

# Indian Medical Institutions

## On the quarter-millennial anniversary of the Madras General Hospital

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### ABSTRACT

The General Hospital (GH) of Madras (presently Chennai) grew out of a hospital intended for the personnel attached to the Madras army—a Military Hospital (MH)—established within the Fort St George in 1664. Although the GH grew out of this MH, its relocation at its present *Périamét* (then known as *Narimédu*, Hog's Hill) site in 1772, bearing the name 'General Hospital' marks its 250th anniversary in 2022. From being MH that serviced the 'white' residents of Madras, it opened to locals in 1899. In 2011, it was renamed as the Rajiv Gandhi Government General Hospital. Today, it has grown into a stunning medical facility in India treating about 12 000 patients a day. We chronicle the growth of the MH into the GH. Notable that the first formally conducted medical forensic examination in the whole of India occurred in this facility in August 1693, when this institution was MH. Surgeon Samuel Browne's erroneous dispensation of a medication resulted in the death of James Wheeler, a prominent English-East India Company (EEIC) civil servant in Madras. Following an order to execute an investigation by the Governor, Fort St George, an autopsy of the body of Wheeler was carried out by Surgeon Edward Bulkley. Further to referring to such landmark historical details of early time segments of the MH and GH, we briefly refer to the remarkable medical work of Charles Donovan, William Niblock and Mysore Ramaswami Guruswami Mudaliar, who worked at the GH in the early decades of the 20th century.

Natl Med J India 2022;35:47–51

### INTRODUCTION

The English-East India Company (EEIC) established the Bengal Medical Service in Calcutta (presently Kolkata) in 1763. Similar services were established by the EEIC in Bombay (presently Mumbai) and Madras (presently Chennai) shortly after. By 1775, a Medical Board in Calcutta and Hospital Boards in Madras and Bombay started administering hospitals. Surgeons holding British medical licences, either a Licentiate of the Royal

College of Physicians (LRCP) or a Licentiate of the Royal College of Surgeons (LRCS), were recruited by the EEIC. Those recruited personnel were to obligatorily serve the military for the first two years of recruitment before being permitted to enter civil-medical service. The Indian Medical Service (IMS), and the Subordinate Medical Service (SMS) were established in 1760–1780.<sup>1</sup> Most of the SMS personnel were Indians, who worked as either 'Dressers' or 'Apothecaries.'<sup>2</sup> Until 1679, 'barber' surgeons were employed by the EEIC, who 'treated' the sick practising external medicine such as phlebotomy, dressing of wounds and ulcers, treating skin diseases, hernias and contusions.<sup>3</sup> Better medical knowledge established in the mid- and late-19th century Europe influenced the administration of the Madras Presidency to consider western science-based medical care in public health management. Training of professionals in treating diseases by applying principles and practice of western medical science grew rapidly. However, with the rise of nationalism, potential merits of alternative medical practices—Ayurveda and Unani—were also gaining relevance in Madras.<sup>4</sup>

Charles Grant's (1792–1797)<sup>5</sup> (Note 1) public document written to the Court of Directors of EEIC in London stimulated the British administrators of India to allocate £100 000 to strengthen science in India, which, fortuitously, included provision of better medical facilities. The result of this stimulus package was that an Indian doctor in the rank of havildar (≈Sergeant) was appointed in every military station, including Madras.

What is popularly known as the General Hospital of Madras—renamed as the Rajiv Gandhi Government General Hospital in 2011—is the first formally established western science-based hospital facility in India. However, it began as a military hospital (MH) in 1664. In 1772–1773, on relocating to where it presently exists, it was named the 'General Hospital' (GH). We chronicle key details of the Military Hospital (1664–1772) and its transformation into the GH (1772–date). In 2022, the GH is completing 250 years of service to the people.

### THE MILITARY HOSPITAL, FORT ST GEORGE

Edward Winter, the 8th Political Agent in Madras, established the western science-based MH, to treat the sick and wounded British soldiers in a building used by Andrew Cogan in 1664 (Note 2). John Clarke was appointed as the first surgeon.<sup>6</sup> In the next two decades this facility moved around within Fort St George (hereafter Fort, Fort precinct). Because this last-used building became inadequate to accommodate lying-in-patients, a double-storied structure close to St Mary's Church (built in 1679, Fig. 1) within the Fort was identified in 1689, and the MH moved into this building. Several new British personnel referred as 'Factors' or 'Servants' arrived from Britain in Madras. Factors meant traders, business people who were interested in procuring cotton fabrics; their trade establishment was

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[To cite: Raman R, Raman A. On the quarter-millennial anniversary of the Madras General Hospital. *Natl Med J India* 2022;35:47–51.]

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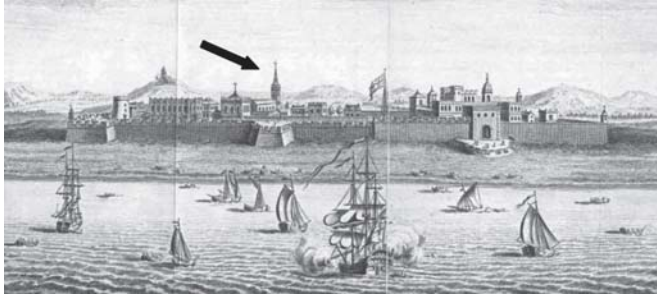


FIG 1. Panoramic view of the Fort St George (1755); St Mary's Church's steeple (arrow) (source: [http://www.columbia.edu/itc/mealac/pritchett/00routesdata/1600\\_1699/madras/fortstgeorge/fortstgeorge.html](http://www.columbia.edu/itc/mealac/pritchett/00routesdata/1600_1699/madras/fortstgeorge/fortstgeorge.html), accessed on 15 May 2021)

collectively referred as the Factory. Eventually this building was changed as the quarters (the 'College') for them.<sup>7</sup> The sick were moved to a hired house in James Street (James Street, which then existed in the Fort, does not exist presently) to build a new hospital. In 1684, Elihu Yale (Note 3) (1649–1721)<sup>8</sup> took over as the President (≈Governor) at the Fort. His Council of Directors acquired the James Street facility and rebuilt it as a larger facility, which existed close to the northern end of the barracks within the Fort. Located in James Street, this hospital was constructed in Tuscan style at a cost of 2500 pagodas (₹9000). The EEIC at that time minted 'Three-Swamy' pagoda gold coins.<sup>9</sup> The Government Museum, Chennai's website provides details of the Three-Swamy pagoda coins ([www.chennaiuseum.org/draft/gallery/04/01/coin8.htm](http://www.chennaiuseum.org/draft/gallery/04/01/coin8.htm), accessed on 27 Jul 2021).

Funds towards this building were generated mostly as public subscription from among the British families living within the Fort. Nathaniel Higginson (1652–1698), President (1692–1698), William Fraser, a member of the Council, and the Corporation of Madras, Captain James Bett, initially Second Commander of the Garrison, later Captain of the Guard, have signed a notice:<sup>10, p. 101</sup>

tis agreed and order'd that it be bought of the Parish for their account, and that a new hospital be built with the money at a more convenient place near the river side. And Mr. Higginson, Mr. Fraser, Capt. Bett and the Church wardens do make a due survey and value of the said hospitall building; and that it be paid for accordingly; and that the Church wardens &c. do begin with all expedition the new hospitall by the river.

This hospital facility was run by the Anglican Clergy, which maintained St Mary's Church within the Fort precinct. The Clergy received a sum of 50 pagodas annually towards maintenance from the Government at Fort St George.<sup>10</sup> John Heathfield, recalled from civil service, was installed as the Head Surgeon in 1687. He died the following year. Samuel Browne, a locally available ship surgeon, was summoned to fill the vacancy created by Heathfield's death, since the chosen surgeon Edward Bulkley (also spelt as 'Bulkeley') from London could not arrive in Madras in time. Further to his role as a surgeon, Browne was avidly searching for local plants for their medicinal value. He collected plants and made notes on their medical relevance further to other traditional uses (Note 4).<sup>11</sup> In 1698, the Church administration challenged the Government that the hospital

serviced only EEIC soldiers and sailors. Thomas Pitt (President at the Fort, 1698–1709), successor of Nathaniel Higginson, responded to the challenge. Pitt ordered that this facility was to open its doors to civilians. This order changed the complexion of health management in Madras town and the presidency, and it prevailed so, for the next 200-odd years. Between 1651 and 1809, 29 Principal Medical Officers (PMOs) led Madras's Medical Department, including Edward Bulkley in the 18th century<sup>12</sup> (Table I). Bulkley arrived in 1692. Bulkley's appointment strikes as a major event in the pages of medical history of Madras. The EEIC, highly impressed by his all-round skills in being a clever surgeon and a smart physician, directed him to superintend the Military Hospital.<sup>12</sup>

#### A MEDICAL FORENSIC EXAMINATION

Samuel Browne continued as a second surgeon (precise designation not traceable) after Edward Bulkley's arrival. James Wheeler, a member of the Council at the Fort and the Chief Justice, was sick on 28 August 1693. He died at 11 a.m. the same day. Samuel Browne on Wheeler's death sent a signed note (reproduced below) to Nathaniel Higginson, the Chief Agent:<sup>13, p. 149</sup>

Honourable Sir

I have murdered Mr Wheeler, by giving him arsenic. Please to execute Justice on me the malefactor I deserve.

Your Honour's unfortunate obedient Servant  
Samuel Browne.

The circumstances leading to Wheeler's death were that Browne's servant ground the medication that Browne 'prescribed' for Wheeler, without cleaning the mortar, which was used previously for grinding arsenic. This resulted in the death of Wheeler. Nathaniel Higginson asked Edward Bulkley to conduct an autopsy of the dead Wheeler. Bulkley did the autopsy later on the same day.<sup>13, p. 150</sup>

The post-mortem examination report was:

According to your (*sic*. the Worshipful Council) orders. I did on Monday, the 28th instant in the afternoon open the dead body of Mr. James Wheeler about five hours after his death, and upon viewing the viscera and bowels, found them not much affected from their natural temper and colour. The parts that seemed to suffer most were the stomach and intestines, which were a little inflamed, and almost wholly bared and stripped of the mucous and slimy covering which those parts are commonly invested. The lungs were a little inflamed. The blood that I gathered out of several vessels all appeared blacker than usual. But the suddenness of his death, and the severe symptom he laboured under before he died, were greater arguments of poison received than anything I could trace out by dissection.

—Edward Bulkley

Bulkley's conclusion was that little could be gleaned from what he saw during the examination, although the symptoms presented towards poisoning. No chemical verifications were carried out. Samuel Browne was later acquitted by the Grand Jury, who brought in the bill *ignoramus* (no details are available as to how Browne's servant was treated in this criminal case).

TABLE I. Chief Surgeons (≈Chief Medical Officers), Fort St George, Madras before the establishment of the Madras General Hospital\*

Edward Whiteing	1651–1657
Robert Cowper	1657–1663
Edward Whiteing	1663
Philip Bradford†	1665–1668
Jardin	1668–1670
Bezaleel Sherman†,**	1676–1680
John Heathfield†	1687–1688
Samuel Browne‡	1688–1697
Edward Bulkley†	1692–1709
Thomas Robson	1709–1710
Richard Chadsley†	1710–1711
Thomas Robson†	1711–1720
Anthony Suplee	1711–1714
Andrew Peitchier	1714–1730
Duncan Munro	1720–1726
George Ramsay†	1726
Matthew Lindsay†	1720–1730
Robert Douglas	1730–1742
Nathaniel Harlow	1720–1746
Andrew Munro	1742–1746
... ..	1749–1757
Robert Turing	1752–1760
James Wilson	1757–1760
Stephen Briggs	1760–1771
Gilbert Pasley	1771–1781
James Anderson†,°	1781–1809

\*This list was extracted from Henry Davison Love, v. III, pp. 5501. Love indicates that (i) some of the dates are conjectural and (ii) from 1771 two Chief Surgeons functioned in Fort St George administration: one for the Military Hospital and the other to attend on EEIC's servants. †Died in Madras. ‡Discharged from EEIC's service. §Bezaleel Sherman of Milford, Connecticut, America, was the son of the Reverend John Sherman. Henry D. Love spells his first name as 'Bezaleel'. In old records he is indicated as a 'merchant'. In 1676 he came to England before arriving in India. Between 1676 and 1680 he served as a surgeon to EEIC, Fort St George, Madras. He died in Madras in 1680 and a stone plaque occurs in St Mary's Cemetery attached to St Mary's Church, Fort St George. °James Anderson was a popular doctor in Madras. Further to his contributions to medicine,<sup>14</sup> he is remembered for his contributions to economic biology of the Madras presidency.<sup>15</sup>

The action of the Jury caused some dissatisfaction among the British community, since the community considered that a case of criminal negligence had been made out.<sup>12</sup> This is the first recorded medical forensic autopsy in India done in Madras in 1693. Notable is that this autopsy included submitting a formal report to higher authorities by Edward Bulkley, who functioned similar to a modern police (forensic) surgeon, in addition to his general duties.<sup>16</sup>

**BETWEEN 1693 AND 1762**

The MH, in the meantime, moved at least to six different locations, and in later times out of the Fort. It functioned in the Esplanade in 1753, *Péddanaickenpéttā* in 1757 and, later, to the present location of the GH in *Périamét*.<sup>17,18</sup> Unfortunately, no relics of the facilities that operated earlier exist today.

**THE GENERAL HOSPITAL OF THE PRESIDENCY**

The reason for locating the MH at the *Périamét* site was because the previous location was considered unhygienic. The government at the Fort considered that a proper building was to be erected soon to accommodate 500 men and 30 officers.<sup>19</sup> Patrick Ross, Chief Engineer, submitted a proposal at an estimated costing of 46 500 pagodas. John Sullivan, a young

clerk in the Fort, offered a plan costing 42 000 pagodas. Sullivan's proposal was accepted and a one-storey building came up and the new hospital building was completed and occupied in 1772.<sup>19</sup> This hospital came to exist in its present location on Poonamalee High Road (presently *Périamét* and opposite to the Madras Central Rail Station), then referred as the Hog's Hill.

By the 1840s, this facility came to occupy a well-constructed (indicated as *pukka*) building with a terraced roof and brick floors raised from the ground by a foot (c. 30 cm). It consisted of three blocks, two of them running parallel and interconnected by a third—appearing similar to the letter of alphabet 'H' in aerial view—with the main entrance located on the eastern side. The connecting median building included the commissariat stores. Twelve wards existed, each ward intended to accommodate 16 patients: thus 192 inpatients at one time. The facility was, however, amenable to accommodate more patients during emergencies (Fig. 2).

The GH expanded further in 1859; exclusive wards for women and children were added in 1897. It became a civil hospital from being an exclusive MH in 1899. By 1909 (Fig. 3), there were 500 beds, and about 450 outpatients were treated every day. The GH was intended to treat persons serving the government and their families, and the civilian population. The sick were separated as Europeans, Eurasians (Indo-Britons, Anglo-Indians), Hindus,

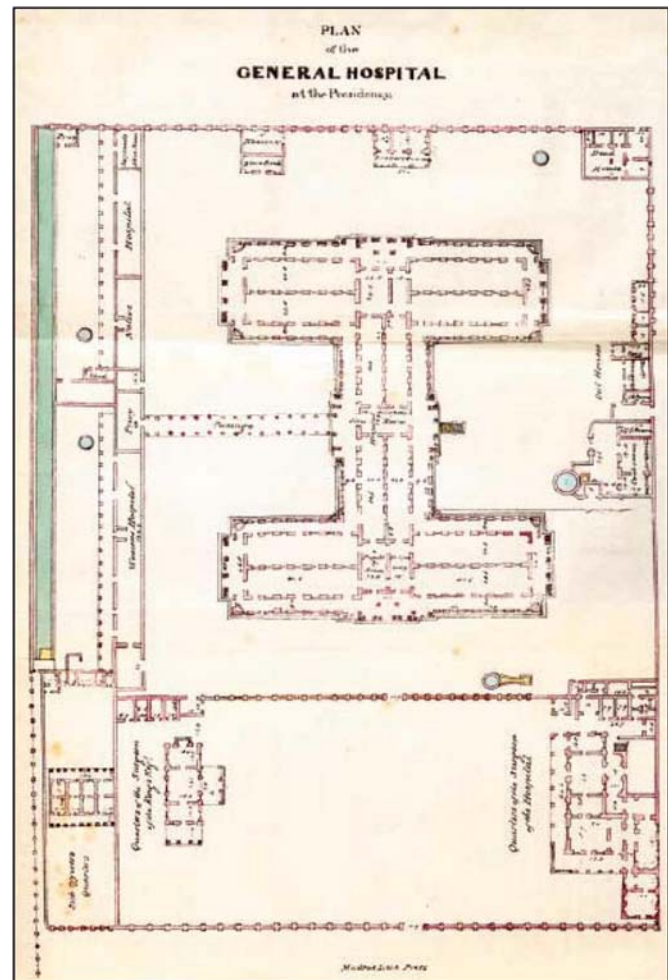


FIG 2. Floor plan of the General Hospital of the Madras Presidency (source: Pearse,<sup>20</sup> insert with no page number; between pages 28 and 29).

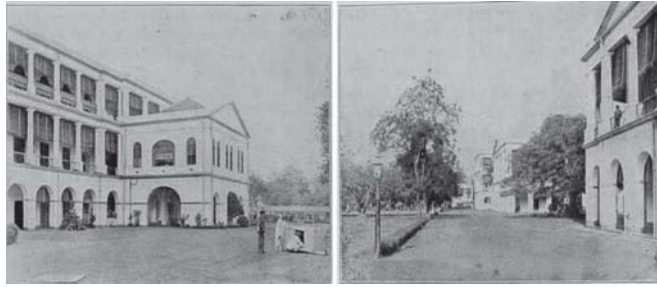


Fig 3. Views of the Madras General Hospital, early 1900s. (source: Nicholas Senn,<sup>23</sup> pp. 198 and 199)

and Muslims (indicated as Muhammadans).<sup>21</sup> The logic behind this artificial separation was that the British were displaying cultural sensitivity, which, of course, did not achieve that purpose. Rules and procedures were discriminatory. The rule 520 of GH states: 'Bedding and clothing of the European patients shall be changed twice a week and of the native patients once a week; oftener if necessary.'<sup>22</sup> Such differences concretized the separation between the British and locals reflecting the British attitude of considering the Indians inferior.

Medals honouring a private medical practitioner Joseph William Turner Johnstone in Madras<sup>24</sup> and the GH Surgeon Ambrose Blacklock exist today with the Madras Medical College (MMC). Both Johnstone and Blacklock medals are considered prestigious by MMC graduates. Many medical officers attached to the GH and holding conjoint academic positions at MMC, before 1947 sparkle in the pages of Madras's medical history. For want of space, we speak of two, Charles Donovan and William Niblock, here.

Donovanosis, also known as *granuloma inguinale*, was first recognized and described in Madras in 1881, as *serpiginous ulcer* by Kenneth MacLeod who joined the Indian Medical Service in Madras and later became the professor of surgery in Calcutta.<sup>25</sup> The causal agent of *granuloma inguinale* was discovered by Charles Donovan (Portrait 1). Donovan described the intracellular bodies in 1905, which bear his name. The so-called 'Donovan bodies' were found in wound exudates from an oral lesion of a ward boy of the GH. Donovan thought that the causal agents were Protozoa.<sup>26</sup> Only in 1943, the 'Donovan bodies' were determined as *Klebsiella granulomatis* (= *Calymmatobacterium granulomatis*) (Enterobacteriales: Enterobacteriaceae).<sup>27</sup> The aetiology of donovanosis and its venereal nature were elucidated subsequently.<sup>28</sup> Donovan's discovery of the visceral leishmaniasis-inducing protozoan (later named *Leishmania donovani* [Trypanosomatidae: Trypanosomatidae]) was made when he was the professor of medicine at MMC, which was the teaching wing of the GH, and conjointly superintending the Royapettah Hospital (Note 5). Charles Donovan is one name, which Madras takes immense pride to associate with, because of his outstanding contribution to medical science.<sup>29</sup> Ramakrishna Venkata Rajam, the first Indian Dean of the GH–MMC complex eloquently waxes on his teacher–mentor Donovan in his WHO report.<sup>28</sup> The fascination to indulge seriously in medical research seems to have been strongly instilled into Rajam by Donovan. The Donovan legacy sustained by the 'R.V. Rajam–P.N. Rangaiah–C.N. Sowmini' academic dynasty is a landmark phase in Madras's medical science, which remains unmatched even today.

William Niblock was a contemporary of Charles Donovan,



Portrait 1 Charles Donovan  
(source: [https://en.wikipedia.org/wiki/Charles\\_Donovan](https://en.wikipedia.org/wiki/Charles_Donovan))



Portrait 2 M.R. Guruswami  
Mudaliar  
(source: <http://www.ttvschools.org/aboutus.asp>)

but is less known even in Madras's medical circles. Thorough in his methods, he was a skilful and expert surgeon, with an extraordinary knack of instilling total trust and confidence in his patients. Among his several contributions to medicine in Madras, Niblock is remembered for the first and successful gastrojejunostomy he performed in the GH on 2 March 1905 as a treatment for gastric outlet obstruction caused by peptic ulcer.<sup>30</sup> Niblock was the first in India (and perhaps in the world) to scientifically indicate the relationship between chewing of tobacco and oral cancer, studying the illness in 60 patients from the GH.<sup>31</sup> His study using 60 patients reinforces his commitment to scientific accuracy. The book *Around the world via India—A medical tour* refers to Niblock's surgical skills in treating oral cancers, testicular filariasis, and stones in the liver, gallbladder and kidney. (For a detailed commentary on Niblock's pioneering commentary on cancer incidence in Madras presidency, please see reference 32.) Records exist that Niblock also treated patients suffering glaucoma, although the Government Ophthalmic Hospital (previously the Madras Eye Infirmary) in Egmore was functional then.<sup>33</sup>

Prominent alumnae of the Madras Medical College (the teaching wing of the GH) have written eloquently on the history of Madras Medical College<sup>34,35</sup> and that of the GH.<sup>9,18</sup> We have, therefore, refrained from repeating those details here.

## CONCLUSION

Starting as a military facility, the GH today has grown by leaps and bounds serving the people of Madras and India. With several well-equipped specialty departments, this hospital is an asset to health management in India (see [https://en.wikipedia.org/wiki/Rajiv\\_Gandhi\\_Government\\_General\\_Hospital](https://en.wikipedia.org/wiki/Rajiv_Gandhi_Government_General_Hospital); accessed on 25 Jul 2021). In pre-independent India, M(yso)re R(amaswami Mudaliar) Guruswami Mudaliar (1880–1958; see K. Badrinath, *The Wall of Honour*, Royal Society of Medicine, [www.rsm.ac.uk/wallof\\_honour/share/?n=545](http://www.rsm.ac.uk/wallof_honour/share/?n=545), accessed on 20 Jun 2021) (Portrait 2) sparkled as the most-sought-after clinician attached to the GH and who was the conjoint professor of Therapeutics at the Madras Medical College. He is remembered by the people of Madras for his extraordinary percussion-based diagnostic skills. People talk of this skill with awe and surprise, given that his diagnoses were spot-on. After India's independence, the GH was decorated by physicians such as Rathnavél Subramaniam, Alagappan Annamalai, Krishna Varadachari Thiruvengadam, and Sam

Moses, and surgeons such as C.S. Sadasivan, Solomon Victor and Balasubramanian Ramamurthi, who made great strides in ensuring the better health of the Madras public.

## NOTES

1. Charles Grant (1746–1823) was an influential British politician who, motivated by his Christian faith, championed the causes of social reform and Christian mission in India. He served as Chairman of the British East-India Company, and a Member of Parliament.
2. Andrew Cogan is the supposed ‘founder’ of modern Madras; he was also the first Political Agent, a position which later evolved as the Governor.
3. Elihu Yale was a Boston-born merchant, planter and slave trader, and later the President of the Council of Directors at Fort St George, Madras. He started work as a clerk with the EEIC in Madras. He amassed wealth through pepper plantations in southern India.<sup>8</sup> He is indicated as the earliest benefactor of the Collegiate School in the colony of Connecticut (now the State of Connecticut, USA) in 1718, which was later named after him as the Yale College; now the Yale University.
4. The Browne & Petiver publication does not refer to plants by their binomials; only crude descriptions and vernacular names are supplied. Lack of binomials is understandable since Charles Linnaeus elucidated the binomial system of nomenclature only in the 1730s.
5. Donovan was the superintendent of the Government-managed Royapettah Hospital, which evolved out of the Madras Corporation-administered Royapettah Dispensary, until his formal retirement in 1919. Nurse Matron Amy Anna Caroline Skelland (1883–1972) was one name, which the medical chronicles of Madras have forgotten to acknowledge for the role she played in the discovery of *L. donovani* by Donovan. Skelland documented the microscopic details of the protozoan (later named *L. donovani* by Ronald Ross) by preparing elegantly executed hand-drawn sketches and water colouring them. The originals are archived at the Wellcome Library, London, *vide* <https://wellcomecollection.org/works/tkg8rhd9>, accessed on 1 Aug 2021.

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