.12/44, 25 January 1905.

¹¹ See King Rama V's complaints about the smell of Bangkok in relation to the role of European visitors in "เบ็จเส็จกรมศุขาภิบาล" [General governing: Sanitation Department], NA R5 LG 5.1/1, 29 May 1895–20 August 1899; "ราชทูตเยอรมันขอรายงานกรมศุขาภิบาล" [The German ambassador asked for the sanitary report], NA R5 LG 5.5/3, 1 April 1899–22 June 1900.

Complaints of the Europeans were taken as affronts to the existence of the palace. Nonetheless, to the Medical Officer of Health, Siam was a “death-trap” and “not suitable for Western colonisation”.¹²

When he comprehended that his mode of living must be changed, King Rama V moved out from the inner city of women in order to live in new royal buildings outside the walled city of Bangkok. Constructed by European workmen, the Celestial Garden Palace and Vimanmek Mansion were two of such residences. The centre of public attention was King Rama V’s drawing rooms and bedrooms since they clearly exhibited his taste. In the big drawing room, the chairs were described as “very elegant, all in the Louis XV style” and two settees had been “made with straight backs by the King’s desire” so that they could be “placed back to back and form a centre ottoman”.¹³ A bedroom suite was specially arranged for the Austrian Archduke’s visit to King Rama V in July 1893. The bedstead was called a “splendid work of art—a mass of fine carving in Spanish mahogany”.¹⁴ In order to suit Bangkok’s climate, brass was used instead of iron nails. All 30 rooms were fitted with furniture designed by Messrs. Hewetson who had carved the royal coat of arms on each piece. Some 27 cabinets were imported, all of different sizes and designs. *The Sketch* reported: “The King of Siam has joined the ranks of Anglomaniacs. Time was when his house was French from top to bottom; but his Majesty has now furnished his hearth and home on English lines”.¹⁵ For the bathrooms, King Rama V purchased water closets from Maple & Co. in Tottenham Court Road. In 1899, he received a bidet as a gift from the Siamese Ambassador to France because he had expressed the wish, when in Paris, to own one.¹⁶ Ultimately, what the King introduced to the palaces was simply the sitting posture, not a sewage system.

The image of Bangkok that the monarch wished to promote was that of ideal order, in keeping with his own regal status as representative of the divine celestial order. Key to achieving his vision was to transform Siamese habits of personal hygiene, rural in origin, as a requirement of living in the modern capital. The notion of urban reform does not quite apply here, since there is no clear evidence that King Rama V had any idea of what was urban or of urbanisation, even according to contemporary usage in the Western world. In his eyes, customs that might be appropriate in the countryside could not be tolerated under the densification of

¹² Campbell Highet, “Health and hospitals: Climate and health of Bangkok”, in Arnold Wright and Oliver T. Breakspear (eds.), *Twentieth Century Impressions of Siam: Its History, People, Commerce, Industries, and Resources* (Bangkok: White Lotus, 1994), p. 129.

¹³ “Local and General”, *The Bangkok Times*, 3 June 1893, p. 2.

¹⁴ “Local and General”, *The Bangkok Times*, 3 June 1893, p. 2.

¹⁵ *The Sketch*, 28 June 1893

¹⁶ “พระยาสุริยาส่งหม้อปัสสาวะผู้หญิงมาถวาย” [Phraya Suriya sends a urinating pot for women (to King Rama V)], NA R5 RS 8.1 ฉ/17, 18 July–26 September 1899.

living conditions that constituted Bangkok.¹⁷ Moreover, this attack on traditional mores had as much to do with changing ways of life as with the question of who, exactly, controlled Bangkok and its appearance. At his European-styled Celestial Garden Palace, King Rama V was especially frustrated about Bangkok's smell. The King said: "I block my nose and my mouth with a handkerchief, albeit an effective one, against the stench arising from the Clean Work Company [a state monopoly of excreta disposal in Bangkok]. After I have returned to the palace for a while, the stench still hung in the air. If I have to travel on this [Ratchadamnoen] Avenue on a daily basis, sooner or later, I may have an ulcer in my stomach".¹⁸ For King Rama V, the conduct of daily life in Bangkok was an issue of obedience, of conformity to royal strictures.¹⁹

Excretion, Siamese norms

Common practices of urinating, defecating and disposal of waste became obvious hurdles to achieving the King's goals. Traditionally, Siamese people defecated in public and private spaces. Bangkok did not have an elementary legal or administrative framework to deal with sewage disposal. The authorities might attempt to stop people from "throwing faeces" at the houses of others.²⁰ They might even attempt to punish the culprits by making them carry pails of faeces on their

¹⁷ See how the Siamese norms of carcass disposal became problematic for King Rama V in "รถของ บริษัทถ่ายเทของโสโครกอยู่ในถนนบำรุงเมืองสองรถ" [Two sewage disposal carts of Clean Work Company in Bamrung Meung Road], NA R5 LG 5.12/9, 7 July 1899. King Rama V said in Thai: "...yesterday, I found a dead calf on the lawn at Prince Charaspon's old house not far from the road. The crows were eating that stinking rotten carcass. The mentioned situation makes me wonder if the Police have only the eyes, not the nose; or they can only catch live humans, not rotten animals; or they can only bow to me when I pass by; or they may want to avoid the duty by saying that it should be the business of the Sanitation Department, which is also under the Local Government. There should be the agreement from now on. Rotten animals cannot be nobody's business. The duty cannot be given to the crows, which will, little by little, take the dead body away". On the densification of human cadavers in Bangkok see "คอเรสปอนเดนซ์เรื่องนายจันผู้เฝ้าป่าช้าวัดสะแกตทำเรื่องรวายินยันว่า บัดนี้ศพนักโทษราษฎร นำมาตั้งที่ป่าช้ามากขึ้น หามีพื้นที่จะเผาศพไม่" [Correspondence on the report of Mr. Chan, a caretaker of Wat Saket Cemetery. A large number of dead bodies are disposed of in the cemetery. There is no space left for cremation.], NA R5 LG 1.1/55, 23 August – 27 December 1892.

¹⁸ Rama V, King of Siam (written in Thai), "รถของ บริษัทถ่ายเทของโสโครกอยู่ในถนนบำรุงเมืองสองรถ" [Two sewage disposal carts of Clean Work Company in Bamrung Meung Road], NA R5 LG 5.12/9, 29 June 1899–13 October 1899.

¹⁹ More critical instructions of King Rama V can be found in "ข้อบังคับห้ามกลิ่นเหม็นที่เกิดจากปุ๋ยรดผัก" [The foul smell forbidden: The vegetable garden fertilizer], NA R5 LG 2/61, 5 March 1899–25 September 1900; "กรมขุนพิทยลาภกราบบังคมทูลว่ามีเว็จอยู่ริมถนนใกล้เชิงสะพานวัดสามจีนนั้น ได้สั่งเจ้าพนักงานรื้อแล้ว" [Prince Bidyalabh submits the report: There are toilets beside the road, adjacent to Wat Sam Cheen Bridge. The order to demolish [the mentioned toilets] had been made.], NA 5 LG 5.1/41, 24 February–1 March 1900.

²⁰ กฎหมายตราสามดวง [Three Seals Law proclaimed by King Rama I], (Pranakorn: Karusapa, 1963), vol. 3, p. 159.

shoulders. But no official actions amounted to even an elementary regulation of sewage disposal.

Siamese habits of excreting, either in the forest or in Bangkok, did not come under any state laws until the year 1870, when the Canal Acts (พระราชบัญญัติว่าด้วยธรรมเนียมคลอง) were proclaimed to Bangkok's inhabitants.²¹ In essence it had nothing to do with hygiene per se. It was, rather, an attempt to prohibit things that ought not to be seen. In Act One, the waterway police were empowered to force the delinquent to "scoop up" faeces and detritus of all sorts that had been disposed in the waterways. In Act Two, the waterway police were empowered to destroy parts of the houses, shop houses and boat landings that were built along waterfronts. For King Rama V, untreated sewage was "matter out of place" and people defecating along the canals were eyesores even if he did not actually see them.

A basis of Siamese reforms stemmed from King Rama V's aesthetics of control. His attention was placed not only on the expansion of canal networks, but also to the appearance of new Westernised roads. The Police Law (กฎหมายไปลิค) of 1875 was aimed largely at making Bangkok's streets neat and tidy. If Bangkok's inhabitants defecated along the new roads, they could be fined 20 baht.²² If they could not pay, they could be locked up for 3 months. If they urinated in public spaces, they could be tied up in the public area for 4 hours. Paying the price for defecating in public was more expensive than for urinating. On the way to his Celestial Garden Palace, King Rama V once met a person defecating in front of Prince Bodin's palace and instructed the police that: "There should be more serious action".²³ The incident reflects again the goal of such reforms: to make the city tidy and neat.

Siamese habits concerning sewage disposal were adapted to their environment. Bangkok grew as a city of waterways; its name could be translated as the "water hamlet of the wild plum trees". The Siamese found it natural to defecate along the waterfronts and in the fields. This practice is reflected in the following idioms: "going to the rice field", "going to the forest" and "going to the boat landing" — all meaning to defecate.²⁴ Human and animal faeces were disposed of in pails or left untreated to be eaten by vultures and crows.

Mural paintings at Suthat Temple are historical evidence of the normality of squatting and disposing of excreta along Bangkok's waterways. Amongst such paintings, one of them suggests that squatting was a social activity — Siamese people chatted and relaxed while they squatted together. At the bottom of the painting as

²¹ "พระราชบัญญัติว่าด้วยธรรมเนียมคลอง" [The Canal Acts], NA R5 LG9.2/3, 1870.

²² See "กฎหมายไปลิค" [The Police Law] in Monruethai Chivises, *ibid.*, pp. 132–133.

²³ Rama V, King of Siam (written in Thai), "บริษัทสะอาด" [Clean Work Company], NA R5 LG 12/9, 29 June 1899–13 October 1899.

²⁴ Damrong, Prince of Siam, *ibid.*, vol. 6, pp. 60–61.



A mural painting of Suthat Temple in Bangkok, Thailand

PHOTO M. L. Chittawadi Chitrabongs



Buddhist monks' lavatories at Wat Yai Suwannaram, Petchaburi Province

PHOTO M. L. Chittawadi Chitrabongs

seen opposite, a man in the action of “going to the boat landing” is remarkable. He turns his naked bottom to the spectator in a squatting posture while disposing of his faeces in the canal. Next to him is a group of social class superiors travelling in a roofed boat. Their smiles suggest that a defecating man was not considered a public nuisance.

A subset of Siamese men, those who were ordained as monks according to custom once in their lifetime, were taught how to squat and urinate properly as part of their daily meditation. For the Sangha or monastic community, a treatise on monasticism and religious orders—the *Vinayapitaka*—prescribes the proper way to defecate. The *wej* was a place to secure a pedestal seat for squatting and other appurtenances required for excretory functions.²⁵ A jar was used either for keeping water or a wooden stick for flicking faeces so that they would fall in the right place. Dropping the flicking stick on the ground was strictly forbidden because it might thereby support the piles of faeces. Buddhist monks had to wash themselves with water after defecation but, in washing their anus, they were prohibited from

²⁵ Suchip Punyanuphap (ed.), พระไตรปิฎกฉบับสำหรับประชาชน [Buddhist scriptures] (Bangkok: Mahamongkut Ratchawitthayalai, 1996), pp. 278–279.

probing deeper than two inches. The pedestal seat could be made of either wood or stone. It had a urine track and a hole for the faeces to drop to the ground. Urine would be collected at the end of the track and disposed of elsewhere by the owner. Separating dry and wet matter reduced foul smells. Forceful excretory practices were forbidden. Only squatting was allowed.

Ordinary Siamese had at least two different types of *wej*.²⁶ Traditionally, fishermen defecated by sitting with their buttocks hanging over the sides of their boats. The boats would frequently become dirty so the fishermen built a box to be hung over the side. Those who lived in floating houses or boathouses along the waterways later adopted this type of lavatory, which was called the “water *wej*”, meaning a *wej* built on or for use in the waterways. The second type of *wej* was called the “land *wej*”, meaning lavatories built on land.

For those who cultivated the rice fields, defecation had nothing to do with squatting with propriety in a religious sense. According to Somjai Nimlek’s research, Chinese farmers seemed to have the greatest squatting skill.²⁷ They could squat on top of a large jar, whereas Siamese farmers squatted on two wooden planks and Siamese gardeners usually balanced themselves on two bamboo poles. Squatting on large jars amounted to an economic practice: faeces, unlike dead bodies, could be turned into money. On the question of technique in flicking faeces, Somjai says that a wooden stick with one side sharpened was not dangerous at all, in experienced hands. Good and bad squatters, for Somjai, could be judged by their level of gymnastic skill.

Concentration of filth

Siamese practices of defecating created a concentration of filth in Bangkok and massive pollution of the river and canals. During the rapid growth of Bangkok, the Chao Phraya River and its canal networks were lined with floating houses and houses built on piles. Such housing was popular among the Chinese merchants as well as the Siamese because it was perceived to be healthier than living on land far from the waterways. By the end of nineteenth century, Bangkok had approximately 50,000 inhabitants living in 5,000 houses floating along the Chao Phraya.²⁸ The increasing number of floating houses meant that taking a bath became more difficult. In a publication for the funeral of a waterway policeman, Phra Bamrasnaradur (1896–1984) records memories of his childhood: “When I take my morning bath

²⁶ Naris, Prince of Siam, สำนวนสมเด็จพระเจ้า [Correspondence between Prince Naris and Prince Damrong], vol. 8, pp. 19–20.

²⁷ Somjai Nimlek, เรือนชาวสวน [Orchardists’ houses] (Bangkok, Thammasat University Press, 2001), pp. 113–126.

²⁸ P. A. Nightingale, the Medical Officer of Health, “ราชทูตเยอรมันขอรายงานกรมสุขาภิบาล” [The German ambassador asked for the sanitary report], NA R5 LG 5.5/3, 1 April 1899–22 June 1900.

in the canal, if the tide is in, the excreta will float about all over the surface. Do you know how bathers cope with this? I do it, too. I make waves in the canal water and the shit will float away from me. Then I hastily wash my face and eyes before I get out of the water to dry myself with a towel. Clearly, I bathe in shit. Such is the tradition”.²⁹ Waterway policemen bathed among floating faeces, as did most Siamese citizens. And they apparently made no connection between the presence of excreta and health concerns.

Untreated excreta were normally to be found everywhere in Bangkok. The official explanation for such illicit sewage disposal was to blame “lazy people” — in the inspector’s view, not only the poor but also the rich. If people’s homes were close to the lavatories of Buddhist monasteries, they would defecate there. Alternatively, in the words of the inspector of Chinatown’s sanitary condition, the “lazy ones who do not want to walk any distance, defecate along lanes, drainage ditches, on piles of refuse, in the thickets of tall grass and in clearings. There are several hundred such areas”.³⁰

There was no attempt to reform the actual practice of sewage disposal— simply to remove the act of squatting from public sight. Electric lights were placed in the “neighbourhood of each latrine so as to show up clearly the latrine and the ground around it”.³¹ Certainly, some people preferred to defecate during the night, while the lighting made it easier for the police to catch the wrongdoers. One night in May of 1898, at 11 p.m., a well-known Chinese man was taken to the police station by a sanitary inspector named Rod. Inspector Rod had met this illicit squatter when he was defecating in the drainage next to the Pratu Tah Tien wall. For the unfortunate man, as he explained to the police, there was no space left for him to defecate in the traditional way.³²

Bangkok’s smell

The traditional practices of sewage disposal created an overwhelming stench. The Local Government File contains two descriptions of how Bangkok smelled in the late nineteenth century. The first was given by Phraya Deves, the first Chief of Sanitary Department. In 1901, King Rama V assigned him to identify the causes of nuisance at the entrance of Oriental Hotel Lane. Having observed the Indian stables beside the *Siam Observer* printing house and behind the Privy Purse’s building,

²⁹ Luang Sathornsupakit “บันทึกราชการเว็จ ตรวจสอบตำบลลำเพ็ญ” [The inspection of *wej* in Sampeng District], NA R5 LG 5.12/17, 16 June 1901–6 July 1904.

³⁰ Luang Sathornsupakit “บันทึกราชการเว็จ ตรวจสอบตำบลลำเพ็ญ” [The inspection of *wej* in Sampeng District], NA R5 LG 5.12/17, 16 June 1901–6 July 1904.

³¹ C. Highet, “พระยาเทเวศร์ทูลเกล้าฯ ถวายรายงานแพทย์สุขาภิบาลประจำปีร.ศ. ๑๑๗” [Phraya Deves submits the Medical Officer of Health’s report for the year 1898], NA R5 LG 5.5/2, 29 May 1895–20 August 1899.

³² “Local and General”, *The Bangkok Times*, 25 May 1898, p. 5.

Phraya Deves concluded that the two stables were the sources of the stench. Horse manure was disposed of just under the Privy Purse's building. Nonetheless, Phraya Deves said: "Horse manure does not smell because my nose is used to it".³³ Contrary to Phraya Deves's statement, King Rama V provided his own vivid indictment of Bangkok's odours. Having tolerated the smells of rotten food and piles of sewage next to the Court of Justice and the Criminal Court for a while, the King said "If I have to sit in Prince Wacharee's room for ten more minutes, I might vomit".³⁴ To King Rama V, smell was an aspect of aesthetic appearance like dress codes. He ordered the Police to build a fence to hide untreated horse manure at the entrance of the Oriental Hotel Lane, even if the foul smell persisted.³⁵

The issue of smells in relation with human health is complex. European residents expressed much anxiety about the sanitary condition of Bangkok's waterways.³⁶ Along the banks of canals, where population density was perhaps highest, contamination of water sources was rife and dangerous to human life. For many months of the year, especially during dry weather, the common folk drank or used putrid water for their domestic needs. Bangkok's main streets were lined with pigsties, duck dens, tanneries, limekilns, shellfish picking depots and many other enterprises. The pigsties were set on piles at the edge of canals, not being prohibited in such locations as were the lavatories. Everyday, excrement from the pigsties washed into the waterways and tapeworms were set free in the drinking water of thousands of city dwellers. In police files, there were various legal cases to do with the normal modes of habitation of the Siamese. A European resident, Mr. Philip Peterson, reported to the police that Misses Pan, Yoa and Kae had built their lavatories next to the waterways and the police should chase them away from the European enclave in Bangrak District. The British Commissioner of Police noted that those three Siamese had been living in their houses for at least 30 years and had disposed of excreta in the canal for at least 20 years, but they had been taken to court only by Mr. Peterson.³⁷

³³ Phraya Deves (written in Thai) to Prince Sommot, Chief of the Royal Privy Purse, "เกิดมีกลิ่นปฏิกูลขึ้นที่ปากตรอกโอเรียนเต็ลไฮเตล" [The foul smell at the entrance of the Oriental Hotel Lane: 1901], NA R5 LG 5.12/18, 3 August 1901–17 March 1901.

³⁴ Rama V, King of Siam (written in Thai) to Prince Pid, "การรักษาความสะอาดแห่งสิ่งโสโครกและสิ่งที่กรูจรง" [Cleanliness preservation: The excrement and the untidiness], NA R5 PW1/4, 27 August 1896–24 September 1896.

³⁵ Rama V, King of Siam to Prince Nares, "เกิดมีกลิ่นปฏิกูลขึ้นที่ปากตรอกโอเรียนเต็ลไฮเตล" [The foul smell at the entrance of the Oriental Hotel Lane: 1901], NA R5 LG 5.12/18, 3 August 1901–17 March 1901.

³⁶ "Our canal system", *The Bangkok Times*, 13 December 1890, p. 2; "Chinese vegetable gardens: And other nuisances", *ibid.*, 14 November 1903, p. 3; "Sanitation in Talat Noi", *ibid.*, 17 July 1907, p. 3.

³⁷ "มิสเตอร์ฟิลลิปปีเตอร์สขึ้นว่าอำแดงแข อำแดงพัน อำแดงเข้า ตั้งเว็จอุจจาระในคูบ้านตำบลบางรัก ขอให้ไล่" [Mr. Philip Peterson's complaint: Mrs. Kae, Mrs. Pan and Mrs. Yoa built their toilets in the canal, Bangrak District. Please chase them away], NA R5 LG 8.1/185, 2–15 September 1899.

In the Local Government File, the Medical Officer of Health played an important role in interpreting the signs identifying potential wrongdoers. Dr. Campbell Highet examined the neighbourhood of the latrines (numbers 6, 11, and 61) and said that the “Chinese coolies” of the Clean Work Company “very rarely empty all the buckets in [*sic*] a latrine” but usually left “one or two half-full or full”.³⁸ When this was exposed, the coolies blamed others for filling them up by carrying night soil to fill the buckets. The Commissioner of Police, another foreign expatriate, encouraged a policy of constant inspection in the neighbourhood. Having seen the petitioners at Ar Ma Keng Lane himself, Eric St. Lawson came up with a financial solution. He concluded that the police should pay for iron pails and for one coolie to empty those pails and the residents should appoint a headman to “look after the Coolies and see they do their work”.³⁹

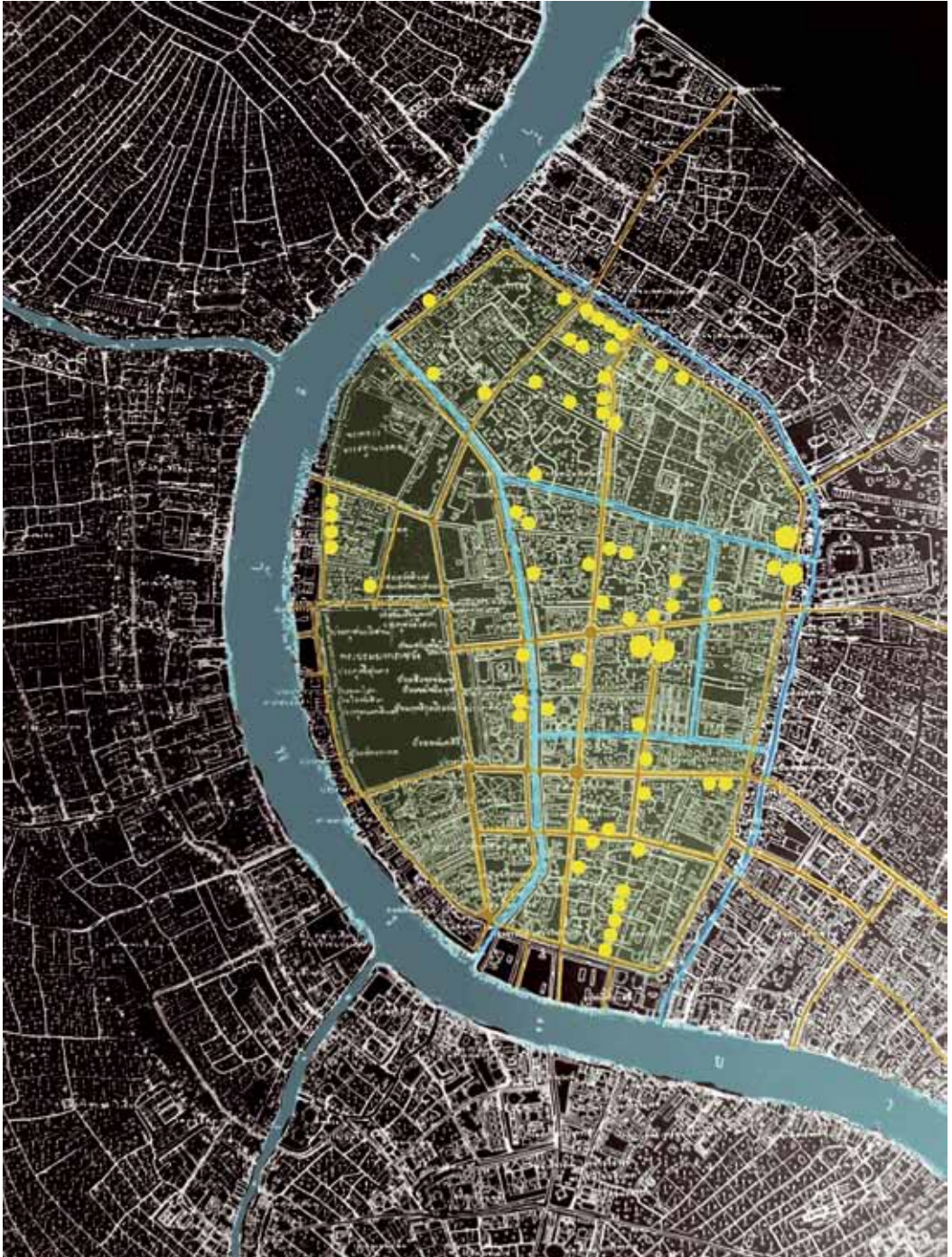
Europeans in Bangkok were concerned with the dimension of health because of the recognition in the nineteenth century of how, especially in cities, illness and ultimately epidemics could be transmitted by germs that thrived on waste. They directly experienced Bangkok as a health hazard. For King Rama V, the concern was not contagious disease so much as the appearance and the smell of the city. The filth was a crisis that only royal authority could resolve. Indeed, fundamental to an understanding of the royal perspective is that the crisis was in itself an affront to royal authority.

Unlike Bangkok’s Europeans and King Rama V, its Siamese inhabitants were not afraid of anything—their interest was to defecate wherever they wished. Hence, the reforms provoked much opposition. For Bangkok’s Siamese, King Rama V’s rules of defecation were draconian and interfered with their tradition. To them, getting around the new rules required more than simply delinquent refusal—they resorted to political resistance to the spread of King Rama V’s authority in this civic realm. Some citizens defecated into the drains around the king’s lawn next to the Grand Palace.⁴⁰ Defecating on the royal lawn was not the only way to relieve stress; people also urinated on the office window of Mr. Osgood, the Electrical Engineer

³⁸ C. Highet to Krom Pra Norasat, Director of Local Sanitary Department, “บริษัทสะอาดขอเช่าท่าเทขยะ เพราะท่าที่บางขุนพรหมไม่สะดวก และขอเช่าซื้อเรือกลไฟ ลากขยะไปที่งในทะเล” [The Clean Work Company would like to rent a port for the sewage disposal because of the Bangkokprom Port is inconvenient. It also would like to rent the steamboat for disposing of sewage to the sea], NA R5 LG 5.12/34, 21 June 1903–21 November 1903.

³⁹ Eric St. J. Lawson, the Commissioner of Police, to Prince Nares, the Siamese Minister of Police and Local Government, “ราษฎรตำบลลำเพง ร้องเรื่องราวว่าได้เรียกรายสร้างเว็จถ่ายอุจจาระลงในตรอกอาม่าเกงเสร็จแล้ว แต่ยังมีถังไม่” [Citizens in Sampeng District complain that money to build toilets on Ar Ma Keng Lane is ready but there is no pail for disposing of sewage], NA R5 LG 8.1/226, 15–26 August 1902.

⁴⁰ “ปลัดกรมสุขาภิบาลรายงานว่ามีผู้ถ่ายอุจจาระลงที่อรอบสนามหลวง” [Chief of the Sanitation Department reports that there are people who defecate into the drainage around the Royal Lawn], NA R5 LG 5.1/82, 23–31 January 1904.



Locations of public lavatories within Bangkok city in 1900

DRAWING M. L. Chittawadi Chitrabongs

บัญชีไว้จ ปี ร.ศ. ๑๑๕

ลำดับ	ที่ตั้งไว้	ถึง	ถนน	หมายเหตุ
๑	วัดเทพนิคม	นอกวัด	มหาไชย	
๒		ในวัด		ถนน
๓	วัดสุทัศน์	ในวัด	สีทอง	ถนน
๔		นอกวัด		
๕	เทวสถาน		ดินสอ	
๖	การอกบ้านจีนเลือก		บ้านเมือง	
๗	หลังวังกรมหมื่นนภ		อัยการ	
๘	ในวังกรมมณฑล		มหาไชย	ถนน
๙	ในวังกรมพระ		บ้านถนน	ถนน
๑๐	หลังวังกรมหลวงพิษณุ		เจริญกรุง	
๑๑	หลังบ้านพระยาภิรมย์		เฟื่องนคร	
๑๒	หลังบ้านพระยาพิชัย			
๑๓	หลังบ้านหลวงศรีอัคราช		บ้านหม้อ	
๑๔	หลังวัดกัลยาณมิตร		เจริญกรุง	
๑๕	ที่บ้านพระยาภิรมย์ (เท่ง)		อัยการ	
๑๖	หลังโรงทอผ้ากรมพระ		ศิริราช	
๑๗	หลังกลางบ้านหม้อ		บ้านหม้อ	
๑๘	หลังโรงฆ่าหมู		อัยการ	
๑๙	ในบ้านหม้อมพิณ		ภริณี	
๒๐	ในวัดกรมพระ			ถนน
๒๑	ที่กรมหลวง		เฟื่องนคร	
๒๒	ในวัดมหาธาตุ		มหาไชย	ถนน
๒๓				ถนน
๒๔	ในวังกรมหลวงเทววงษ์		สีทอง	เสียดินแดน
๒๕	การอกหลังวังกรมพระ		บ้านถนน	
๒๖	หลังวังกรมหมื่นสวัสดิว			
๒๗	ที่บ้านหลวงที่ลุดกรมเจ้า		จักรพงษ์	
๒๘	ที่บ้านอำเภอกอ		บ้านแขก	

Once he realized that change was needed, King Rama V came up with two solutions. The first was to remove some lavatories that belonged to individual citizens.

“บัญชีต่างๆ สำหรับรายงานสุขาภิบาลจำนวนปีร.ศ. ๑๑๕”
 [The Annual Sanitary Report of the Year 1900], NA R5 LG 5.5/5, (1900-29 January 1901).

PHOTO Courtesy of the National Archives of Thailand

of the Sanitary Department.⁴¹ Others decided to squat “on the stairs” of the newly erected public lavatories, “outside the pails, especially during the night”.⁴² Defecating outside the lavatories was also practiced by Siamese children. Amongst various forms of resistance to King Rama V’s reforms, the most powerful stricture came from King Rama V himself. By 1905 he had lost faith in the Sanitary Department. He informed the Police that they would soon cause a fit of ill temper on his part, or as King Rama V put it, “The foreign staff, who are being paid high salaries, are having an easy life ... I inform you of this so that you are aware of it. If you wish to do something about it, do it soon”.⁴³

Sewage solutions—without sewers

Once he realised that something had to be changed, King Rama V came up with two solutions. The first was to remove some lavatories belonging to Bangkok’s citizens. His removal of particular lavatories was based on their unhygienic conditions less than their proximity to the signs of development and progress. Filth should not be too close to new roads and bridges. Miss Dang, for example, was ordered to destroy her lavatory on Toa Lane because of its proximity to the Royal Bridge No. 46.⁴⁴ Prior to its destruction, the lavatory was locked so that nobody could defecate there. Beside Wat Samcheen Bridge, another lavatory was destroyed. The reason, Prince Bidyalabh gave, was that the lavatory was located beside a new Westernised road.⁴⁵

King Rama V’s second solution was to assign his half-brother to supervise the reform task concerning Bangkok’s smell. In 1899, Prince Mahis made the impossible promise to King Rama V that within seven days, Bangkok would no longer be engulfed by the smell of excrement. Having inspected how the Clean Work Company carried out excreta disposal in Bangkok, Prince Mahis concluded that the “Chinese coolies” performed their task well and they were not the source of

⁴¹ “มิสเตอร์ออสกู๊ด ช่างไฟฟ้าหลวงร้องว่ามีผู้มาถ่ายปัสสาวะลงในที่ตรงหน้าต่างห้องทำการ ขอให้ปรามด้วย” [Mister Osgood, the Electrical Engineer, complains that urinating next to the window of his office should be prohibited], NA R5 LG 5.1/95, 21–27 June 1905.

⁴² Phraya Deves to King Rama V, “พระยาเทเวศร์ทูลเกล้าฯ ถวายรายงานแพทย์สุขาภิบาลประจำปีร.ศ. ๑๑๗” [Phraya Deves submits the Medical Officer of Health’s report for the year 1898], NA R5 LG 5.5/2, 29 May 1895–20 August 1899.

⁴³ Rama V, King of Siam, to Phraya Deves, “ราชการในกรมสุขาเสื่อมลง และเรื่องจัดการกรมสุขาภิบาล” [The passivity of Sanitary Department], NA R5 LG 5.1/92, 4 May 1905.

⁴⁴ “ได้ไปตรวจกลิ่นเหม็นโลโครกที่ตรอกใต้ริมสะพานเฉลิมที่ ๔๖ ซึ่งแจ่งแก่อาดังผู้จัดการแทนท่านน้อยให้รื้อถอนแล้ว” [The foul smell inspection at Toa Lane beside the Royal Bridge Number 46: Miss Dang had been ordered to destroy the lavatory], NA R5 LG 4.1/75, 30 March 1903.

⁴⁵ “กรมขุนพิทยลาภกราบบังคมทูลว่ามีเว็จอยู่ริมถนนใกล้เชิงสะพานวัดสามจีนนั้น ได้สั่งเจ้าพนักงานรื้อถอนแล้ว” [Prince Bidyalabh submits the report: There are toilets beside the road, adjacent to Wat Sam Cheen Bridge. The order to clear (the lavatories) had been made], NA R5 LG 5.1/41, 24 February 1900–1 March 1900.

smell that pervaded the area. For Prince Mahis, the stench came from the lavatories of Iam Oranuch Temple that stood at the corner of the wall next to the Company grounds; both monks and lay people used them. At high tide, refuse floated and as the tide ebbed, it floated away along the canal but some remained because the canal was a dead end. At low tide, refuse would stay there. The extreme solution, Prince Mahis suggested, was that King Rama V's Sanitary Department used its authority to demolish the lavatories of the Buddhist temple.

In order to put faecal smells as far as possible under control, King Rama V even changed the names of Bangkok's streets.⁴⁶ As is shown in the first postal directory of 1883 and the Sanitary Report of 1901, Bangkok had a Beansprout Lane, a Buffalo Lawn Road, a Mangosteen Garden Road, a Rotten Dog Disposal-Forest Lane, a Pig Lane and a Shit *Wej* Lane. Each name of a street signified more than the character of the place; it represented the people's life and the Siamese people lived with the faecal smell. But Faeces Lane, where the Clean Work Company used to be, was changed to Changed-Name Road. The traces of Bangkok's odours were expelled from street signs, although the sources of the smells might not have been dealt with.

King Rama V introduced water closets to the palace and forced public lavatories on the city without establishing a sewage system. In Europe the gradual but general provision of an infrastructure of sewage disposal and clean water supply became of the standard in urban life. Sewage disposal was at the forefront of the reform of urban conditions. A sewage system was thought to be necessary for any city that was to sustain growth and where the city could be productive and reasonably healthy. Of course European cities remained dirty, smelly and often uncomfortable throughout the nineteenth century. Nonetheless, the provision of such elementary forms of urban infrastructure became accepted by all political persuasions as being a necessary duty of good government.⁴⁷

In London, the problems of the "Great Stink" and cholera epidemics were resolved only through the network of sewers pioneered by Joseph Bazalgette, the chief engineer of London's Metropolitan Board of Works.⁴⁸ After the technology

⁴⁶ สารบาญชี ส่วนที่ ๒ คือรายชื่อในจังหวัด ถนน ตรอก จ.ศ. ๑๒๔๕ [*Postal directory of Bangkok: Its subjects, streets and lanes in 1883*], (Bangkok: Ton Chabab Limited, 1998), vol. 2, pp. 336, 339, 368, 389; "เว็จ ร.ศ. ๑๒๐" [*Lavatories in 1901*], NA R5 LG 5.12/17, 16 June 1901–6 July 1904.

⁴⁷ Patrick Joyce, *The Rule of Freedom: Liberalism and the Modern City* (London: Verso, 2003); Donald Reid, *Paris Sewers and Sewermen: Realities and Representations* (Cambridge, Massachusetts: Harvard University Press, 1993); D. S. Barnes, *The Great Stink of Paris and the Nineteenth-Century Struggle against Filth and Germs* (Baltimore: The Johns Hopkins University Press, 2006).

⁴⁸ Stephen Halliday, *The Great Stink of London: Sir Joseph Bazalgette and the Cleansing of the Victorian Metropolis* (Gloucestershire: Sutton Publishing, 1999); David S. Barnes, "Confronting sensory crisis in the great stinks of London and Paris", in William A. Cohen and Ryan Johnson (eds.), *Filth: Dirt, Disgust, and Modern Life* (Minneapolis: University of Minnesota Press, 2005).

had proved successful in Western Europe, the British government tried to export sewage systems to the Far East. Siam was seen as a potential customer. A pamphlet from Shone & Ault Co. was sent to King Rama V that advertised the successful installation of Shone sewage systems across Asia, including in Port Said, Rangoon, Karachi and Bombay. The British sales representative affirmed that the Shone sewer system was “most suitable for the requirements of Bangkok”, in his experience, “with respect to the adaptation of works of sewerage to Eastern convenience”.⁴⁹

Notwithstanding the advice of European personnel, King Rama V’s Sanitary Department did not purchase a sewage system. An official minute in the National Archives of Thailand suggests that Prince Damrong, who supervised the provincial and educational reforms of King Rama V, refused to import a sewage system. He said in his Report of the Ministerial Meeting that “this affair [imposing a sewage system to Bangkok] will not cost nothing. Expenses will be necessary. The best duty of the Sanitary Department is to maintain the roadways in good repair, ready to receive His Majesty on his return to the city. Otherwise he would criticize us for allowing them to fall into disrepair. Besides, the expenses should best be preserved”.⁵⁰

Epilogue

The attempt to transform Siamese excretory habits did not end during the time of King Rama V. Under the direct influence of Prince Damrong, a policy of compulsory primary education was proclaimed in 1921. Siamese parents had to bring their children to schools in order to acquire appropriate knowledge and behaviour. School texts of the Education Department can be categorised into two types: the “learning text” and “reading text”. Students could learn and read about defecation, then called “delivering sadness”. The concept of cleanliness in primary school texts rapidly changed during the 1940s. Little by little, foul smells became connected to health anxieties. In terms of illustrations, pedestal seats were replaced by water closets; large jars were replaced by bathtubs. Soap became part of Thai modern education. In *Local Health Development in Four Centuries of the Development of Thai Toilets*, the efforts of UNICEF and the Thai Government make it clear that the introduction of public lavatories was to solve the problem of ill health. Of course, the three new types of state-mandated lavatories were less inimical to public health than the earlier lavatories. Within two years under the financial and technical help of

⁴⁹ Edwin Ault, “ทำท่อน้ำล้างเครื่องโสโครก (อย่างวิธีไซนลิตสเดม)” [Installation of sewerage (Shone system)], NA R5 LG 5.12 ก/3, 31 January 1906–13 May 1907.

⁵⁰ Damrong, Prince of Siam, “ทำท่อน้ำล้างเครื่องโสโครก (อย่างวิธีไซนลิตสเดม)” [Installation of sewerage (Shone system)], NA R5 LG 5.12 ก/3, 31 January 1906–13 May 1907.



Thai children having their meal

PHOTO Courtesy of the National Archives of Thailand

the Rockefeller Foundation, more than 1,000 lavatories were erected in the province of Chiang Mai, in the far north.⁵¹

The repercussions of King Rama V's reforms can still be seen today. In 2002, a monk named Nuj installed golden pedestal slabs as toilets at Wat Nong Bau Tung in Khorat, a northeastern province of Thailand. What did the golden lavatories signify? The Abbot said that the aim was not to "make a show" but to welcome high-ranking monks at their VIP houses.⁵² A number of tourists and journalists visited the temple. A reporter of the Thai *Sarakadee Magazine* saw the lavatories and remarked on the shining effect of the golden squatting pedestals. Mr. Bun, a seventy-two year-old man, was assigned to clean the pedestal. He said: "I used a sponge soaked with washing liquid to scrub the p-trap. A toilet brush could not be used because the golden coat (of the ceramic pedestal) might peel".⁵³ For two years, no guest stayed there. "I am afraid of using it", Mr. Bun said further, "Many

⁵¹ การพัฒนาอนามัยท้องถิ่น สี่ทศวรรษของการพัฒนาสามไทย [*Local health development in four centuries of the development of Thai toilets*], (Health Care Section, Department of Health, 1987), p. 13.

⁵² *Khaosod Newspaper*, 19 January 2002.

⁵³ Ta Bun, *Sarakadee Magazine* (Bangkok: Sarakadee, 2006), vol. 261, November 2006, p. 84.



Sign showing the right and wrong ways of sitting on a toilet seat; at AIT Rangsit Library, Thailand.

PHOTO Sant Suwatcharapinun

visitors literally venerated [the golden pedestals]. Particularly those who were very old and came from the northeastern part of Thailand, they prostrated themselves on the floor”.⁵⁴

In Bangkok, one element of resistance to the “sanitising” reforms that has returned to Thailand today is squatting on top of toilet seats that were designed to be sat upon. Those who live in modern apartments know how to use their new water closets; but a crack in lavatory seats, often found in prestigious Thai universities, is a vestige of the political resistance to King Rama V’s authority of more than a century ago. While sitting may be convenient for most Thais today, squatting is still preferred by some—squatting is older, and for some more comfortable.

⁵⁴ Ta Bun, *ibid.*, p. 84.

REFERENCES

Primary sources

- Rama V, King of Siam to Prince Pid, “การรักษาความสะอาดแห่งสิ่งโสโครกและสิ่งที่ไม่สะอาด” [Cleanliness preservation: The excrement and the untidiness], NA R5 PW1/4, 27 August 1896–24 September 1896.
- Rama V, King of Siam, “เบ็จเสวีกรมสุขาภิบาล” [General governing: Sanitation Department], NA R5 LG 5.1/1, 29 May 1895–20 August 1899.
- Rama V, King of Siam, “รถของบริษัทย้ายเทของโสโครกอยู่ในถนนบำรุงเมืองสองรถ” [Two sewage disposal carts of Clean Work Company in Bamrung Meung Road], NA R5 LG 5.12/9, 29 June 1899–13 October 1899.
- Rama V, King of Siam, “บริษัทสะอาด” [Clean Work Company], NA R5 LG 12/9, 29 June 1899–13 October 1899.
- Rama V, King of Siam to Prince Nares, “เกิดมีกลิ่นปฏิกูลขึ้นที่ปากตรอกโอเรียนเต็ลโฮเตล” [The foul smell at the entrance of the Oriental Hotel Lane: 1901], NA R5 LG 5.12/18, 3 August 1901–17 March 1901.
- Rama V, King of Siam, to Phraya Deves, “ราชการในกรมสุขาภิบาล และเรื่องจัดการกรมสุขาภิบาล” [The passivity of Sanitary Department], NA R5 LG 5.1/92, 4 May 1905.
- Damrong, Prince of Siam, “ทำท่อน้ำล้างเครื่องโสโครก (อย่างวิธีโซนลิตสเดม)” [Installation of sewerage (Shone system)], NA R5 LG 5.12 n/3, 31 January 1906–13 May 1907.
- Phraya Deves to Prince Sommot, Chief of the Royal Privy Purse, “เกิดมีกลิ่นปฏิกูลขึ้นที่ปากตรอกโอเรียนเต็ลโฮเตล” [The foul smell at the entrance of the Oriental Hotel Lane: 1901], NA R5 LG 5.12/18, 3 August 1901–17 March 1901.
- Phraya Deves to King Rama V, “พระยาเทเวศร์ทูลเกล้าฯ ถวายรายงานแพทย์สุขาภิบาลประจำปี.ศ. ๑๑๗” [Phraya Deves submits the Medical Officer of Health’s report for the year 1898], NA R5 LG 5.5/2, 29 May 1895–20 August 1899.
- Edwin Ault, “ทำท่อน้ำล้างเครื่องโสโครก (อย่างวิธีโซนลิตสเดม)” [Installation of sewerage (Shone system)], NA R5 LG 5.12 n/3, 31 January 1906–13 May 1907.
- Campbell Highet, the Medical Officer of Health, “รักษาความสะอาดในพระบรมมหาราชวัง” [Cleanliness preservation in the Grand Palace], NA R5 LG 5.12/44, 25 January 1905.
- C. Highet, “พระยาเทเวศร์ทูลเกล้าฯ ถวายรายงานแพทย์สุขาภิบาลประจำปี.ศ. ๑๑๗” [Phraya Deves submits the Medical Officer of Health’s report for the year 1898], NA R5 LG 5.5/2, 29 May 1895–20 August 1899.
- C. Highet to Krom Pra Norasat, Director of Local Sanitary Department, “บริษัทสะอาดขอเช่าท่าเทขยะเพราะทำที่บางขุนพรหมไม่สะดวก และขอเช่าเรือกลไฟ ลากขยะไปทิ้งในทะเล” [The Clean Work Company would like to rent a port for the sewage disposal because of the Bangkunprom Port is inconvenient. It also would like to rent the steamboat for disposing of sewage to the sea], NA R5 LG 5.12/34, 21 June 1903–21 November 1903.
- Eric St. J. Lawson, the Commissioner of Police, to Prince Nares, the Siamese Minister of Police and Local Government, “ราษฎรตำบลลำเพง ร้องเรื่องราวว่าได้เรียกรายสร้างเว็จถ่ายอุจจาระลงในตรอกอาม่าแกงเสร็จแล้วแต่ยังมีถังไม่” [Citizens in Sampeng District complain that money to build toilets on Ar Ma Keng Lane is ready but there is no pail for disposing of sewage], NA R5 LG 8.1/226, 15–26 August 1902.
- P.A. Nightingale, the Medical Officer of Health, “ราชทูตเยอรมันขอรายงานกรมสุขาภิบาล” [The German ambassador asked for the sanitary report], NA R5 LG 5.5/3, 1 April 1899–22 June 1900.
- Luang Sathornsupakit, “บันทึกรายการเว็จ ตรวจถ่ายลำน้ำเพ็ง” [The inspection of wej in Sampeng District], NA R5 LG 5.12/17, 16 June 1901–6 July 1904.

- “พระราชบัญญัติว่าด้วยธรรมเนียมคลอง” [The Canal Acts], NA R5 LG9.2/3, 1870.
- “คอเรลปอนเดนซ์เรื่องนายจันผู้เฝ้าป่าช้าวัดสะเกตทำเรื่องรាយยื่นว่า บัดนี้ศพนักโทษราษฎร นำมาทิ้งที่ป่าช้ามากขึ้น ทามิพื้นที่จะเผาศพไม่” [Correspondence on the report of Mr. Chan, a caretaker of Wat Saket Cemetery. A large number of dead bodies are disposed of in the cemetery. There is no space left for cremation.], NA R5 LG 1.1/55, 23 August – 27 December 1892.
- “รถของบริษัทถ่ายเทของโสโครกอยู่ในถนนบำรุงเมืองสองรถ” [Two sewage disposal carts of Clean Work Company in Bamrung Meung Road], NA R5 LG 5.12/9, 7 July 1899.
- “มิสเตอร์ฟิลลิปเตอร์ชี้ว่าอ่างแดง แอ อ่างแดงพัน อ่างแดงเข้า ตั้งเว็จอุจจาระในคูบ้านตำบลงบางรัก ขอให้ไล่” [Mr. Philip Peterson’s complaint: Mrs. Kae, Mrs. Pan and Mrs. Yoa built their toilets in the canal, Bangrak District. Please chase them away], NA R5 LG 8.1/185, 2–15 September 1899.
- “ข้อบังคับห้ามกลิ่นเหม็นที่เกิดจากปุ๋ยรดผัก” [The foul smell forbidden: The vegetable garden fertilizer], NA R5 LG 2/61, 5 March 1899–25 September 1900.
- “พระยาสุริยาส่งหม้อปัสสาวะผู้หญิงมาถวาย” [Phraya Suriya sends a urinating pot for women (to King Rama V)], NA R5 RS 8.1 ม/17, 18 July–26 September 1899.
- “กรมขุนพิทยลาภกราบบังคมทูลว่ามีเว็จอุจจาระถนนใกล้เชิงสะพานวัดสามจีนนี้ ได้สั่งเจ้าพนักงานรื้อแล้ว” [Prince Bidyalabh submits the report: There are toilets beside the road, adjacent to Wat Sam Cheen Bridge. The order to demolish [the mentioned toilets] had been made.], NA 5 LG 5.1/41, 24 February–1 March 1900.
- “ราชทูตเยอรมันขอรายงานกรมสุขาภิบาล” [The German ambassador asked for the sanitary report], NA R5 LG 5.5/3, 1 April 1899–22 June 1900.
- “พระชลยทฐา กราบบังคมทูลขอให้เข้าแชร์ไฟฟ้า” [Buying shares of Siam Electricity Company], NA R5 LG 5.10/7, 20 August 1899–18 September 1901.
- “ได้ไปตรวจกลิ่นเหม็นโสโครกที่ตรอกเต้าริมสะพานเฉลิมที่ ๔๖ ซึ่งแจ้งแก่อ่างแดงผู้จัดการแทนท่านน้อยให้รื้อถอนแล้ว” [The foul smell inspection at Toa Lane beside the Royal Bridge Number 46: Miss Dang had been ordered to destroy the lavatory], NA R5 LG 4.1/75, 30 March 1903.
- “ปลัดกรมสุขาภิบาลรายงานว่ามีผู้ถ่ายอุจจาระลงท่อรอบสนามหลวง” [Chief of the Sanitation Department reports that there are people who defecate into the drainage around the Royal Lawn], NA R5 LG 5.1/82, 23–31 January 1904.
- “เว็จ ร.ศ. ๑๒๐” [Lavatories in 1901], NA R5 LG 5.12/17, 16 June 1901–6 July 1904.
- “มิสเตอร์ออสกูด ช่างไฟฟ้าหลวงร้องว่ามีผู้มาถ่ายปัสสาวะลงในที่ตรงหน้าต่างห้องทำการ ขอให้ปราบด้วย” [Mister Osgood, the Electrical Engineer, complains that urinating next to the window of his office should be prohibited], NA R5 LG 5.1/ 95, 21–27 June 1905.

Secondary sources

- Rama V, King of Siam, ลำเนาพระราชหัตถ์เลขาส่วนพระองค์ พระบาทสมเด็จพระจุลจอมเกล้าเจ้าอยู่หัว ถึง เจ้าพระยายมราช (ปั้น สุขุม) กับประวัติเจ้าพระยายมราช [Letters of King Chulalongkorn to Chao Phraya Yommaraj and Chao Phraya Yommaraj’s biography; published in the cremation book of Chao Phraya Yommaraj, 10 April 1939].
- Damrong, Prince of Siam, สารสนมเด็จพระเจ้า [Correspondence between Prince Naris and Prince Damrong on cultural subjects, 26 June 1914–1 November 1943] (Bangkok: Khuru Sapha, 1961), vol. 6.
- กฎหมายตราสามดวง [Three Seals Law proclaimed by King Rama I] (Pranakorn: Karusapa, 1963), vol. 3.
- สารบัญชี่ ส่วนที่ ๒ คือราษฎรในจังหวัด ถนน ตรอก จ. ศ. ๑๒๔๕ [Postal directory of Bangkok: Its subjects, streets and lanes in 1883], (Bangkok: Ton Chabab Limited, 1998), vol. 2.

- การพัฒนาอนามัยท้องถิ่น สี่ศวรรษของการพัฒนาสามไทย [Local health development in four centuries of the development of Thai toilets] (Health Care Section, Department of Health, 1987).
- Marc Askew, *Bangkok: Place, Practice and Representation* (London: Routledge, 2002).
- D. S. Barnes, *The Great Stink of Paris and the Nineteenth-Century Struggle against Filth and Germs* (Baltimore: The Johns Hopkins University Press, 2006).
- Tej Bunnag, *The Provincial Administration of Siam, 1892–1915: The Ministry of the Interior under Prince Damrong Rajanubhab* (Kuala Lumpur: Oxford University Press, 1977).
- Chittawadi Chitrabongs, “The politics of dressing up”, AA Files 60 (London: The Architectural Association, 2010).
- Monruethai Chivises, ประวัติศาสตร์ว่าด้วยสามและเครื่องสุขภัณฑ์ในประเทศไทย [Social history: Lavatories and sanitary ware in Thailand] (Bangkok: Phikanet Printing Centre, 2002).
- William A. Cohen and Ryan Johnson (eds.), *Filth: Dirt, Disgust, and Modern Life* (Minneapolis: University of Minnesota Press, 2005).
- Stephen Halliday, *The Great Stink of London: Sir Joseph Bazalgette and the Cleansing of the Victorian Metropolis* (Gloucestershire: Sutton Publishing, 1999).
- Campbell Highet, “Health and hospitals: Climate and health of Bangkok”, in Arnold Wright and Oliver T. Breakspear (eds.), *Twentieth Century Impressions of Siam: Its History, People, Commerce, Industries, and Resources* (Bangkok: White Lotus, 1994), p. 129.
- James C. Ingram, *Economic Change in Thailand Since 1850* (California: Stanford University Press, 1955).
- Patrick Joyce, *The Rule of Freedom: Liberalism and the Modern City* (London: Verso, 2003).
- Somjai Nimlek, *เรือนชาวสวน* [Orchardists’ houses] (Bangkok, Thammasat University Press, 2001).
- Suchip Punyanuphap (ed.), *พระไตรปิฎกฉบับสำหรับประชาชน* [Buddhist scriptures] (Bangkok: Mahamongkut Ratchawitthayalai, 1996).
- Donald Reid, *Paris Sewers and Sewermen: Realities and Representations* (Cambridge, Massachusetts: Harvard University Press, 1993).
- Fred W. Riggs, *Thailand: The Modernization of a Bureaucratic Polity* (Honolulu: East–West Center Press, 1966).
- Nangnoi Saksri, *องค์ประกอบทางกายภาพกรุงรัตนโกสินทร์* [History of the growth of Bangkok’s physical components in Rattanakosin period] (Bangkok: Chulalongkorn University, 1991).
- David K. Wyatt, “Interpreting the history of the Fifth Reign”, *Studies in Thai History* (Chiang Mai: Silkworm Books, 1994).

Periodicals

- “The Siam Electric Light Company”, *The Bangkok Times*, 30 July 1892.
- “Local and General”, *The Bangkok Times*, 3 June 1893.
- The Sketch*, 28 June 1893.
- “Our canal system”, *The Bangkok Times*, 13 December 1890.
- “Local and General”, *The Bangkok Times*, 25 May 1898.
- “Chinese vegetable gardens: And other nuisances”, *The Bangkok Times*, 14 November 1903.
- “Sanitation in Talat Noi”, *The Bangkok Times*, 17 July 1907.
- Khaosod* Newspaper, 19 January 2002.
- Ta Bun [“Grandfather Merit”] in *Sarakadee Magazine* (Bangkok: Sarakadee, 2006), vol. 261, November 2006.