



Layering Segregation in Life and Death: The Social and Environmental Character of the Bois Marchand Cemetery, Mauritius

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Abstract

The Bois Marchand Cemetery in Mauritius was established in 1867 in response to the massive death toll exerted by a disastrous malaria epidemic that swept the island between 1866 and 1868. As all the aspects of Mauritian society are represented in the cemetery's necrogeography, the still-active burial ground offers an ideal setting to examine life and death during the Indenture Period of the island's history. This article examines the development, organization, environmental factors, and ecological aspects of this vast burial ground in view of the development of public health care and management.

Keywords Indenture · Cemetery · Colonial period · Mauritius · Malaria · Epidemics

*They lie in thousands side by side,
On that wild desert plain;
The loved, the cherished, nameless there,
By raging fever slain.*

Nicholas Pike, April 1868
(Pike 1873:109–110)

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Introduction

With its permanent colonization by the French in 1721, Mauritius depended on shipping from Europe and the wider Indian Ocean World for food, manufactured items, and the workforce required to sustain the colony's commercial and agricultural economy. Other, less desirable imports included various diseases. The island's first documented epidemic was a smallpox epidemic in 1756, reportedly killing one-half of the island's enslaved population, which numbered some 8,000 individuals (Kuczynski 1949:756). Epidemic smallpox returned in 1772 and during the next few decades (Parahoo 1986:410), with the 1792 surge killing an estimated 4,000 people out of a total population of 58,000 (Boodhoo 2010:57–59; Vaughan 2000). Rabies was introduced to the island in 1813. Six years later, cholera arrived from the Philippines. Quarantine measures often proved ineffective, and the main option for those living in cities, especially in the capital and principal port city of Port Louis, was to move to the countryside, taking with them their possessions, including enslaved people (Anderson 1918; Marimoutou-Oberlé 2015:166; Parahoo 1986:410; for more on necrogeography of Mauritius see Cianciosi 2023).

The socioeconomic changes that accompanied the island's rapid transformation into an important sugar colony after 1825 included the abolition of slavery in 1835, the advent of large-scale indentured labor migration in 1834/35, and the demise of the post-emancipation "apprenticeship" system in 1838 (Allen 1999:136–171, 2008; Teelock 1998). These developments altered the colony's experience with demographics, disease, and death. The arrival of hundreds of thousands of indentured laborers from India facilitated the transmission of known and new diseases despite the colonial government's implementation of new quarantine measures in the 1850s (Cianciosi et al. 2022; Cianciosi 2023). In March 1854, for example, a ship carrying indentured Indians reached Port Louis with cholera on board, which set the stage for an outbreak of the disease in Port Louis (Toussaint 1966:104); three other similar outbreaks occurred again until 1861 (Parahoo 1986). Malaria epidemics in the late 1960s profoundly altered colonial attitudes regarding public health management and emphasized the importance of burial grounds.

Bois Marchand is the largest public cemetery in Mauritius (Fig. 1), established in early 1867 because of the malaria that ravaged the southern part of the island, beginning in 1866 and subsequently spreading to its northern districts in 1867. Only five years after the 1861 cholera epidemic, the island experienced the first indication of a malady that was described as "fever" in the Bois Marchand cemetery's burial registers from 1868 and as "plague" on an 1896 map of the cemetery. Afflictions, which were identified as malaria (Stone 1869) spread into an epidemic that proved to be unprecedented in virulence and duration (Parahoo 1986:411). Malaria remained endemic on the island for another hundred years, usually recurring every summer (Boodhoo 2019:190–191). The 1866–68 epidemic's intensity is illustrated by the fact that it killed some 29,000 people in the four months between March and June 1867 and more than 72,000 people in

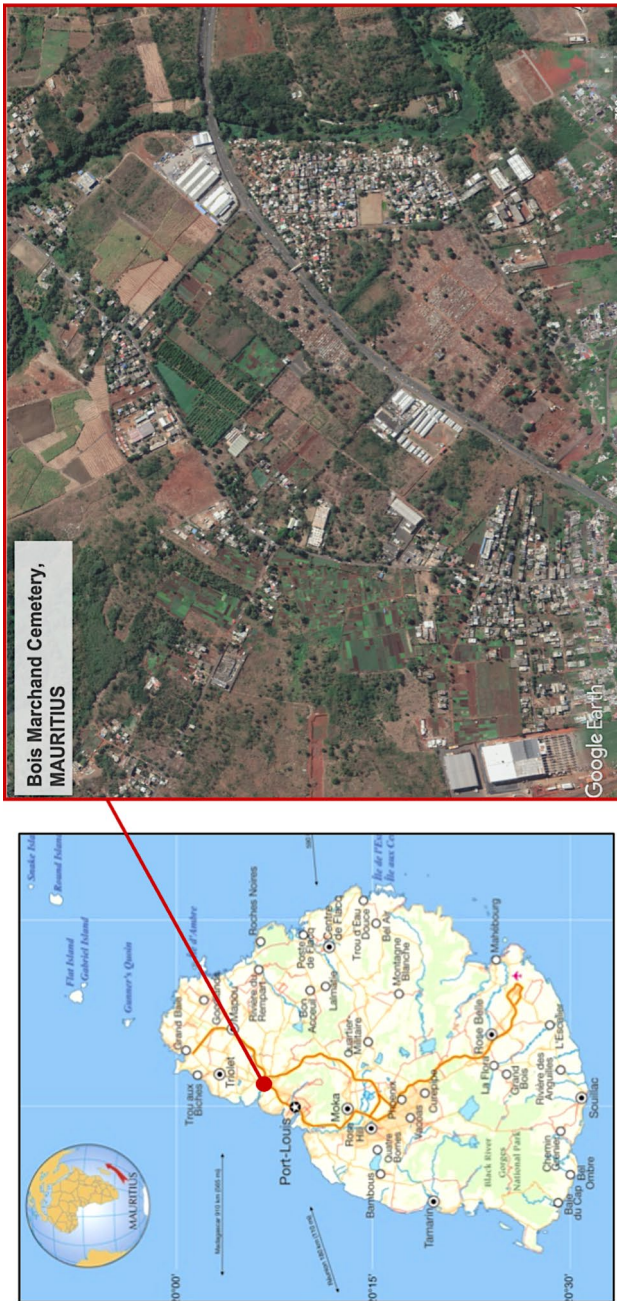


Fig. 1 The location of the Bois Marchand cemetery in Mauritius

	Total		
	1866	1867	1868
January	1282	1470	1802
February	1100	2851	2224
March	990	6671	2825
April	1064	10554	2036
May	1038	8109	2259
June	1035	3647	1940
July	1085	2383	1530
August	1002	1386	1164
September	949	1145	927
October	1042	842	808
November	924	873	740
December	1037	1169	756
Total	12548	41100	19011

Fig. 2 The mortality table during the malaria epidemic of 1866–68 (Pike 1873:110)

total before it finally abated toward the end of 1868 (Fig. 2; Pike 1873:110). Such a high death toll undoubtedly reveals that Mauritius had been stricken by long-lasting adversity before 1866, including five poor sugar harvests, which indirectly added to the malaria epidemic loss. Furthermore, before the outbreak, the human impact on the island's landscape (heavy deforestation, railway and sewage construction, etc.) caused considerable environmental degradation, facilitating disease spread (Boodhoo 2019:185–189; Floate 1969; Seetah et al. 2022; Stone 1869). These misfortunes were compounded when the island was struck by a cyclone of “extraordinary violence” on March 12, 1868 (Pike 1873:110).

According to Ross' 1908 report on malaria prevention in Mauritius, the disease was not endemic prior to the 1866–68 epidemic (Ross 1908). However, Alpers (2020:222–224) suggested that there were other types of non-endemic and non-malignant forms of malaria that existed in Mauritius, noting the intermittent “fevers” that had been always present, including a different strain of relapsing fever known as “Bombay fever.” Boodhoo's (2010:181–184, 2019:171–194) extensive research on health and disease on the island during the eighteenth and nineteenth centuries lends credence to Alpers' argument.

It is extraordinary that the largest cemetery in the Indian Ocean and the third largest in the then-world should be located on an island that is only 45 km x 65 km in size. This exemplifies the particularly significant role this island played in the recent history of the Indian Ocean World and globally and conveys the weight of the catastrophe that struck Mauritius in the mid-nineteenth century.

The Garden Cemeteries of the Victorian Period

During the seventeenth and eighteenth centuries, urban expansion and population growth in Europe resulted in overcrowded churchyard cemeteries, a trend that spurred the gradual development of burial grounds that did not adjoin churches. Following the changes in attitudes to death and social behavior associated with mortuary practices in an age increasingly concerned about public health, such new cemeteries were more hygienic and aesthetically appealing (Curl 1993:206–298; Mytum 1989:284). However, these new burial grounds would not have been considered novel in India, where such cemeteries existed decades before they did in Britain or France. The eighteenth-century cemetery at Surat implemented a Dutch design with an ordered and spacious layout, situated away from a church; this style was utilized and developed further in Calcutta (est. 1743). Its formal design with avenues for walks and arrangements of trees and walls is considered a forerunner of the garden cemetery trend of the nineteenth century, with marked plots and prohibited over-burial (Mytum 1989:287). Thus, South Asia played a pioneering role in what ultimately became a predominant trend in European and colonial burial practices and commemoration of the dead (Buettner 2006).

Comparison between Bois Marchand and three similar cemeteries across the British Colonial Empire: the Brookwood Cemetery, London (est. 1852; Herman 2010); Rookwood Cemetery in Sydney, Australia (est. 1867; Curl 2002:286–293; Lewis 2017; Weston 1989), and the New End Cemetery in Port Elizabeth, South Africa



Fig. 3 Three examples of a garden cemetery in the British Empire: the Brookwood Cemetery, London (est. 1852; Herman 2010); Rookwood Cemetery in Sydney, Australia (est. 1867, Curl 2002:286–293; Lewis 2017; Weston 1989) and New End Cemetery in Port Elizabeth, South Africa (est. 1863; Christopher 1995:40–41)

(est. 1863; Christopher 1995:40–41), reveal a standardized burial ground with a systematic design and prevalent profane setting that includes areas dedicated to various religious denominations (Fig. 3; Curl 2002:368). These cemeteries were inclusive, operated at scheduled times, and had public railway access arrangements (Clarke 2004; Lewis 2017; Singleton and Kay 1989). Other standard features included the regulated size of graves, providing for their care and maintenance, and prohibiting mass graves by offering individual graves for paupers, ensuring dignity for all (Lewis 2017; Mytum 2004). Although the New End Cemetery in Port Elizabeth, South Africa, like some North American cemeteries, segregated burials based on a person’s race (Price 1966:206; Sloane 1991:83), racial segregation was not practiced at Brookwood or Bois Marchand. However, given that religion in Mauritius divided

the population along ethnic lines, it could be argued that, although not legislated, racial divisions were enacted in practice.

Following the new attitude toward burial grounds, the colonial Victorian garden cemeteries attributed several environmental and physical properties. They were invariably established on vacant land located outside urban areas, given an established perimeter either by a hedge, wall, or railing, and offered a venue for park-like vegetation. Such delineated boundaries had a dual purpose: to protect the dead from worldly disturbances and protect or sequester the living from the dead. Landscaping, which entailed planting trees and various kinds of shrubbery to create an inviting and agreeable setting for visitors, was in part related to the funerary and memorial context but often influenced by fashionable garden designs. Conifers and other evergreen trees were popular in Europe during the nineteenth century, yet the various colonial environments preferred indigenous vegetation, creating distinctive funerary flora (Mytum 2003, 2004:48). Initially located in what was described as a “wild desert plain,” the Bois Marchand Cemetery had become “greatly improved” by 1870 after being planted with filao trees (*Casuarina equisetifolia*) (Pike 1873:109–110).

Funerary Customs in Colonial Mauritius

Funerary customs in colonial Mauritius reflected the complex demographics of the island’s population and religious affiliations. During the Dutch (1638–1710) and French (1721–1810) periods, Christianity was nominally the principal religion. French Mauritius was Roman Catholic. The British conquest of the island in 1810 and its formal inclusion in the British Empire in 1814 facilitated the establishment of the Anglican Church. Enslaved people reached Mauritius from a catchment area that stretched from West Africa to Mozambique, Madagascar, the Swahili Coast, India, Southeast Asia, and China (Allen 2003, 2015: 73–74). During the French period, the Code Noir required slave owners to instruct their enslaved people in the Catholic faith. Still, this regulation was rarely enforced, with the result that most enslaved people undoubtedly engaged in a wide range of religious practices, including traditional African, Malagasy, and Chinese belief systems, as well as Hinduism and Islam. Even when enslaved people were baptized as Catholics, the European plantocracy used various strategies, such as praying in Latin or French, to separate themselves from their enslaved co-religionists (Seetah et al. 2018). All Christians were supposed to be buried in consecrated ground (Čaval 2018; Seetah 2015), such as the Old Western cemetery in Port Louis. Established in the eighteenth century, this cemetery was allotted into three sections by stone walls to accommodate the island’s White, “colored,” and Chinese residents (Pridham 1849:265). Whether such division was planned from the establishment of the cemetery is unknown, albeit unlikely. However, Ordinance No. 248, issued in early 1783, regulated burial procedures in accordance with the racial segregation that prevailed at the time, drawing a clear distinction between the “bodies of persons of the white population” and the “bodies of blacks.” The former had the choice of having their remains visited at their home or brought to a church for their soul to be released. In contrast, enslaved

people were only allowed to have “the ordinary ceremonies performed over them” either at the doors of a church or at the cross in front (Rouillard 1866:359–363).

The advent of indenture during the mid-1830s transformed the colony’s religious landscape with the arrival of tens of thousands of Hindus and Muslims. Since indenture entailed a contractual relationship between free workers and their employers, estate owners and managers had limited control over the lives of indentured workers beyond ensuring that they met their contractual obligations. Unlike the enslaved, indentured laborers kept links to their cultural identity, including practicing their religions (Carter 1995:260). A notable exception was resistance to the Hindu practice of cremating their dead (Allen 1999, 2018; Carter 1995:260; Čaval 2023). This practice remained technically illegal until 1887, although the ban was not always enforced, in part because legislation such as Ordinance 18 of 1860 had identified cemeteries as “all places for the permanent reception of the dead, whether by way of interment, embalming, burning, or otherwise” (Rouillard 1868b:415). Moreover, the Royal Commissioners who investigated indentured workers’ living and working conditions in 1872 noted that a request in April 1869 to cremate a deceased in Grand Port had been granted (Frere and Williamson 1875:477). Intriguingly, the commissioners also noted that not many “natives” who migrated to the colony had a religious calling to be cremated - an observation that raises many questions considering the high numbers of Hindus emigrating to Mauritius in the Indenture Period.

Nevertheless, consensus suggests that Hindu cremation in Mauritius was illegal, as was in other British colonies (i.e., Guyana (Younger 2009:80), New Zealand (NZ Parl. Debates 1874:969). While the actual law prohibiting cremation has not yet come to light, the Cremation Ordinance (Ord. No. 28), issued on December 24, 1887, legalized and established regulations governing this practice. The ordinance stipulated construction of crematories in public cemeteries or setting up a specific location for cremations beyond cemeteries, which had to be located out of sight, at least 1.5 km away from the nearest town or village and away from any natural waters. It also mandated that only those who had died from natural causes could be cremated. This ordinance was amended in 1895, 1902, and 1912, directing that cremations should occur at least 24 hr after death and eliminating the required distance between the place of cremation and settlements (Herchenroder and Koenig 1922:3062–3065). Such a legislative approach had a role to suppress transmissions and indicates that knowledge about the relationship between disease and ecology was understood, at least in general, if not in precise terms.

Burial in Mauritius

Mauritius was troubled by a shortage of burial grounds before the 1866–68 malaria epidemic. Overcrowding cemeteries was prohibited in 1860 (Rouillard 1868b:385–390), yet the problem remained. Two years later, the government declared that public cemeteries had to be established expediently throughout the colony, even acquiring the land if such a cemetery did not exist (Rouillard 1868c:7–17). These new burial grounds had to have an office, a dead house, other necessary buildings, internal divisions, adequate numbers of personnel, and dedicated funding and fees. With graves dug in advance,

the deceased had to be brought to the grave on a litter, bier, hears, or cart and buried in a coffin or, if they had not died from an infectious disease, a shroud. Burying two family members in the same grave was also a choice of many families.

Sections of these public cemeteries could be consecrated and set apart exclusively for the internment of people of “any religion or religious sect or denomination in the Colony”; such areas had to have recognizable boundaries and fixed notices on the ground. Postmortem religious freedom was extended to social freedom since all social classes were allowed to be buried in public cemeteries for a prescribed fee. In addition, every public burial ground had to have a rate-free portion used for pauper burials (Rouillard 1868c:7–13). While people who died within a local council or Health board’s authority were supposed to be buried in an associated cemetery, requests for the deceased to be buried elsewhere were usually granted, provided their remains were transported to the new burial ground in leaden coffins (Boodhoo 2019:127).

These and the following regulations display increasing government supervision of burial sites in the mid-nineteenth century, which reflected the society’s awareness of the pollution cadavers cause to the environment and a priority placed on safeguarding water and habitation. Around 1824/25, the requirements for the burial grounds to be surrounded by a wall were considered “too considerable and onerous” for the public. Cemeteries were accordingly delimited only by a ditch and enclosed by the planting of aloes (Rouillard 1866:535). By 1862, however, cemeteries had to have enclosing walls or a fence on all sides (Rouillard 1868c:7–17), a legal requirement that was upgraded in 1877 with a decree for a wall, paling, or impenetrable hedge of at least 4 ft (1.2 m) high on all cemeteries (Kyshe 1878:159). This increasing regulation of burial grounds and practices was also apparent in the rules governing the locations of burials and the depth of each interment. In the early 1850s, graves were required to be 4 ft (1.2 m) deep (Rouillard 1868a:53–57), which increased to 5 ft (1.5 m) by 1862 (Rouillard 1868c:185–197). Subsequent legislation elaborated upon these requirements, although some were followed already during the 1866–68 epidemics, as our research demonstrates (see below). The 1877 Sanitary Regulations set the depth of a grave to 5 ft (1.5 m) if more than a quarter of a mile (0.4 km) from the coast or 6 ft (1.8 m) if less than that. Paupers’ graves had to be at least 6.5 ft (1.95 m) deep and could only be reopened after five years. Burials within 200 ft (61 m) of any water source (well, river, canal, marsh, or stream) were prohibited unless the grave was built as a vault with foot-wide walls. The size of grave plots remains at 3×6 ft (0.9×1.8 m), as it had been standardized a century earlier. The distance between two graves had to be 18 inches (0.45 m), with 2 ft (0.6 m) between rows of graves. In double-burial cases, at least 4 ft (1.2 m) of soil had to cover the upper coffin (Kyshe 1878:159–165).

To prevent environmental pollution and disease spread in the community, the Sanitary Regulations of 1877 restricted the reopening of graves based on the age of the deceased: after two years if the deceased was under six at the time of death, after four years if they were older. Graves of people who had died of a contagious disease could never be reopened unless they had been buried in a lead-lined coffin. In addition, the coffins had to be layered with an absorbent (a thick layer of quick lime or coarsely powdered charcoal) and an efficient disinfectant (a chloride of lime). After

the corpse was placed therein, the shroud covering the body had to be soaked with chloride or a solution of hypochlorite of soda, lime, or carbolic (phenic) acid. Next, the coffin was filled with coarse charcoal or quick lime, and the lid securely fastened. If a deceased was interred only in a shroud, it had to be soaked with the solution of carbolic acid, or chloride of zinc, or camphor and have at least 20 lbs (9.1 kg) of quick lime or 10 lbs (4.5 kg) of coarsely powdered charcoal laid under and around such corpse (Kyshe 1878:159–165). Lastly, public cemeteries were used exclusively for burial, and if ceasing with burials they had to be planted with fast-growing trees immediately following their closure (Kyshe 1878:164).

The Bois Marchand Cemetery

Bois Marchand was established in 1867 because of the malaria epidemic that ravaged the island in the late 1860s. Overcrowded cemeteries in the colony's capital Port Louis were closed in the spring of 1868 (Gov. Notice on April 13, 1868; Kyshe 1870:159) because they could not accommodate those who died during the malaria epidemic. The colonial government purchased the 400-acre (161.8 ha) plot of land in the Pamplemousses municipality from the Marchand family to serve as a new public cemetery. Although some distance from Port Louis, the new cemetery was easily accessible by train (Pike 1873:109), which included a "funeral coach" to carry the deceased and mourners to the cemetery (Jessop 1964:2–9).

Established when Mauritius was firmly under British colonial administration, the cemetery followed a Western European funerary architectural tradition (Mytum 2003, 2004). It included sections of varied sizes that were marked alphabetically and clustered according to religion. The areas allocated to Christians, Hindus, and Chinese changed over time, depending on need (Figs. 4, 6). Some parts that were initially Hindu, for example, became Christian because the legalization of cremation reduced the need for Hindu graves. Sections G, H, and J, allocated initially to Christians, are today reserved for baptized Chinese, with syncretic mausoleums and family burial vaults that bridge Chinese ancestor worship and Christianity (Fig. 6). Such changing ascriptions attest to a surprising degree of sociocultural fluidity in a highly racialized society. Given that a religious designation had been used to differentiate people throughout life, it is interesting that this was only partly reflected in death. The cemetery held separate plots for various Christian religious and educational institutions, such as the Jesuits, the Brothers of the Christian Schools, Sisters of Marie Reparatrice, and Filles de Marie (map 1896).

When visiting Bois Marchand Cemetery, the 1872 Royal Commissioners (Frere and Williamson 1875:477) expressed their surprise that both Hindus and Muslims were burying their dead in the same cemetery, albeit in separate sections; yet such was a practice that occurred elsewhere on the island. The distinction between the two religious groups was that Muslims had a separate part of the cemetery from the beginning, and the nomination of their plots did not change, while the Hindu sections have been integrated with the Christian and Chinese sections. The Muslim sections are located at either end of the cemetery. In 1893 a sizable portion was purchased by Mr. Omar Jacob (see the map of 1896, Fig. 4) for himself and the



Fig. 4 The 1896 map of the Bois Marchand cemetery, displaying systematic division into sections with religious and vocational affiliations. Areas shaded in green are already out of use and left to be overgrown. The information added to the map later displays changes in religious denominations of some cemetery sections, particularly from Hindu to the Christian religion: (a) The whole map; (b) Southern sections, including section R with a clear label a “plague”; (c) Enlarged key to the map with the locations of religious and vocational burial sections

extended family. Although most of the dead were buried according to their religion, there are also professional plots for police and military personnel in the cemetery. Executed criminals were also allocated a specific section.

The sections were delineated by roads, each with a sign indicating their religious affiliation. Within the sections, graves were organized in rows, identified by borne stones - blocks of masoned stone buried in the soil with their flat square top exposed. A borne stone indicated the beginning of a row at the foot-end of the first

grave. Cemetery officials adopted a pragmatic approach to ensure grave dimensions were regulated: a hoe handle was used as a yardstick to estimate the distance of 3ft (0,9 m). The first grave started a hoe-handle length from the borne stone; each grave measured two hoe-handles in length, one hoe-handle in width, and approximately two hoe handles deep. The next grave was another hoe-handle length from the previous grave edge.

Bois Marchand Cemetery's Archive

An essential key to understanding Bois Marchand Cemetery is its archive, which includes burial registers, grave purchase books, and maps. These are rich sources of demographic and medical information usually not referred to in historical documents. Members of various colonial Mauritian social classes are named, their details noted alongside the fatal diseases that existed in the late nineteenth century, with the names of the medical doctors operating during the said period (Fig. 5). The administrative process of burial began with the death certificate issued by a medical practitioner. Observing the legislation, which mandated burial 24 hr after death and prompt interments in times of epidemics (Collection 1890:166, 861), Bois Marchand burial registers exhibit that most deceased were indeed buried one to two days after death.

The Burial Registers (BRs), which date from January 1867 to the present, contain detailed personal information about the deceased, including their name, age, gender, place of birth, date and place of death, cause of death, civil status (e.g., married/single, widow/widower), the names of the persons who declared the death, the date and type of the burial, and the grave's location (section, row, grave number) and religious denomination. The grave purchase books likewise record considerable information about the deceased: their name, the name(s) of those who purchased the grave, the grave's location, the type of grave (tomb, vault, or private), and the purchase price. Alas, quite a few of the registers and purchase books no longer exist or are in very poor physical condition because of improper storage, damage caused by the island's tropical climate and cyclones, and the ravages of insect and rodent infestations. Nevertheless, the wealth of information they carry is overwhelming, occasionally including an indentured laborer's ticket number (see Fig. 5). The registers reveal, among other things, that those buried in the cemetery included individuals from as far away as England, Jamaica, "Arabia," and "America" (Bois Marchand Cemetery Archive, BR June 6 to July 26, 1898; BR August 23 to October 1, 1903; BR 19: May 6 to July 9, 1901).

Excavations in Section R

After the epidemics of 1867/68, many new regulations were instituted, targeting better public health measures and protecting the environment. Ross's discoveries about the transmission of malaria did not occur until the end of the nineteenth century (Ross 1908); as such, miasmatic notions of *mal-aria* being transmitted through the

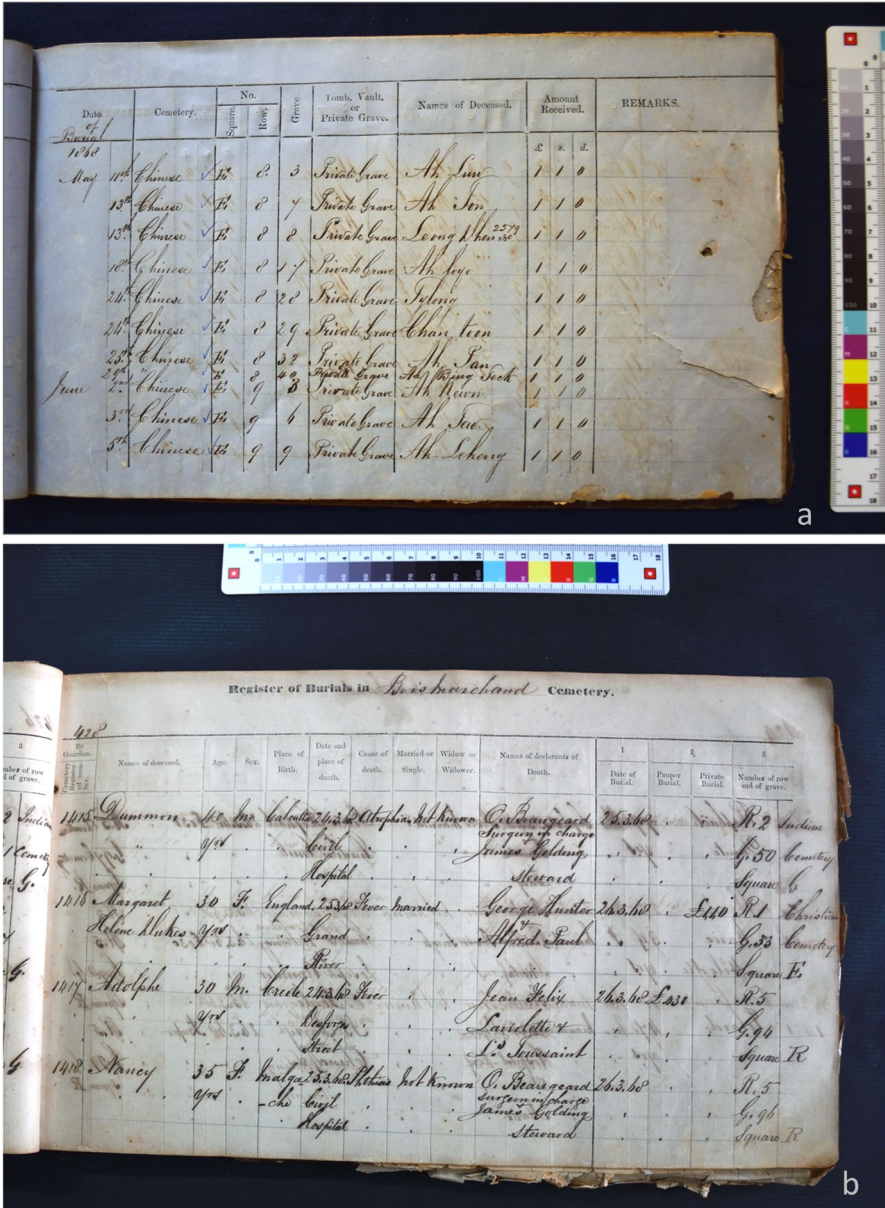


Fig. 5 Bois Marchand Cemetery Archive: (a) a page from a Grave Purchase Book (from August 16, 1868 to June 12, 1872) exhibiting records for Chinese sections; (b) a page from a Burial Register (from March 22 to May 5, 1868) illustrating the diversity of Mauritius' population in the second half of the nineteenth century. The deceased originated from South Asia (boarded on a ship in Bombay), England, and Madagascar, with one person of African descent born in Mauritius

air were prevalent. Article 24 of the government's Modified Sanitary Regulations, issued in 1877, is the key legislation that created our burial assemblage. As mentioned above, it stated that if a person died from a contagious disease, their grave should be marked and never be reopened (Kyshe 1878:159–165). Corroborating the implementation of this regulation, the historical map of Bois Marchand Cemetery dated April 17, 1896, displays the Hindu section R and R-bis as the only parts of the cemetery with the explicit label “plague” (see Fig. 4). The note presents the reason and the terminus *post quem* for the cessation of burials at least two decades after the cemetery's establishment, but probably earlier. Contrary to the northwestern sections of the cemetery, which stretched across the railway and were already abandoned by 1896 (see Fig. 4), these two sections were being maintained, undoubtedly due to the proximity to the cemetery's central area and main entrance. Modified Sanitary Regulations were strictly followed for more than a century, as the graves in sections R and R-bis have never been reused for burials. As evidence suggests that the regulations were indeed followed, then all burials in sections R and R-bis can be dated between January 1867 and April 1896.

Soon after the cemetery was open for service, the island was hit by a violent cyclone that leveled all the grave mounds and markings (Pike 1873:110). Thus, for over a century, the Hindu section R remained grassland with shrubs and trees and only borne stones indicating graves. The section had 42 rows of graves, with the first row starting in its southwestern corner.

Excavations in this section began in 2011 by the Mauritian Archaeology and Cultural Heritage (MACH) group (Fig. 6). Initial excavations focused on the section's northern part before shifting in 2016 to its southern end, intending to discern the possible short-time differences between the burials in the section. To date, 54 graves containing a total of 71 interments have been excavated. Of these 71 burials, 21 were single, and 24 double inhumations, with one empty grave and one that served as an ossuary for 12 individuals.

All interments during the epidemics were dug in advance. They were simple rectangular graves and uniform in size (0.9 m [3 ft] wide, 1.8 m [6 ft] long, between 1.7 and 1.8 m [6 ft] deep). Several graves had reduced depths due to boulders from the geological base. In 1877, the depth of graves close to the coast was legally regulated to the depth of 6 ft (1.8 m). Yet, our research indicates that cemetery officials followed this norm at least a decade before the ordinance was enacted, and not only by the coast. Whether this was pertinent only to this cemetery is not clear, and future research should shed light on the legislation's specificities and practical arrangements elsewhere.

All the deceased were buried in an extended position, with their arms alongside the body or crossed on the lap. Their skeletal remains were poorly preserved; the bones exhibit demineralization, delamination of cortical bone, and longitudinal fissures along the surfaces due to aggressive, ferralitic soil and post-depositional agents. Osteological analyses showed that most individuals had health problems consistent with the indentured laborer's cultural customs, lifestyles, and occupational routines (e.g., squatting facets on their bones). The most common pathologies include osteoarthritis, and infectious diseases like osteomyelitis or syphilis, with a high prevalence of dental caries and calculus (Appleby 2011; Lightfoot et al. 2020;



Fig. 6 View of the Bois Marchand cemetery, with (a) a collage of gravestones (source: MACH archive); (b) 2022 satellite image of section R, overgrown with vegetation (source: Google Earth); (c) a plan of excavated graves in section R

Santana and Cabrera 2016). Concretions from within the coffin were also sampled for evidence of malaria. Because malaria is a parasitic disease that kills quickly and is difficult to detect on bone, it has been speculated that the concretions, which are the residue of adiposia, may contain proteomic evidence of malaria (Seetah, 2018:302–308). The results of ongoing aDNA analyses of the human remains will provide demographic evidence of the indenture diaspora to Mauritius. Preliminary results point to an admixed population of South Asian and African origins (Fregel et al. 2014, 2015; Lightfoot et al. 2020).

The type of an individual’s burial provides clues to their socioeconomic status. Placing the deceased in a shroud was the cheapest form of burial. Coffins ranged from the most common, made of corrugated metal, to rarer wooden ones, with the most

expensive being made of wood and lined with lead. The interiors of wooden and corrugated-iron coffins were covered in fabric and secured to the case by tiny iron nails. Only a few wooden coffins were elaborately decorated with metal bosses and handles. Since the systematic deforestation of the island that began during the eighteenth century and accelerated rapidly after the mid-1820s meant that wood was relatively scarce, it can be inferred that wealthier people used these kinds of coffins. The social status could also be deduced by whether shrouds were held in place by bronze or silver pins. Actually, extrapolating the socioeconomic status of the deceased from this kind of archaeological evidence is fraught with potential problems, given the complexities of Mauritian society during the mid-nineteenth century. People who migrated to the island brought their customs and culture with them. The 1872 royal commissioners noted, for example, that even though Mauritian law required the deceased to be buried in coffins, “Indians, whether Mahommedans or Hindoos,” preferred to bury their loved ones “swathed only, as they would in their own country, in new clothes” (Frere and Williamson 1875:449). The commissioners also included a correspondence excerpt between the manager and owner of the Bel Ombre sugar estate, reporting the use of 800 ft (2400 m) of wooden planks to make coffins in an unidentified period during the malaria epidemic. In addition, to avoid high expenses, the estate had been recommended to follow a “cheap system of burials,” as adopted in other estates, using one coffin for the burial of all the estate’s indentured laborers. A deceased was placed in the coffin, with the lid unfastened. At a gravesite, the body was removed from the coffin and placed in the grave while the coffin was returned to the estate’s hospital for future use (Frere and Williamson 1875:449, 461). As the commissioners note in their report, this practice may seem insensitive to many Europeans. While shroud burial was a traditional practice in medieval Europe (Gilchrist and Sloane 2005), it became less common in the nineteenth century when individual coffins came into use for most burials (Frere and Williamson 1875:449; Tarlow 2002). In nineteenth-century India, Muslims buried their dead wrapped in a shroud, whereas Hindus practiced cremations. However, there were exceptions even to this rule. Young children, unmarried, priests, and people with contagious diseases were not allowed to be cremated (the miasma theory!) but had to be buried, usually in a shroud (Crooke 1899; Leshnik 1967). However, in Mauritius, the shroud burial conformed to the original customs of the indentured laborers (Frere and Williamson 1875:449) and was then included in the colony’s public health policy (Kyshe 1878:159–165). Thus, for Mauritius specifically, a shroud burial can represent social status, ethnic origin, or religious affiliation.

Material culture recovered from the excavated graves in Section R encompassed objects associated directly with the burial itself (e.g., remains of coffins, metal pins, coffin bosses and handles, iron nails of various sizes), items of personal adornment and use, and religious objects. Among utilitarian objects, we found transparent glass bottles and a few sherds of tableware. Whether complete or fragmented, glass bottles were often unearthed in children’s graves. Personal use items included belt and shoe buckles, metal, bone, mother-of-pearl buttons, hook-and-eye clothing clasps, and keys, while personal adornment items included earrings, small glass beads, bracelets, and toe and finger rings. In a few cases, Hindu prayer beads or mala (*japamala*) were found, made of metal, glass, or local plant seeds such as Job’s tears (*Coix lacryma-jobi*). Many graves contained coins.

Conclusion

In its early days, Mauritius was known as a “paradise island,” free from disease, hostile communities, and wild animals (Boodhoo 2019:9). As early as 1769, care for the environment facilitated preservation legislation, issued to protect the island from large-scale deforestation, which through a detrimental impact on water resources, harmed agriculture and the economy. Health checks of the population during early times proved to be enough to keep disease at a distance, and it was during the second half of the nineteenth century that Mauritius became a densely populated and sick colony, afflicted by diseases such as malaria (Boodhoo 2019:9–13).

The Bois Marchand Cemetery proves that human movements around the Indian Ocean contributed directly to the spread of disease. The Mauritian colonial government gradually enacted legislation to address various public health distresses that culminated in an epidemic. The drastic regulations of the 1860s coincided with health and social upheavals galvanized by the malaria epidemic on the island, but the global atmosphere on public health gained new levels of importance to society earlier. The discussed specific examples connected to death and burial voice the two main goals of the Mauritian colonial administration: the protection of living inhabitants and the avoidance of water contamination. Small steps concerning the locations, arrangement, and maintenance of cemeteries as well as the density and depth of burials across the nineteenth century, are among the strategies that contributed to better public health. Changes in cemetery locations, ethical approaches to burial density, and public health practices led to the implementation of a modern, highly organized control system for preventing communicable diseases (Tulchinsky and Varavikova 2014). At the time of independence from Britain in 1968, most infectious diseases on the island were eliminated, with malaria being eradicated by 1998 (Boodhoo 2019:508–51).

Archaeological research and analyses are critical in reconstructing aspects of social, cultural, and economic life in colonial Mauritius and, by extension, other European colonies in the Indian Ocean World and beyond, about which the archival record is often silent (see Allen 2021; Seetah 2016). Such research is also imperative because it can tell us about the spread and impact of epidemic disease (Seetah and Allen 2018:11–12). The Bois Marchand Cemetery is a compelling case of the indirect outcomes of a malaria epidemic. The disease fundamentally altered the physical landscape on a massive 400-ac (162 ha) scale, irrevocably reshaping the deathscape of the island. Data from our research can help us better understand the dynamic of historical epidemics and potentially support future mitigation strategies (Seetah and Allen 2018; WHO 2018). In the twentieth century, population growth increased the number of deceased and buried. The cemeteries were congested even before the current pandemic. Covid-19 pushed many countries into a comparable situation to Mauritius in the late 1860s: with overcrowded cemeteries and in search of new burial grounds. The images of modern heaving cemeteries echo Pike’s (1873:109) words: “They lie in thousands side by side.” At a time when the world is confronting the realities of the Covid-19 pandemic, the need to draw upon the insights into the epidemic disease that historical archaeology may provide is all that much more pressing.

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Declarations

Conflict of Interest The author declares no conflicts of interest.

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