Nineteenth century American Medical Missionaries in Jaffna, Ceylon

with special reference to Samuel Fisk Green

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FOREWORD

I am happy to respond to the request by Mr Thiru Arumugam to write a Foreword to the book he is publishing on Dr Samuel F Green MD, 1822—1884. Dr Green was one of the most outstanding of the American Missionaries who served in Jaffna during the nineteenth century. He was a pioneer in every sense of the word. He not only practised and taught medicine, but he established the first medical school in Ceylon. He mastered the Tamil language so that he could teach his students in Tamil. He helped to translate many of the standard English medical textbooks into Tamil. He left to the Tamils access to western medical science in their own language as a lasting and permanent contribution. Dr Green gave great dignity and respect to the study of western medicine in Jaffna which resulted in many young people taking up to the study of western medicine over the years. Many of his students were in demand for employment in India and Malaya.

He helped the Government Agent to found the Friend-in-Need Society Hospital (FINSH) in Jaffna Town which eventually became the Government General Hospital, Jaffna. The Green Memorial Hospital in Manipay and the Government General Hospital in Jaffna are monuments to Dr Green's memory today. During Dr Green's time, Jaffna was regarded as the head-quarters of western medical science in South-East Asia.

After Dr Green left Jaffna in 1873, my grandfather Dr C T E Mills who had been Dr Green's student from 1861 to 1864, took over the teaching of the existing batch of medical students and subsequently taught two more batches of medical students who successfully completed their courses.

I hope that Mr Arumugam's book will rekindle memories of a very valuable and historical past.

Dr Benjamin A Mills
Formerly Obstetrician and Gynaecologist, General Hospital, Jaffna
and President, Jaffna Medical Association

ACKNOWLEDGEMENTS

About eight years ago while passing through Kuala Lumpur, Malaysia, I met Prof Kailasan Somasundaram, a Sri Lankan origin Paediatric Surgeon who had become well known after he had performed the first separation of Siamese twins outside the western world. During the course of conversation the topic drifted to medical education in Sri Lanka and he presented me with a copy of R Ambihaipahar's *Scientific Tamil Pioneer: Dr Samuel Fisk Green*. Although I had vaguely heard about Dr Green, I realised the full impact of his tremendous contribution to medical education in Jaffna only after reading that book and I decided to find out more about Dr Green. I thank Datuk Dr Somasundaram for starting me on this quest, and the encouragement I subsequently received from Mr Ambihaipahar.

The major breakthrough in information about the nineteenth century American Medical Missionaries in Jaffna came in 2007/8 when I assisted Dr Murugar Gunasingam in the preparation of his monumental classic book on the *Tamils in Sri Lanka : a Comprehensive History*. Dr Gunasingam gave me full and free access to the resources of the South Asian Studies Centre in Sydney and I was able to access a wide variety of source material for this book. One point that he emphasized and which I always kept in mind was that when writing a book of this nature it is important to use primary sources of information as far as possible. I am grateful to Dr Gunasingam for the continuous encouragement that he gave me and also for the assistance in publishing this book through MV Publications. I also wish to thank Dr B A Mills, grandson of one of Dr Green's students for writing the Foreword to this book.

I gratefully acknowledge the reference to material in the Houghton Library in Harvard University, Cambridge, Massachusetts, USA including the *Papers of the American Board of Commissioners for Foreign Missions, Ceylon Mission (ABC 16.1.5)*. These original records are also available at the Christian Theological Seminary, Maruthanamadam, Jaffna, of the Jaffna Diocese of the Church of South India (successors to the American Ceylon Mission), where they were

categorized by the Tamil scholar, Prof Bernard Bate of Yale University in 2005.

I am grateful to my sister, Sushila Arichandran, who spent time in the National Library of Medicine, Maryland, USA photocopying pages from Dr Green's original Tamil medical textbooks. This Library has by far the widest collection of Dr Green's books in America. I am also grateful to my sons Sudhaman, Balakumar and Sivakumar and their respective wives Shivania, Suchithra and Poornima for their continuous support and encouragement throughout this project. My unfailing thanks to my wife Malini for all her enthusiasm and useful comments as each chapter was written, clarification of all medical matters and in particular her uncanny deduction that the handwritten manuscript draft page of Tamil medical text reproduced in Appendix I must refer to the Portal System of Veins.

Thanks also to Darshan Raja Rayan for the cover design and his original sketch reproduced on the Cover which is of the McLeod Hospital for Women and Children, Inuvil, Jaffna as it would have appeared when it was opened in 1897.

PREFACE

In the first decade of the nineteenth century, a movement began in America which had the objective of evangelizing the non-Christian world. In this respect, America was behind Europe as the movement had already begun there. For example, Ziegenbalg, a German Lutheran missionary sent by the Danish King arrived in Tranquebar (near Nagapattinam) in present day Tamil Nadu in the early eighteenth century and in 1716 published a book on Tamil grammar. This was followed by a number of dictionaries and translations of Tamil literary works. Just before the end of the eighteenth century an English Baptist missionary, Dr William Carey, had established a mission station in Serampore, near Calcutta.

The missionary movement in America led to the formation of the American Board of Commissioners for Foreign Missions (ABCFM) in 1810. This was the first organisation of its type in America. They did not waste much time and the first group of five missionaries was sent out by them to India in 1812. They formed the first American overseas mission station, it was in Bombay and it was formed in 1813. Their second mission station was formed in Jaffna in 1816. The object of the ABCFM was, "to propagate the Gospel among un-evangelized nations and communities, by means of preachers, catechists, schoolmasters, and the press".

It should be noted that medical activities are not listed in the objects of the ABCFM, and their policy was that when the number of American missionaries and their families in a particular mission station reached a certain number and adequate facilities for suitable medical treatment were not available in that location, then a missionary physician would be sent to that station. The duty of the missionary physician was primarily to look after the health of the missionaries and their families, then assist in missionary work, and then if time permits, provide medical care to the local residents. In the first fifty years of activity of the ABCFM, of the 1258 missionaries sent out, only 50 (or 4 %) were missionary physicians. One of the reasons for the low proportion was

the lack of volunteers. In this connection, copies of an appeal by a missionary physician then working in Jaffna, titled "Appeal of Dr Scudder to Pious Physicians in the United States" and a ABCFM document titled "Claims of the Missionary Work on Pious Physicians" are reproduced in Appendix XI and XII respectively.

Of the very first group of four missionaries sent out to Jaffna in 1816, two of them, Richards and Warren, had been sent by the ABCFM prior to going abroad to a medical school in America for two years to study medicine and surgery. As the medical course at that time was three years, they were not fully qualified physicians; nevertheless they provided useful medical service in Jaffna. Unfortunately both of them contracted tuberculosis and died within a few years. They were followed by the first fully qualified missionary physician to be sent out to any mission in Asia, John Scudder M.D., who was in Jaffna from 1820 to 1836, before he was transferred to India. He was imbued with evangelical zeal and in his case on many occasions his evangelism took priority over medical activities. The next fully qualified physician to be sent to Jaffna was Nathan Ward M.D. who was there from 1833 to 1846 before returning due to poor health. He seems to have been a quiet person, who was not yet ordained at that time, and his main interest appears to have been in teaching at the Batticotta (i.e. Vaddukoddai) Seminary. He never really mastered the Tamil language.

The next medical missionary to be sent to Jaffna was Samuel Fisk Green M.D.; he was in Jaffna from 1847 to 1857 and again from 1862 to 1874. Dr Green made the greatest contribution of all the medical missionaries sent to Jaffna. He established a hospital in Manipay which still exists and is now known as the Green Memorial Hospital and was one of the major hospitals in Jaffna. This Hospital was established before the General Hospital in Colombo. He also established the first western medical school in Ceylon in Jaffna in 1848, twenty-two years before the Colombo Medical School was inaugurated. Over the years he directly trained 62 Doctors and more than 50 more indirectly, teaching initially in English and later changing over to the Tamil medium. Dr Green also became very proficient in Tamil and translated or supervised the translation of over 4500 pages of key medical text

books into Tamil. The books translated included such classics like Gray's Anatomy. For the illustrations he purchased the original woodcuts used by the publishers. He had to coin hundreds of new medical and scientific words in Tamil as western science was new to Tamil. This was a tremendous achievement, yet he has never received the recognition that these phenomenal achievements deserve.

There are two books about Dr Green. The first is Ebenezer Cutler's "Life and Letters of Samuel Fisk Green M.D. of Green Hill" (456 pp). This was a private printing in 1891 for family and friends. Cutler was a Pastor in Worcester, Massachusetts and a family friend. He had full access to Dr Green's letters from Ceylon to his friends and relations in America. It is very comprehensive but somewhat lacking in detail about his medical work. The other book is "Scientific Tamil Pioneer – Dr Samuel Fisk Green" by R Ambihaipahar. He is obviously a great admirer of Dr Green and his work which he studied for many years, including a visit to his grave in Worcester, Massachusetts. Apart from outlining Dr Green's life work, Ambihaipahar has also made a careful study of the methodology of translation.

One of Dr Green's students, Dr Vaitilingam alias D W Chapman who acted as Physician for the American Ceylon Mission (ACM) when Dr Green was away and also worked with Dr Green on the translation of medical books for nearly two decades, wrote when he heard of Dr Green's passing away in America in 1884: "Throughout the Island, and even in India, he was considered one of the greatest men who lived in this century". This book is dedicated in all humility to this great man who is yet to receive the recognition he fully deserves.

Thiru Arumugam
Sydney, Australia

Chapter 1
In the Beginning (1810—1816)

When studying the geography of Asia, the American, Samuel Mills conceived of the idea of a mission to Asia. The five friends Samuel Mills, Francis Robbins, Bryan Green, James Richards and Harvey Loomis were studying in Williams College, Massachusetts in 1806 and used to hold prayer meetings in a grove and one day during one of these meetings a storm broke and they sought shelter in a haystack. In the words of one of those present, 'Mills proposed to send the gospel to that dark and heathen land, and said we could do it if we would.' The group, later called the 'Haystack Five' continued to pray and consult together for two seasons and then formed a society, the object of which was 'to effect, in the person of its members, a mission to the heathen.' This was the first American foreign missionary society and from the proposition that was made, the American Board of Commissioners for Foreign Missions (ABCFM) was formed on 5 September 1810.[1] Of the five friends, James Richards was the only one who physically served in a foreign field, and he came to Ceylon. He was one of the first group of four missionaries who went out to Jaffna in 1816. He died there after a long illness in 1822 and his grave and gravestone are in Tellipallai.

The four names appended to the memorial for the formation of the ABCFM in the Andover Theological Seminary on 29 June 1810 were Adoniram Judson, Samuel Nott, Samuel Mills and Samuel Newell. The last named, a graduate of Harvard University, was later the first American missionary to visit Ceylon.[2] Out of these humble beginnings, the ABCFM expanded rapidly and in the first fifty years of its existence the ABCFM sent out 1258 Missionaries (including 50 Medical Missionaries) to 39 distinct mission stations all over the world. During this period the Mission's printing presses all over the world printed a total of more than a thousand million pages of religious texts and tracts.[3]

By 1812, three of the signatories mentioned in the previous para; Judson, Nott, Newell, and two others; Hall and Rice, had completed their theological studies and were ready to sail abroad as the first American foreign missionaries. The ABCFM left the choice of country

to them; either India, Burma or any other country in Asia that they found appropriate. It came to their notice that there was a ship sailing for Calcutta which could take a few passengers. On the 6th of February 1812 the five young men were ordained in Salem. The official record of the ABCFM states that:

> The sight of five young men, of highly respectable talents and attainments, and who might reasonably have promised themselves very eligible situations in our churches, forsaking parents, friends, country, and every alluring earthly prospect, and devoting themselves to the privations, hardships and perils of a mission for life, to a people sitting in darkness and in the region and shadow of death, in a far distant and unpropitious clime, could not fail deeply to affect every heart not utterly destitute of feeling.[4]

The subsequent instructions of the Prudential Committee of the ABCFM to their missionaries included the following statement:

> Be faithful unto death, then you will rejoice that you bade adieu to parents and relatives and native land, on this great errand of love.[5]

The brigantine 'Caravan' of Salem was preparing to sail to Calcutta leaving on 19 February 1812 and it was decided that Judson and his wife Ann, and Newell and his teenage wife Harriet would sail in this vessel. As there were insufficient cabins in the 'Caravan', the other three, Nott, Hall and Rice set off for Philadelphia where they would sail to Calcutta in the 'Harmony' due to set sail on 24 February 1812.[6] Nott got married on the way to Philadelphia and his wife travelled with him, the other two were single.

Of the five missionaries, Samuel Newell is of particular interest because he was one of the signatories of the memorial which led to the establishment of the ABCFM and he was the first American missionary to visit Ceylon. He was born in Maine on 24 July 1784. His mother died when he was two years old and his father passed away when he was ten years old. He was fortunate to be fostered by a Mr Smith of Roxbury. He studied hard and entered Harvard in 1803 followed by

theological studies at the Andover Theological Seminary. His wife Harriet was born on 10 October 1793 and she was only 17 years old when she received a proposal of marriage from Newell on 17 April 1811 who said that if she accepted the proposal she would have to be ready to join him to travel to any country to which the ABCFM would send him. After days of anguished reflection she accepted the proposal. She was an excellent writer of almost poetic English as this excerpt from a letter to a friend dated 29 December 1811 (a premonition perhaps?) shows:

> I shall shortly enter upon a life of privations and hardships. 'All the sad vanity of grief' will probably be mine to share. Perhaps no cordial, sympathizing friend will stand near my dying bed, to administer consolation to my departing spirit, to wipe a falling tear, the cold sweat away, to close my eyes, or shed a tear upon my worthless ashes.[7]

A few weeks later in a letter to another friend she wrote:

> Eighteen years of my life have been spent in tranquility and peace. But those scenes so full of happiness are departed. They are gone 'with the years beyond the flood', no more to return. A painful succession of joyless days will succeed; trials, numberless and severe, will be mine to share. Home, that dearest sweetest spot, - friends whose society has rendered the morn of life pleasant, must be left forever![8]

The voyage was fairly uneventful and the food seems reasonable under the circumstances that they would be sailing for at least four months without touching at any port. She recorded in her diary:

> March 14: The sailors have caught a turtle, it weighs about twenty pounds. We have occasionally flour-bread, nuts, apple puddings, apple pies, baked and stewed beans, also fowl and ham. We drink tamarind-water, porter, cider etc.[9]

On 1 May they rounded the Cape of Good Hope, ten weeks after leaving Salem. By 7 June they were going round Ceylon and reached Calcutta on 17 June 1812, almost four months after leaving America.

The following day they disembarked and went to stay in Serampore about 15 miles away where the English Baptists led by Dr Carey had a mission station. By July 16th the 'Harmony' sailing from Philadelphia with the other three missionaries had still not arrived, but Newell and Judson were surprised when the East India Company informed them that they were not welcome in Calcutta and that they should return to America by the same ship 'Caravan" that they had arrived in. It must be remembered that England and America were at this time in a state of war over a Canadian province. An appeal was forwarded through the Baptists to the East India Company which said that they could leave on a ship sailing shortly for Mauritius. When the ship's Captain Chimminant was contacted he said that he could only take two passengers. This placed the Newells in a difficult situation. Harriet was now pregnant and expecting her confinement to be in November. If they did not accept the passage to Mauritius the Judsons would take it and the Newells would have to go back to America on the 'Caravan' and the baby would be born at sea. When Captain Chimminant assured them that he would reach Mauritius in six weeks, which would be well before the due date for the confinement, they accepted the offer of his passage for two for 600 Rupees. They sailed for Mauritius on 4 August 1812. Meanwhile Judson joined the Baptists and resigned from the ABCFM and was allowed to stay on in Calcutta.

The journey to Mauritius was a series of disasters. It was only after embarking that the Newells realised that the ship was a leaky old tub. On 27 August a leak in the hull was discovered which became very serious by the 30th. The Captain had to head for the nearest port for repairs which was Coringa, about 60 miles south of Vishagapatinam, in present day Andhra Pradesh. After the repairs were completed they re-embarked on 19th September. Three weeks later, and three weeks before they were due to reach Mauritius, Harriet delivered a healthy baby girl on 8 October.[10] Four days later there was a severe storm with howling wind and rain. The baby caught a chill and passed away on the following day. About a week later, Harriet fell ill showing symptoms of tuberculosis.

On arrival in Mauritius, Harriet was treated by Dr Burke, the Chief

Surgeon of the British Army, but she was gradually weakening. Newell records that:

> When I asked her, a few days before she died, if she had any remaining doubts respecting her spiritual state, she answered with an emphasis, that she had none..... She told me that her thoughts were so much confused, and her mind so much weakened, by the distress of body that she had suffered, that she found it difficult steadily to pursue a train of thought on divine things, but that she continually looked to God and passively rested on him.....
> A few days later she called me and said, 'Tell my dear mother, how much Harriet loved her.....I shall meet her in heaven, for surely she is one of those dear children of God....Tell my brothers and sisters that there is nothing but religion worth living for. Tell them that I love them to the last'. The last words which I remember, and which I think were the last she uttered relative to her departure, were these, 'The pains, the groans, the dying strife – how long, O Lord, how long'.[11]

She passed away on 30 November 1812, a few days after her 19th birthday and was buried in Mauritius. It is interesting to note that Dr Burke who treated her was still in Mauritius as the Chief Medical Officer when the 24 Kandyan State Prisoners were exiled by the British Governor of Ceylon to Mauritius in 1819.[12]

In a letter to Harriet's mother dated 10 December 1812, Newell wrote:

> Yes, my dear friends, I will tell you how God has disappointed our favourite schemes, and blasted our hopes of preaching Christ in India.....I would tell them how he has visited us all with sickness, and how he has afflicted me in particular by taking away the dear little babe which he gave us, the child of our prayers, of our hopes, of our tears.....Come then, let us mingle our grief, and weep together; for she was dear to us both; and she too is gone. Yes, Harriett, your lovely daughter is gone, and you will see her face no more! Harriet, my own dear

> Harriet, the wife of my youth, the desire of my eyes, has bid me a last farewell, and left me to mourn and weep![13]

Just over two months later in a letter to his brother dated 23 February 1813 Newell wrote:

> Thus, my dear brother, I have been called to lay my beloved Harriet in her lowly bed, within the short period of ten months from the day of our marriage. I have buried both my parents, and several near relatives, but I never knew the bitterness of grief till I saw my dear wife expire.....O may we be counted worthy to meet her in the mansions of the blessed! Dear creature, she comforted me with this hope on her dying bed; and this blissful hope is worth more to me than all the wealth in India.[14]

When Harriet Newell's Memoirs (see Ref. 6) were published a few years later in America and England, it became a literary best seller. It was reprinted every year for 25 years after it was first published. Harriet became revered as the first missionary martyr of the American missions. There was a tremendous upsurge of interest in missionary work with many offering to join the missions, particularly women. Donations from benefactors to the missions also poured in. S C Bartlett gives a typical example of the effect of the book on America:

> And not only so, but the tale of her youthful consecration, and her faith and purpose, unfaltering in death, thrilled through the land. How many eyes have wept over the touching narrative, and how many hearts have throbbed with kindred resolutions! No long protracted life could have so blessed the church as her early death. Look at one instance. The little town of Smyrna lies on the Chenango River in central New York. It had neither church, minister nor Sabbath school; and never had witnessed a revival of religion. The Memoir of Harriet Newell, dropped into one woman's hands in that town, began a revival of religion in her heart, through her house, through that town, and through that region. Two evangelical churches grew out of that revival.[15]

Meanwhile the 'Harmony' had arrived in Calcutta with the other three missionaries, Hall, Nott and Rice, four days after the Newells had sailed for Mauritius. The East India Company promptly served all three of them also with deportation orders. Rice joined Judson who was with the English Baptists and was allowed to stay and the two of them resigned from the ABCFM. Hall and Nott sailed in a ship bound for Bombay hoping that the Governor of Bombay would allow them to reside there, failing which they thought of trying to go to Ceylon where the East India Company did not have jurisdiction. The state of war between England and America over a Canadian province had also eased by this time. When Newell heard that Hall and Nott were in Bombay he embarked from Mauritius on 23 February 1813 on a Portuguese ship bound for Goa which was also calling at Galle on its voyage. When the ship reached Galle, Newell decided to disembark in case Hall and Nott had already arrived in Ceylon. He found that they had not arrived and a few weeks later he received information that they were still in Bombay, but that their stay there had not yet been regularized. Newell decided to stay on in Ceylon until Hall and Nott's fate was known in case they came to Ceylon. He spent his time in Colombo constantly preaching to the British and Burghers. He also visited Jaffna and wrote to the ABCFM 'what a field is here for missionary exertions!' He strongly recommended to the ABCFM that a mission be established in Ceylon for the following reasons:

1. The friendly and fostering attitude of the Ceylon Government. The Governor, the Chief Justice, the Royal Chaplain and many others of position and authority united cordially in welcoming the work of missionaries among the native people.
2. The comparatively small number of inhabitants, somewhere under three million souls, all freely accessible.
3. The fact that only two languages were in use and that in these the Scriptures were already printed, the whole Bible in Tamil and the New Testament in Sinhala.
4. The fact that there were only two missionaries in the Island, one from the London Missionary Society and one from the English Baptists.

5. The remarkable opportunity offered for reaching the millions of Tamil speaking people in South India through the medium of work among the Tamil community of Ceylon.[16]

The reason for the friendly reception was because Governor Brownrigg was well disposed towards missionary work, even if the missionaries came from America. He had said that one of the most pleasing aspects of his tenure of office, was to him, the increase in missionary activity in the country. At his farewell speech when he left Ceylon on 1 February 1820, he said, referring to the American Ceylon Mission (ACM):

> .....He then expressed to the brethren his approbation of our mission, and said many kind things of our missionaries.[17]

However, the situation changed dramatically when Governor Barnes succeeded Governor Brownrigg, but more of that later. Newell sailed from Ceylon for Bombay to join Hall and Nott on 28 January 1814, after a stay of ten months in Ceylon. When peace was restored between England and America in 1814, the ABCFM fitted out five missionaries to sail out and form the first American Mission in Ceylon. The selected missionaries were James Richards, Bardwell, Daniel Poor, Benjamin Meigs and their wives, and Edward Warren who was a bachelor. Their salaries were $US444 p.a. for a bachelor, $US666 p.a. for a married couple plus an allowance for each child. An outfit allowance of one year's salary was also paid to each of them.[18] Two of them, Warren and Richards, were previously sent by the ABCFM to Philadelphia for two years to study medicine and surgery so that they could run basic medical clinics in Jaffna. They all sailed from Boston on 23 October 1815, arriving in Colombo on 22 March 1816. In Colombo they were well received by Governor Brownrigg, the Chief Justice Johnstone, other government officials and English missionaries. The Panoplist and Missionary Magazine records that:

> The missionaries, Messrs Richards, Poor, Bardwell and Meigs, and their wives, and Mr Warren, all in the best health, were received with great kindness by the Governor, and made welcome to settle in any part of the Island.[19]

The ship 'Dryad' in which the missionaries had arrived in Colombo was the first American ship to call there in six years. The Master of the ship also met Governor Brownrigg and recorded that:

> In the afternoon we were informed through the Chief Secretary that the missionaries had permission to remain in Ceylon. The next day I had an interview with the Governor. He gave me strong assurances that the missionaries were most cordially received, and had no doubt that they would conduct themselves agreeably to their profession.[20]

They then had to decide where they would establish their mission stations. The Report for 1817 of the Prudential Committee of the ABCFM gives the reasons for the selection of Jaffna as follows:

> The result of their inquiries in regard to the stations to be occupied, was that Mr Bardwell was to go to Bombay, and if permitted, settle with the missionaries there; that Messrs Richards and Meigs should attempt to establish at Batticotta (i.e. Vaddukoddai), and Messrs Warren and Poor at Tellipallai, both in the Province of Jaffna in the northern part of Ceylon. This district was visited by Dr Buchanan in September 1806, and by our missionary, Mr Newell in July 1813; and by both of them it is represented as peculiarly interesting from a missionary point of view. Mr Newell, in his Journal says 'In case of our settling in Ceylon, the province of Jaffna seemed to be the most eligible spot for us. It is near to the continent, and the Tamil spoken in Jaffna is the language of eight or nine million people, separated only by a narrow channel'.
>
> In his opinion of the eligibility of Jaffna, the principal gentleman in Colombo, the Chief Justice Sir Alexander Johnstone particularly, who expressed himself at large on the subject, and the missionaries generally, were fully agreed. And in this eligible Province, Tellipallai and Batticotta were considered as decidedly the best missionary stations. Having settled their determination, and obtained the permission of the Governor, the brethren judged it advisable that Mr Warren

> should go by land to Jaffna, without delay, for the purpose of making some preparatory arrangements there, and the rest should take passage, with their effects, by water, as soon as the monsoon would permit.[21]

It would appear from the above that the often quoted statement that the Governor sent the Americans to Jaffna because it is the furthest point from Colombo does not seem to be correct.

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Chapter 2

James Richards (1816—1822) and Edward Warren (1816—1818)

James Richards and Edward Warren were among the first group of four missionaries sent out by the American Board of Commissioners for Foreign Missions (ABCFM) to start the American Ceylon Mission (ACM) in Jaffna in 1816. They were sent in 1812 by the ABCFM to Dartmouth Medical School in Philadelphia, the fourth oldest medical school in America, to study medicine and surgery for two years. As the full medical course at that time took three years, they were not awarded the degree of M.D. when they left, nevertheless they would have known the basics of medicine and surgery as they were also given hospital clinical training. The ABCFM financial accounts for the year 1816 show that Richards and Warren took with them to Jaffna $US246 worth of medicines, a considerable quantity.[1]

James Richards (1816—1822)

James Richards was born in Abington, Massachusetts on 23 February 1784.[2] Due to pecuniary reasons he was able to enter Williams College only at the age of 22 years. He graduated with the degree of Bachelor of Arts in 1809. When he was at College, he became friendly with Samuel Mills, and in his third year in College he had resolved to spend his life as a missionary to the heathen. He was a member of the group called the 'Haystack Five', the group which decided to dedicate themselves to start missionary work in foreign countries. He was the only member of the group who actually worked as a missionary in a foreign country, though Samuel Mills did make a brief visit to Africa but died at sea of malaria on the voyage back.

Immediately after graduating from Williams College he joined the Andover Theological Seminary, which is the oldest graduate school of theology in America and was founded in 1807. In his diary when at Andover he wrote:

> I feel that I owe ten thousand talents, and I have nothing to pay. The heathens have souls as precious as my own. If Jesus was willing to leave the bosom of his Father, and expose himself to much suffering here below, for the sake of them and me, with what cheerfulness should I quit the pleasures of refined society, and forsake father and mother, brothers and sisters, to carry the news of his love to far distant lands.....I hope to use my feeble efforts in disseminating the word of eternal life in the benighted regions of the east.[3]

He completed the course in Andover in 1812. In January 1811 he was one of the eight signatories who formed a 'Society of Inquiry on the subject of Missions'.[4] The object of the Society included inquiry into the state of the heathen and the best manner of conducting missions. He applied to the ABCFM for a foreign posting and was accepted and directed to follow a two year course in medicine and surgery at Dartmouth Medical School. He completed the course in 1814 and was awarded the degree of Master of Arts. He married Sarah Bardwell in May 1815 and was ordained on 21 June 1815 in Newburyport along with Warren, Meigs, Poor and Bardwell. They all embarked for Ceylon with their wives on 23 October 1815 in the 'Dryad' arriving in Colombo on 22 March 1816. When asked how he could refrain from weeping when leaving his native country, possibly for the last time, he said:

> Why should I have wept? I had been waiting with anxiety almost eight years for an opportunity to go and preach Christ among the heathen. I had often wept at the long delay. But the day on which I bade farewell to my native land was the happiest day of my life.[5]

They spent a few months in Colombo and then decided to start their missionary activities in Jaffna. Warren was the first to reach there, travelling all the way in a palanquin and arriving in Jaffna on 11 July 1816.

> The Governor, while prevented by treaty restrictions from giving them outright the land and buildings set apart for the purpose of Protestant worship, encouraged them to occupy the

> ruined churches and houses at Tellipallai and Vaddukoddai, saying that 'no part of his official duty gave him more pleasure than that relating to the propagation of Christianity among the natives'.[6]

The Missionaries were quite busy during the first months of their stay renovating these 300 year old Portuguese buildings. The churches were massive structures. The one at Vaddukoddai was about 163 feet long and 57 feet wide with walls and pillars of coral stone up to four feet thick. However all that remained of these old buildings was only the walls and the floor and making them usable was a laborious process.

The demand for medical attention soon began and the Missionaries reported in a letter to the ABCFM dated 02 June 1817 that:

> Our attention has been much called to the sick around us. Many flocked to our doors for medical aid, as soon as they were informed that we had the means of assisting them.
>
> But we found that an attention to their wants subjects us to considerable expense, as many of the objects are wasting with hunger as well as disease, and some have no place in their sickness to shelter them from the weather.
>
> Four persons have already been brought with their limbs badly broken, and many other bad surgical cases and medical cases.[7]

It was soon realised that a small hospital would be required and funds were collected from the public for this purpose:

> The medical knowledge of these brethren (i.e. Richards and Warren) had given promise of much good to the Mission. Early in the year, applications for medical aid had become so numerous, that the want of a hospital was seriously felt, and by the kindness of the Rev. Mr Glenie, Mr Mooyart and others, a small building was erected and partly furnished, and a monthly subscription was raised for its support.[8]

Cholera was the major killer at that time and a severe epidemic could remove a quarter of the population, being particularly severe on young children. James Richards was stationed in Vaddukoddai together

with Meigs, and it would appear that the latter was helping Richards with his work as Tracy reports:

> Generally the natives were afraid to use any medical remedy, lest the goddess, whose 'sport' they supposed cholera to be, should be offended. When one was attacked, all but his nearest relations fled; his relatives carried him to the nearest temple, and prostrated him before the idol, in almost every instance, he died within a few hours. When Meigs could arrive in season, and obtain permission to administer the usual specific, (large doses of calomel and opium), the patient commonly recovered.[9]

Calomel consists mainly of mercurous chloride and acts as a cathartic (purgative) and opium which contains 12% morphine acts as a pain reliever. Thirty years later Dr John Scudder working in Madurai, South India for the ABCFM was using the same treatment for cholera:

> I would remark that the only medicine in which I place confidence in cholera (treatment) is calomel with laudanum (i.e. a tincture of opium) or finely pulverized opium. Of course, I am speaking of the disease in its commencement. The doses which we give to an adult are 15 grains of calomel with one hundred and twenty-five drops of laudanum, or 15 grains of calomel with five grains of finely pulverized opium. These doses may appear to be large to those who have never witnessed cholera; but nothing short of this should be given.[10]

The medical books that Richards and Warren brought with them formed the nucleus of the Medical Section of the Mission's Library; this section was to be expanded greatly in later years. The first set of medical books in the Library was :[11]

Accurn, *Chemistry.*
Bard, Samuel, *A Compendium of the theory and practice of Midwifery,* 1812.
Bell, Charles, *Engravings of the Arteries,* 1811.
Bell, *Venereal Diseases.*
Chisholm, Colin, *An essay on the malignant pestilential fever,* 1801.

Cooper, Samuel, *A Treatise on diseases of the Joints,* 1808.
Cullen, William, *First lines of the Practice of Physic,* 1812.
Cullen, William, *A Treatise of the Materia Medica,* 1812.
Currie, James, *Medical Reports,* 1814.
Duncan, Andrew etc, *The Edinburgh new Dispensatory,* 1813.
Hamilton, James, *Observations on the utility and administration of purgative medicines,* 1806.
Jackson, Robert, *An outline of the history and cure of fever, endemic and contagious,* 1808.
Lawrence, William, *A Treatise on Ruptures,* 1811.
Mathias, *Mercurial Diseases.*
Motherby, George, *A new Medical Dictionary, or general repository of Physic,* 1795.
Pemberton C. R., *A practical Treatise on various diseases of the Abdominal Viscera,* 1815.
Richerand, Anthelme, *Elements of Physiology,* 1813.
Rush, Benjamin, *The works of Thomas Sydenham MD, on acute and chronic diseases,* 1815.
Scofield, *Cow Pox.*
Thacher, James, *The American new Dispensatory,* 1810.
Townsend, Joseph, *Elements of Therapeutics, or A Guide to Health,* 1802.
Willan, Robert, *Description and treatment of Cutaneous Diseases,* 1805.
Wilson, Alexander P., *A Treatise on febrile diseases, including various species of fever,* 1813.

In 1817 Richards fell ill with inflammation of the eyes and by September of that year he could no longer continue preaching as he had contracted tuberculosis. In April 1818 it was decided to send Richards and Warren, who also had tuberculosis, to Cape Town for treatment and recuperation. When they arrived there in July they were examined by the physicians who held no hope of recovery for Warren and little hope of recovery for Richards. However by November 1818, Richards improved in health, though he had lost his voice and could only talk in

a whisper, and he embarked for Madras arriving there on 20 January 1819:

> Early in the year, Mr Richards obtained a passage from Madras to Colombo, and from there had an uncomfortable journey to Jaffna. His life, however, was spared for the present, and he was able to aid his brethren by his counsels and even to render important services as a Physician.[12]

He was very ill and was considered near death, but by August 1819 he was much better. By April 1820 he recovered his voice and was able to start preaching again after an interval of 17 months. After May 1821 his health started failing again. By this time John Scudder M.D. had arrived in Jaffna as an ACM Missionary Physician and was treating him during his last illness and was sent for when he was dying. On 3August 1822 James Richards:

> .....inquired for James, his only child, who was standing at the head of his bed. Taking him by the hand, he said, 'My son, your Papa is dying. He will very soon be dead. Thou, my son, remember three things. Be a good boy, obey your Mama and love Jesus Christ. Now remember these, my son.' He also gave him a small pocket Testament and told him to read it much and obey it. His whole appearance was such as to denote that his last moments had arrived. Dr Scudder had, for a few moments, left the room. Looking round those present, he said, 'Tell brother Scudder, going', and spoke no more.[13]

He was buried in Tellipallai and his wife, Sarah Richards, continued to live in Jaffna until 1825. His tombstone in Tellipallai bears an inscription in English and also in Tamil, the translation of the Tamil text is given below:[14]

(English text)

In memory of
The Rev. JAMES RICHARDS, A.M.
American Missionary
Who died August 3, 1822
Aged 38 years

One of the first projectors of American Missions,
He gave himself first to Christ,
And then to the Heathen,
A Physician both to soul and body,
He was
In health, laborious
In sickness, patient,
In death, triumphant
He is not, for God took him.

(Translation of the Tamil text)
In memory of
The Rev. James Richards, A.M.
American Missionary who died August 3, 1822
Aged 38 years.
Reader,
He came to this country to tell you
That, excepting through Christ Jesus
There is no way to escape Hell, and obtain Heaven.
Believing in this Saviour,
He died rejoicing in the hope of Eternal happiness.
Let all who read this prepare for death also.

Edward Warren (1816—1818)

Edward Warren was also one of the first batch of four missionaries sent to work for the ACM in Jaffna. He was born in Massachusetts on 4 August 1786.15 He studied at Middlebury College, graduating in 1808. He studied law for some time and then decided to join Andover Theological Seminary in 1810, completing his studies there in 1812. He pledged his services to the ABCFM and was directed to follow a two year course in medicine and surgery at Dartmouth Medical School, along with James Richards.

He was ordained on 21 June 1815 together with Richards, Meigs, Bardwell and Poor, all of whom were expecting to leave for Ceylon shortly. Immediately after his ordination he fell sick with bleeding of

the lungs, apparently the onset of tuberculosis. A few months later his health improved and the physicians thought that the long sea voyage and climate of Ceylon may do him some good. They all set sail on from Newburyport on 23 October 1815 in the 'Dryad'. Warren was the only bachelor in the group; all the others were travelling with their wives. They reached Colombo on 22 March 1816 and went to Jaffna a few months later. Warren and Poor were posted to Tellipallai. Winslow records that Warren lost no time in starting work:

> He arrived in the Island in comfortable health, and proceeded to Jaffna sooner than either of his companions, to make preparations for the accommodation of their families. He had attended to the study of medicine in America, which gave him many facilities for usefulness among the natives. He erected a small hospital in Tellipallai, and by his knowledge of business and of the world, aided the Mission essentially in those respects, in which missionaries, as well as ministers, are very often deficient.[16]

He worked hard with Daniel Poor and they repaired the Portuguese buildings which had been leased to them by the Governor, preached, established a small school and started learning Tamil. He did not neglect his medical mission:

> The pressure of business induced the brethren to take a small boy from a Dutch family, to assist Brother Warren in taking care of the sick, that his time might not be too much taken off from the study of the language, and other duties of the Mission. The natives have no correct knowledge of surgery, and very little of medicine. We shall continue to assist these poor objects as far as we can at both our stations; and we hope the Board will give us a little assistance. We shall be obliged to look at them, from time to time, for the principal medicines which we cannot obtain here.[17]

They had patients with broken bones who had fallen off palmyrah trees brought to their small hospital and in his journal for 27 November 1816 he records that:

> Many persons apply for medical assistance. We have reason to believe that the practise of medicine here will be one of the most effectual means of gaining access to the hearts of the people, and of promoting the objects of our mission.[18]

In an undated letter to the Captain of the ship that brought them to Colombo, Warren wrote:

> We have companies of sick, lame and blind flocking to our door for medical aid. We think that attention to their complaints will be a powerful means of gaining their attention to the religion we wish to preach to them. Indeed we have evidence that it will. We feel the want of an institution like an Alms-House, that we may receive the sick into a comfortable habitation, and afford them proper covering, for without it the medicine is often lost, and worse than lost upon them, as many of them are so poor they are literally naked, and without a hut to shelter them from the unhealthy night winds. Consumptions (i.e. tuberculosis) are frequent; intermittent fevers, dropsies (i.e. accumulation of fluid in the tissues) etc are common complaints.[19]

His health improved for a year but in August 1817 he had a relapse and started bleeding from the lungs again. He was sent to Colombo to avoid the rainy season in Jaffna but there was no improvement. By this time Richards had also fallen ill with tuberculosis and it was decided to send both of them to Cape Town to convalesce and for treatment. He felt better during the sea voyage but after arriving in Cape Town he became increasingly ill and the three physicians who were treating him held out no hope for his survival. James Richards diary records that:

> August 3rd: It is now one month since we landed, and brother W. has on the whole been growing worse. His breathing is extremely painful and difficult, but he is extremely quiet and submissive, as far as I can judge, and seems like one preparing rapidly for the heavenly state. Speaking to him this evening, of the near approach of death, he said, 'no matter how soon', and repeated, 'no matter how soon. No ecstasies – a calm humble dependence – 'tis all I want'.[20]

Over the next few days he was sinking rapidly and passed away on 11 August 1818 at the age of 32 years, in a foreign country thousands of miles from home, with only Richards by his side. His last words were:

> Is this death? Is this death? Yes, it is death. Come, Lord Jesus, come quickly. Today, I shall be with Christ. Tell brother Richards; tell the brethren at Jaffna, to be faithful unto death.[21]

In October 1818 Richards wrote to Thaddeus Warren, father of Edward Warren, about his son's passing away and mentioned that:

> My dear friend, the Lord has seen fit in his holy providence, to visit you and your surviving household with deep affliction. It falls to my lot to tell you that death has made another breach in the number of your dear children.....His breathing was never entirely free after his last attack of bleeding in Colombo, and he could never sleep in any other position other than on his right side. About this time it was discovered that his feet had begun to swell, and I believe that he never expressed any hope of recovery afterwards. Thus ended the mortal existence of my dear friend and the next day I followed his corpse to the English and Dutch burying ground, where it was decently interred.[22]

The following resolution was passed by the ABCFM at its Board Meeting in September 1819:

> Resolved, That this Board, is deeply impressed with the holy devotedness, zeal, fidelity, labours and excellence of character of their late beloved missionary, the Rev. Edward Warren; that his memory is precious; and that the Prudential Committee be authorized and directed to erect a suitable monumental stone over his grave, at the Cape of Good Hope.[23]

References

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3. Ibid, p. 242

4. Society of Inquiry Respecting Missions, *Memoirs of American Missionaries, formerly Connected with the Society of Inquiry,* 1833, (367 pp), p. 70-74.
5. Missionary Herald, Vol. XIX, p. 243.
6. Helen I Root, *A Century in Ceylon – a brief history of the American Board in Ceylon 1816-1916,* Jaffna, 1916, (87 pp), p. 6.
7. The Panoplist and Missionary Herald, for the year 1818, Vol. XIV, Boston, 1818, p.130-132.
8. Joseph Tracy et al, *History of American Missions to the heathen, from their commencement to the present time,* Worcester, 1840, p. 64.
9. Ibid, p. 75.
10. Missionary Herald for the year 1848, Vol. XLIV, Boston, 1848, p. 261.
11. Based on *Papers of the American Board of Commissioners for Foreign Missions, Ceylon Mission (ABC 16.1.5),* Vol. 1, p. 94, Houghton Library, Harvard University.
12. Joseph Tracy, p. 74.
13. Missionary Herald, Vol. XIX, p. 245.
14. Missionary Herald, Vol. XX, August 1824, No. 8, p. 233-236.
15. Society of Inquiry, p. 74-77.
16. Miron Winslow, *A Memoir of Mrs Harriet W Winslow, combining a sketch of the Ceylon Mission,* London, 1838, (348 pp), p. 114.
17. The Panoplist, 1818, p.132.
18. Ibid, p. 83.
19. Ibid, p. 88.
20. Miron Winslow, p. 114-115.
21. The Panoplist and Missionary Herald, for the year 1819, Vol. XV, Boston, 1819, p. 35.
22. Papers of the *ABCFM,* p. 100.
23. Ibid, p. 506-507.

Chapter 3
John Scudder M.D. (1820—1836)

Rev. John Scudder M.D. was the first fully qualified medical missionary doctor who was sent to Jaffna by the American Board of Commissioners for Foreign Missions (ABCFM) to work for the American Ceylon Mission (ACM). He was in fact the first qualified medical missionary to be sent to work in Asia from the western world –a singular honour for Jaffna. He was born in New Jersey on 3 September 1793.[1] His father was a lawyer of repute. John was very religious as a schoolboy and entered what is now called Princeton University and graduated in 1813. He wanted to become a priest but his father insisted that he study medicine, which he did at the New York College of Physicians and Surgeons. He graduated and had a good medical practice in New York. He married Harriet Waterbury, the daughter of the landlady of the house where he lodged. He frequently attended the Dutch Reformed Church.

One day when visiting a patient he saw a book titled "*The Conversion of the World, or the Claims of Six Hundred Millions*". He read and re-read the book and a call came to the depths of his soul "Come over and help us!" He decided that he would become a medical missionary, and even though his friends tried to dissuade him, his wife supported him in his decision. His father was against it and threatened to disinherit him. Just at this time, the ABCFM advertised for a person who combined the qualifications of a missionary and a physician and who was prepared to work in India. He immediately sent in his application, saying that if selected he could complete his theological studies in India. His application was accepted by the ABCFM and immediate arrangements were made for the departure of Dr Scudder, his wife Harriet, their two year old daughter and their devoted Afro-American maid, Amy, who insisted on going with them.

The Annual report of the Prudential Committee of the ABCFM released on 15 September 1819 commented on the decision of Dr Scudder to go to Ceylon. Clearly he was considered a prize catch; after all he was the first Medical Missionary to volunteer to go to Asia:

> .....John Scudder M.D., a young Physician of good professional reputation and practice in the city of New York, and of well established Christian character, after having long deliberated on the subject, came to the determination to make a sacrifice of his worldly prospects and of all that could attach him to his native country, for the benefit of the heathen, and the glory of Christ. Being apprised of the departure of three waiting missionaries, he made a solemn offer of himself, his wife and child, to be sent with them to Ceylon.
>
> Dr Scudder had for several years entertained serious thoughts of the ministry, had addicted him to theological reading and study; and been accustomed to take part in social religious exercises. It would therefore accord with his feelings and desires, to prosecute sacred studies, enjoying the aid of the brethren with whom he might be associated during his passage and after his arrival, until it should be deemed proper for him to receive ordination; and in the meantime and ever afterwards, to hold his medical science and skill sacredly devoted, and to be employed as opportunity should be afforded, for the benevolent purposes of the mission.
>
> Desirable as it was, that the deeply deplored breach, made by the removal of Mr Warren from the mission, from its hospital, and from the miserable multitudes to whom his medical practice promised to open the most hopeful access for the Gospel, should be supplied; your Committee could not but regard the offer of Dr Scudder, as signally providential. His testimonies were ample and satisfactory; and he was gratefully accepted.[2]

They left for Ceylon on 8 June 1819 on the brig 'Indus' which was bound for Calcutta. On board also were fellow ABCFM missionaries Winslow, Spaulding, Woodward and their wives. They were the second group of missionaries sent out to Ceylon by the ABCFM. At that time missionary service contracts were for life, and the cost of their passage back to America would be paid only under exceptional circumstances, such as ill health. The assumption was therefore that the missionaries

were leaving, never to return. The missionaries were told that they would serve in the nominated country till they retire, or more likely, die prematurely. One of those with long service was Miss Elizabeth Agnew who served the ACM in Jaffna as Principal of Uduvil Girls School. She was in Jaffna for 43 years from 1840 until she died. During that period she never went back to America, she said she was too busy to go on holiday. She was known as the 'mother of a thousand daughters' as she taught more than a thousand girls.

Dr Scudder said a tearful farewell to his mother believing that he would never see her again. The sea voyage, though long, was fairly uneventful. They spent their time preaching to the crew. There was some variety in their diet at sea when on 11 September some albatrosses were caught. They measured six feet from wing tip to wing tip. A few days earlier a four foot long dolphin had also been caught.[3] They arrived in Calcutta on 24 October 1819 after four months and thirteen days at sea, never having stopped at any port during this long sea voyage.

They rented a house in Calcutta and were also hosted by Dr Carey and other missionaries from the British Baptist Mission in Serampore, while they awaited passages to Ceylon. Then tragedy struck, Dr Scudder's two year old daughter fell sick and passed away. Writing to his mother, he said:

> Oh, my dear mother, how shall I take up my pen to mark upon paper the dark shadow of death! My dear little babe is no more. She has left us forever. She was attacked with dysentery on 22 October 1819 and after three days of suffering, passed away into eternity. This is a heart rending trial; but we can say, and we do say, the will of the Lord be done.[4]

She was buried in the Episcopal churchyard in Calcutta.

On 10 November 1819 the group sailed for Trincomalee and Colombo on the London registered ship "Dick". Mrs Woodward did not sail with them because she was sick. They reached Trincomalee harbour on 30 November and went ashore. They met Rev. Carver, a Wesleyan, who said that due to the north-east monsoon there were no boats sailing from Trincomalee to Jaffna. Only a limited number of palanquins could be arranged for the overland journey to Jaffna. It was

decided that the Scudder family would travel overland and the rest of the group traveled on to Colombo from where they went by canal boat to Puttalam and sailing vessel from Puttalam to Jaffna.

The Scudders reached Jaffna on 11 December 1819. Shortly afterwards, tragedy struck again. To quote Scudder's words:

> After breathing the tainted air but one week, (our baby) closed its eyes upon us forever, and took its flight to join her beloved sister. This is a severe trial, but we do not repine. We have here no continuing city, no place of rest, and therefore we feel resigned to the will of our heavenly Father, who has housed our tender plants before the storms of sorrow, which we feel, have breathed upon them.[5]

Their second child died on 25 February 1820 in Jaffna.

After initially living in Tellipallai, in July 1820 the Scudders moved to Pandatheruppu where he proceeded to repair the dilapidated Portuguese church and houses which the Government permitted ACM to use on lease. He renovated the church, a house and made a third building into a hospital/dispensary. In a letter to his parents he says:

> I have been visited by several persons today of those who may be properly called respectable men. There are some among them of great genius, and if they had equal advantages with the young men in our country they no doubt would be an honour to any nation.....I have patients in abundance. Through the means of medicine I hope to do much good, as many hear the Gospel by this means who, in all probability would never hear it any other way.[6]

Dr Scudder did not waste time and ordered the following medicines and chemicals from America:[7]

Ammonia water	Ammonia spirit
Ammonium Carbonate	Aniseed oil
Arrowroot	Asafoetida
Balsam Copaiba	Burgundy Pitch
Calomel (MercurousChloride)	Cantharides

Castile soap

Cream Tartar
Glauber's Salt
Gum Arabic
Ipecacuanha
Magnesium Carbonate
Myrrh
Peruvian bark, powdered (Cinchona)
Pot. Antimonial (Tartar Emetic)
Prepared Chalk
Rattlesnake root
Rhubarb root
Senna
Spirit Nitric
Virginian snake root

Corrosive Sublimate (Mercuric Chloride)
Gentian
Gum Ammonia
Gum Kino
Liquorice powder
Muriatic Acid
Opium
Plaster, Adhesive

Precipitated Sulphur
Quicksilver (Mercury)
Red precipitated Mercury
Sago
Sodium Carbonate
Sulphuric Acid

He also asked for some surgical instruments such as scalpels, lancets, scissors, fleams or the cutting part of spring lancets, Hay's needles and a full set of instruments for cataract operations.

On 8 August 1820 Dr Scudder was licensed to preach, and achieved his long standing ambition of being ordained in the following year, on 15 May 1821. He started preaching regularly, in addition to maintaining his medical practice. He started handing out tracts to his patients, and strangely, he says that they preferred ola leaf tracts to printed tracts:

> I have lately begun to give out tracts to those who can read who come for medical advice. By this means the Gospel will reach many places where the voice of the missionary is never heard. As I have no printed tracts, I am obliged to use those that are printed upon ola, and in general they are preferable, as many people can read written characters who are much at a loss when they attempt to read printed characters. I can prepare them written at a very cheap rate. They do not cost more than 8 or 9 cents a dozen.[8]

The ACM's own printing press in Tellipallai was commissioned only in 1834.

In the Journal of the Mission for 1820, Dr Scudder records:

> Yesterday and today spent almost my whole time in visiting the sick, and administering medicine to them. The epidemic, called 'Spasmodic Cholera' has begun its ravages in Batticotta. The nature of this disease, are so plainly pointed out by many medical gentlemen in India, who have been much acquainted with it, during the last year, that it requires little medical knowledge, when the means are at hand, to afford relief in most cases, when the people apply for assistance in season. But in almost every case of violent attack, unless the most powerful medicines are seasonably applied, the patient dies within ten to twenty hours.[9]

There were regular visitors to his medical practice. In his diary for 23rd November 1820 he records:

> Operated on a cataract this morning. This is the third case in which I have succeeded in giving sight to the blind.[10]

Another surgical operation is recorded in his diary as follows:

> Important surgical operation. Wednesday, January 10th (1821). This morning I removed a tumour from the side of a man which measured more than a foot in circumference. It was the largest I ever took out.[11]

On 14 March 1821 the Scudders were blessed with a baby boy. Sadly, four days later the infant passed away after only a day's illness. His diary entry reads:

> March 19. Thus, in less than eighteen months, we been called to part with three children; enough, it would be supposed, to teach us that this is not our place of rest. May our loss be made up by spiritual children from among this heathen people![12]

Over the next two years, two sons were born, Henry and William, both of whom survived. When Henry was eleven years old, both of them

were sent unaccompanied by ship back to America for their schooling. In all, the Scudders had fourteen children. Four of them died in infancy and ten reached adulthood, eight sons and two daughters. One of his sons was drowned when he was a student in a theological seminary in America.[13]

Rev. J B Waterbury, who wrote Dr Scudder's Memoir, was his brother-in-law, the brother of Harriet, Dr Scudder's wife. He had full access to his diaries and letters to relations in America. However, he does not say much about Dr Scudder's medical work, Waterbury's emphasis was on Scudder's missionary work. Perhaps Dr Scudder also felt that his missionary work was of equal or even greater importance than his medical work. Eugene P. Heideman in a recent book has this to say about Dr Scudder's medical work:

> John Scudder was the first American to be sent abroad as a medical missionary. He was convinced that medicine was a means to an end; the body was healed so that the soul might be saved. In those decades of the nineteenth century, medical practice was still primitive by modern standards. The vaccine against smallpox had only recently been developed. There were as yet no vaccines against epidemic diseases such as typhoid, yellow fever, cholera or bubonic plague. There was no effective treatment of malaria (jungle fever), polio, tuberculosis, leprosy, tetanus or rabies. Anaesthetics were still unknown; operations had to be done without them. The need for pure water supplies was not yet recognized.

Nevertheless, Dr Scudder's knowledge and skill in the practise of medicine was quickly recognized and accepted in Jaffna. He wrote that in his medical practice:

> 'I prescribe for the sick at an early hour every morning and have prayers and conversation with them before I administer to their wants. I find it an excellent time to compare their present situation with what it will be in eternity, if they reject the only sacrifice for sin.'

> His surgical skill was in particular demand: Repair of broken bones, treatment of cataracts, removal of tumours numerous and huge, and treatment of wounds of all sorts called for his attention. In times of epidemics, especially cholera, John and Harriet Scudder worked among the sick, bathing the sufferers, burying their dead, and doing whatever they could to relieve distress.[14]

Dr Scudder in his Journal dated 4 August 1832 describes some amputations he had to carry out. There is no mention of any anaesthetic used, if it was used:

> It was occasioned by the bursting of a bomb shell, which had been set off, for the purpose of making a loud noise. When fire was put to it, it rose to a little height and fell. While on the ground, it burst and injured 17 persons. The one who died expired while they were bringing him to me. The four who were brought were still alive. Three of them were seriously injured. One is a brahminical priest who has a compound fracture at the ankle joint. I took off the leg about four inches below the knee. Another, a lad of about fifteen or sixteen years of age, had a most shocking compound fracture of the leg, near the knee. I took his limb off about three or four inches above the knee.[15]

It was, however, ABCFM world-wide policy that the medical work of missionary physicians was secondary to missionary work. In the first fifty years of the ABCFM's existence (1810—1860), out of the grand total of 1258 ordained and un-ordained missionaries sent out all over the world, there were 26 ordained Physicians and 24 un-ordained Physicians. Out of the 50 Physicians, three were sent out to Ceylon during this period. Their priorities were defined by the ABCFM as:

> The fifty Physicians, ordained and un-ordained, were all expected to be Missionary Physicians, that is, to make their medical practice subservient to the grand object of the missions. Their first care is for the mission families; but they are expected to exert a conciliating influence among the natives by kindly offices of their profession. Missionary Physicians have not been

> sent where the needful medical attendance was believed to be otherwise attainable.[16]

The average age of the missionaries when first appointed was 27 years. Generally, ordained missionaries would have spent three or four years in a University followed by three years in a Theological Seminary. In 1839 the three Tamil Missions (Jaffna, Madurai and Madras) were asked to define the qualities required for a missionary working in those areas and this was their response:

> A missionary to an old mission should be young, that he may easily get the language, and that his habits may more easily be shaped to the climate. If he goes to form a new mission, more age may be an advantage; but generally a missionary should not be above thirty, where he is expected to acquire the language, unless he has a peculiar turn for it. As to habits, they should be active rather than sedentary, but he should be capable of study; if not learned, he should be able to learn, and ready to teach. His constitution should be good, but the most sanguine and robust need not expect the best health.[17]

Dr Scudder does not appear to have spent much effort in training local assistants. However he did train two of them but one of them left the Mission soon after he completed his training and the other died very shortly after he was trained. Rev. Winslow records this as follows:

> There was no medical class formed; but Dr Scudder always had one or more assistants in his practice among the natives, whom he instructed as circumstances allowed. One of these was George Koch, a young man of Dutch descent, and of good promise; but who, as soon as he qualified for usefulness, left the mission. Another was a native lad, named Whelpley, who has been mentioned as dying young. He passed through a scientific course in the Seminary, attended lectures with the theological class, and studied regularly with Dr Scudder. His death was a serious loss, as his skill in medicine and surgery was becoming of much use in the Seminary, and among the natives generally.....His disorder was of a typhus fever.[18]

The Missionary Herald of 1829 mentions Whelpley:

> Whelpley is employed as a physician and surgeon, having pursued study under the care of Dr Scudder for eight or ten years. He has a good degree of skill, and considerable practice in the country. The native doctors are greatly deficient. He is also pursuing theological studies, but is much interrupted by his medical practice.[19]

Dr Scudder considered that his death was 'the greatest loss, by far, which this mission ever sustained by death among its native members'. He would have been in his late twenties when he died. Daniel Poor, the Head of the Batticotta Seminary, had this to say about Whelpley:

> On Dr Scudder's removal to Pandatheruppu in1820, Whelpley accompanied him, and began to render assistance by taking care of the sick. In 1824 he entered the Seminary, where he persued studies with the first class, and at the same time, rendered medical aid to all at the station, as far as his ability would permit.....From the time of leaving Pandatheruppu to his last illness, he continued a course of reading on medical subjects under the direction of Dr Scudder. His progress in useful knowledge was highly creditable to himself and aid in bringing forward others in the Seminary to act as native physicians. As his skill in medicine, but especially in surgery, became more and more known, his practice among the natives greatly increased; consequently his decease is a public loss and a matter of deep regret in the vicinity.[20]

By 1833 the British Government in India agreed to allow foreign non-British missionaries to work in India and in 1836 the ABCFM decided to transfer Dr John Scudder and Rev. Winslow from Jaffna to open a mission in Madras, and later progress their labours into the interior. Dr John Scudder was the first American medical missionary in India. He went on to found a dynasty of missionaries who worked in India, many of whom were doctors. Over the years, seven of his sons and four generations of his direct descendants, comprising 42 individuals, served

as missionaries totaling over 1100 combined person years of missionary service in India.[21] Perhaps the most famous of his descendants was his grand-daughter Dr Ida Scudder M.D., who in 1918 founded what has now become one of Asia's foremost clinical medical schools, the Christian Medical College and Hospital in Vellore, South India. The only one of Dr John Scudder's descendants who worked in Ceylon was his second son Rev. William Waterbury Scudder, who was born in Jaffna about 1823. In 1846 he joined the ACM as missionary in Jaffna. In 1849 William, his young wife Katherine and infant daughter Kitty went to Madurai to visit William's parents, John and Harriet. On the way back to Jaffna, Katherine contracted cholera and died.[22] William and his baby daughter left Jaffna permanently in 1852.

On 29 November 1849, Dr John Scudder's wife Harriet passed away. John never really recovered from her death. By 1854, at the age of 61 years, his health had declined considerably and he was sent to Cape Town to convalesce. He was accompanied by his third son Joseph who had come to India as a missionary two years earlier. A few months later one afternoon he had complained to Joseph about a pain in his side. The following day, 12 January 1855, when Joseph went to wake him up to conduct the morning service he found that his father had passed away peacefully in his sleep.

On 10 November 1832, Dr Scudder wrote an appeal to the pious Physicians of the United States to consider a career as a Missionary Physician. The appeal is reproduced in full in Appendix XI.

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Chapter 4
Nathan Ward M.D. (1833—1846)

Nathan Ward M.D. was the second fully qualified Physician sent out to Jaffna to work for the American Ceylon Mission (ACM). He was born in Plymouth, New Hampshire on 21 November 1804, the son of Samuel and Sarah Ward.[1] He had his general education in local academies and then joined Bowdoin Medical College where he obtained his medical degree. On 8 January 1833 he married Hannah Woodward Clark, whose brother was a Missionary with the American Board of Commissioners for Foreign Missions (ABCFM) in the Sandwich Islands Mission. After a period of medical practice in America, he applied to the ABCFM for an overseas posting as a Medical Missionary and was accepted. He was posted to the ACM's Jaffna Mission and sailed with his wife from Boston on 1 July 1833 in the ship 'Israel', arriving in Jaffna via Madras on 28 October 1833. Other Missionaries who sailed on the same ship with their wives were Apthorpe, Hoisington, Todd and Hutchings. As the ship cast off a specially written hymn composed by Mrs Sigourney was sung. The first two verses were as follows:[2]

Wave wide, Ceylon, your foliage fair,
Your spicy fragrance freely strew,
Lo! Ocean's threatening surge we dare,
To bear salvation's gifts to you.

And ye, who long, with lonely hand,
Have faithful till'd that favour'd soil,
Behold, we come, a brother band,
To share the burden of your toil.

The sudden influx of Missionaries was because the new Governor of Ceylon, Robert Wilmot-Horton (1831—1837) had given permission for new American Missionaries to come and work in Ceylon whereas the previous Governor Barnes (1820—1831) had refused permission for the past eleven years for any more new American Missionaries to work in Ceylon. He had in fact ordered the ACM Printer, James Garrett to leave

Ceylon immediately when he arrived on 10 August 1820, even though ACM's printing press had already arrived in Jaffna. Barnes had been an Adjutant of Wellington at the battle of Waterloo and was suspicious of all foreigners.[3] Only eight years previously Britain had been at war with America, and Barnes was not in favour of American influence spreading in a British colony. It is an interesting episode, showing the difference a change in the Governor makes, and is worth recounting in detail as it shows some of the reasons why the ABCFM chose Ceylon for missionary activity, and the vacillating attitude of the British:

> Mr James Garrett, who had been sent out as a Missionary Printer, arrived at Tellipallai on the 10th of August (1820). The consent of the Government to his residence on the island as a Missionary was sent in a note, transmitted through the agency of the Archdeacon Twisleton. The Lieut. Governor, Sir Edward Barnes, directed his Secretary to reply; that the government did not deem it proper to permit any increase of the American Mission in Ceylon, and that the request could not be granted. The Archdeacon returned this answer, with expressions of regret. An order was soon received, dated August 24, requiring Mr Garrett to leave the island in three months. Surprised at communications so different in their tenor from those formerly received from the government; the missionaries supposed that Edward must be laboring under some misapprehension, which suitable efforts might remove. They therefore prepared a memorial, in which they called attention to the inoffensive and salutary character of their mission; to the approbation and encouragement it had received, from its first establishment to the present time, more than three years, from Governor Brownrigg and other chief authorities of the island; to the amount of good it was accomplishing,; and to the express permission of the government to establish a press, officially given on the 18th of June 1816; and requested that Mr Garrett might at least be permitted to remain till the pleasure of the King's government might be known.

The answer, dated September 24, stated that the Lieut. Governor was unwilling to admit any foreign missionaries to the island; that those already there had been permitted to remain, only out of courtesy to his predecessor; that the British Government was abundantly able to Christianize its own heathen subjects, and was making laudable efforts for that purpose; that missionaries of the established church would be preferred; that if these were not sufficiently numerous, time would remove the difficulty; that if others were needed, the Wesleyans would be preferred; that the American missionaries would be better employed, in attempting to convert the heathen on their own continent; and that Mr Garrett must leave the island at the time appointed.

As on account of the monsoons, it was difficult to leave the island at that season; another memorial was sent, requesting permission for Mr Garrett to remain two months beyond the appointed time, in a private capacity. In this memorial, not as a foundation of any request, but in justice to themselves and the Board, the brethren replied at some length to the Governor's suggestions. They said: "……..The reasons more particularly, which led to the establishment of the American Mission in Ceylon, were the small number of missionaries on the island, at the time the mission was formed, and the friendly disposition of the government. At the time the American Missionaries arrived, there were but five Wesleyan missionaries on the island and one Baptist missionary, and not one of the present number of the established church. Indeed there were then but two regularly ordained missionaries of the Church of England, on this side of the Cape of Good Hope; though the undersigned are happy to know, that their number has since very much increased. The friendly disposition of the government was particularly manifest, in the very kind invitation given to Rev. Mr Newell, (an American missionary now settled at Bombay, who visited the island before the present mission was formed,) not only by several of the most respectable gentleman in the ecclesiastical and civil service, but by His Excellency himself, to take up his

> residence on the island. As Mr Newell did not remain, he represented these things to his patrons, that others might be sent out. Among other particulars, in his communications, he stated that, 'His Excellency Governor Brownrigg has been pleased to say, that he is authorized by the Secretary of Sate for the Colonies to encourage the efforts of all respectable ministers. It was very much in consequence of this encouragement that the mission to Ceylon was undertaken; and it is in view of considerations similar to the above mentioned, that it continues to be supported".
>
> The Secretary replied that the time of Mr Garrett's departure could not be deferred and that the Governor 'could not enter into' the other parts of the memorial. His decision to abstain from attempting to answer those arguments was evidently judicious. It will not be easy to find, in any language, a document so perfectly respectful, yet so unanswerably convicting the ruler to whom it was addressed, of gross ignorance and sophistry.
>
> Nothing now remained, but for Mr Garrett to obey the order that had been given. He left the island, and in December was with the Danish missionaries at Tranquebar (Nagapattinam in South India), doubtful whether to aid the brethren in Ceylon in extending their mission to the Tamil people on the Coromandel coast, or to join the mission at Bombay.[4]

With the arrival of reinforcements in 1833, Dr Scudder who was stationed in Pandatheruppu decided to open an additional station in Chavakachcheri. No doubt the new station would have included a medical clinic. With the arrival of Dr Ward, Daniel Poor, the Head of the Batticotta Seminary was already thinking in terms of a small hospital and medical school. In a report to the ABCFM in 1835 he wrote:

> Dr Ward's connection to the Seminary must be regarded as an event highly auspicious to its best interests. The establishment of a well regulated hospital, on or near the mission premises, where students from the Seminary, and also some Christian

> catechists may be trained in the theory and practice of medicine and surgery, cannot fail to secure great advantages to the country, both in temporal and spirituals. The examination of native medical books, of the medicines used in the country, and of the practice of the most skilful native physicians, must open an extensive field for research, which cannot be cultivated without interest and profit.[5]

However in 1836 it was decided to transfer Dr Scudder to Madras following the opening up of India to foreign missionaries by the British Government, leaving Dr Ward as the sole American ACM Physician in Jaffna. The medical efforts of the ACM up to this time have been summarized by Helen Root who was an ACM Missionary, writing in 1916:

> The medical work begun by Richards and Warren at Tellipallai in 1816 and continued by Dr John Scudder at Pandatheruppu and Chavakachcheri, came under the care of Dr Nathan Ward in 1834 when the opening of the India work took the Scudders to Madras. Dr Scudder was essentially an evangelist and gave the evangelistic impulse to his assistants in his medical work. Practical medical training was begun by him in 1832. The little hospital which he erected still stands at Pandatheruppu and is now used as a pastor's study. Dr Ward was a teacher as well as a Physician, living at Vaddukoddai and sharing in the work of the Seminary. Rooms for the care of patients were fitted up for him in the Mission buildings there in 1841. Some eight or ten men were trained in medicine and each of the principal stations had its own native physician or dispenser under Mission employ.[6]

Regarding the 'eight or ten men trained in medicine' by Dr Ward, his American successor in Jaffna, Dr Samuel Fisk Green, mentions some of them by name in a letter written in November 1850. It should be noted that Dr Green refers to all of them as 'Dr':

> I have with me Dr Gould, a Native Assistant, educated in the Seminary, and taught medicine by Dr Ward. At Batticotta (i.e. Vaddukoddai) Dr S A Evarts provides medical care for those

> who seek his aid. In Uduvil, Dr Daniel Nicholls sees patients. These two were educated in the same way as Gould. At Tellipallai, Dr S Ropes has duties as a Physician.[7]

Dr Ward spent a lot of time as a Teacher and Administrator in the Batticotta Seminary where he taught Natural Philosophy and Medicine. Apart from the names mentioned above, other students who studied medicine were T Scott, S Millar, S Goodsell, and Jeremiah Evarts. Dr Ward makes a special mention of the latter in a letter dated 15 October 1844:

> During the last term Jeremiah Evarts was appointed a Teacher. He was a member of the select class of the Seminary formed in 1840; but he spent most of the time while connected with the class in the study of medicine under Dr Ward.[8]

A further mention is made in Dr Ward's letter to the ABCFM dated 9 August 1845:

> J Evarts, Teacher of Chemistry. The last named devotes a large part of his time to the practise of medicine. His course of reading in Medicine was systematic, and as extensive as that pursued in New England. We hope he will do well. He is young, and he has just been married to Ann Magee of the Oodooville female boarding school.[9]

The Batticotta Seminary was founded by the ACM in 1823 and was located on the site of the present day Jaffna College. It was founded in 1823 and Daniel Poor was the first Head for thirteen years. The Oodooville (i.e. Uduvil) Girls Boarding school was also opened in the same year; it was the first girl's boarding school in Asia. Among the objects of the Batticotta Seminary was the requirement:

> To teach, as far as the circumstances of the country require, the sciences usually studied in the Colleges of Europe and America.[10]

Amazingly, this meant that electricity was a subject in the curriculum, only a decade or so after Michael Faraday discovered how to create a current flow, and several decades before Edison invented the

incandescent lamp and direct current generator. The standard of education in the Batticotta Seminary can be gauged by this comment by Sir James Emerson Tennant, the British Colonial Secretary who visited the Seminary in 1848. He wrote in his book Christianity in Ceylon (John Murray, London, 1850) that: "The knowledge exhibited by the pupils is astonishing; and it is no exaggerated encomium to say that, in the course of instruction and in the success of the systems of communicating it, the Collegiate Institution of Batticotta is entitled to rank with many European Universities".

In 1846 there was a severe epidemic of cholera in Jaffna and there were nearly 10,000 deaths. One of the reasons for the large number of deaths was that people thought that cholera was contagious and would not go close to the patient or care for the patient. Dr Ward wrote that:

> The degree of success in administering medicine was various. In many instances the disease was most violently terminated in death within one or two hours. In such cases it was not found that anything did good. But where the accession was less violent and medicine given early and the patients carefully attended to afterwards, a large proportion recovered. In many cases aid was not sought or accepted till life was nearly extinct. In one village it was said of 28 persons attacked, 14 took medicine of whom 12 recovered, while 14 refused to take medicine and 12 died. Agents under my direction reported about 900 cases in which they gave medicine of whom about 600 recovered and 300 died.[11]

The Wards had four children, three boys and a girl, all born in Vaddukoddai between 1834 and 1842. The girl unfortunately passed away when she was only a year old. The youngest son, Samuel Read Ward, who was born in 1842 in Vaddukoddai, qualified as a Physician at Georgetown University, Washington in 1868. He was in the audience of the Washington Ford Theatre on 14 April 1865, the night that Abraham Lincoln was assassinated by John Wilkes Booth, an actor in the theatre.

Dr Ward worked for the ACM for about thirteen years. In 1846, finding his health and his wife's health affected, he returned with his family to America and practised medicine in Burlington, Vermont. In

1853 he received a preacher's licence and was ordained as an evangelist on 7 March 1855. By 1859 his health had improved and he wrote to the ABCFM that he would like to go back to Jaffna for a second time. At this time his successor in Jaffna, Dr Samuel Fisk Green, had also returned to America to recover his health and was preparing to return to Jaffna for a second spell. The ABCFM decided that Dr Ward would return to Jaffna and that Dr Green would be sent to Madurai. Dr Green was unhappy with this decision as he felt that the climate of Madurai would be detrimental to his health. Dr Green also commented that although latterly Dr Ward had become a preacher, his scope for preaching in Jaffna would be limited as 'he lacks Tamil'.[12] Dr Green finally agreed to go to South India on the condition that during the hot season in Madurai he would be allowed to go to the Palani hills to avoid the extreme heat.[13]

Dr Ward sailed for Ceylon from Boston in the 'Sea-King' on 30 October 1860. Less than four weeks out at sea he fell ill with a heart attack and passed away and was buried at sea on 24 November 1860. His wife Hannah proceeded to Jaffna where she lived and worked for five more years before returning to America. She passed away in 1884. She described the last days of Dr Ward on the board the ship in a letter as follows:

> The death of my husband was so sudden and unexpected that I have but few predications to give. He was quite well and in excellent spirits after going on board, to within a week of his death. For a few days he suffered, it is thought from indigestion, but later relieved by medicine and he was able to be on deck. After a walk on deck, a few days before his death, he stood for some time conversing with one of the missionaries, when he complained of feeling quite chilly and afterwards complained of a severe pain in the region of his heart, similar to what he had previously suffered and what he called neuralgia, and was relieved by the usual remedies. The day before his death he appeared very cheerful and as I supposed quite well, but afterwards I learned that he had said on Saturday morning that the pain in his side had not entirely left him.

> It was a lovely moonlit evening and he sat with me on deck, he remembered that the breeze was so bland and pleasant that it seemed quite like a Ceylon breeze. A little after, the Doctor assisted me down the steps into the cabin. I then retired to the stateroom..... That night I thought he slept better than usual. I heard him cough towards morning. I woke early, but as he seemed quietly sleeping, I thought I would not wake him. Not long after, he turned upon his back with a moan that startled me. Immediately I spoke to him, but he gave me no answer. He was already in his Saviour's arms.[14]

At a meeting of the Orleans Association at Newport, Vermont on May 21, 1861, the following resolution was adopted and sent to the Vermont Chronicle for publication:

> Resolved, That in the death of Rev. Nathan Ward, recently a member of this Association, we recognize the hand of God, whose ways are not as our ways, removing one who, to our imperfect observation, was at the height of his capacity for usefulness in his chosen field of labour, and that we bow submissively, though sorrowfully, to the will of God in that event.[15]

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Chapter 5
Samuel Fisk Green M.D., (1846—1857)

The third fully qualified Physician to be sent out by the American Board of Commissioners for Foreign Missions (ABCFM) to work in Jaffna for the American Ceylon Mission (ACM) was Samuel Fisk Green M.D., who arrived in Jaffna in 1847. This Chapter covers the initial period of ten years that Dr Green spent in Jaffna. He returned to America due to failing health in 1857 (suspected tuberculosis) and was there for five years. By 1862 he had recovered, got married and returned to Jaffna to work there until 1873 when he finally returned to America. Dr Green made the greatest impact of all the Medical Missionaries who worked for the ACM in Jaffna. Some of his achievements are:

- Studied the Tamil language in depth, sufficient to preach and write books in Tamil.
- Established a Hospital in Manipay which still exists and is now known as the Green Memorial Hospital.
- Prepared Glossaries of Tamil medical words, coining words if none existed. This was the case for the majority of medical and scientific words. This was a pioneering work in Ceylon and South India.
- Translated, or supervised the translation of eight major medical text books (including Gray's Anatomy) and other minor treatises into Tamil, a total of over 4500 pages of text.
- Established the first western medical school in Ceylon and trained about 62 Medical Practitioners directly and over 50 more indirectly, teaching early batches in English and later switching over to the Tamil medium.

Samuel Fisk Green was born in Green Hill, Worcester, Massachusetts, USA on 10 October 1822,[1] the son of William E Green and Julia Plimpton, the eighth in a family of eleven children. His mother passed away when he was eleven years old and his elder sister, who was then eighteen years old, played a maternal role. He was educated in public schools, and had supplementary teaching at home from his father and

older sisters. He was never particularly physically strong and had health issues throughout his life. In 1841, at the age of nineteen years he went to New York and became a student of medicine under Dr John Augustus McVickar, and in October of the same year entered the College of Physicians and Surgeons, New York. This College is now the Post-Graduate Medical School of the prestigious Ivy League Columbia University and was the first American College to award the degree of M.D. Although the medical course must have been quite demanding, Green at the same time also studied German, Latin, Geometry, Natural Science and Philosophy, certainly a well rounded education. Although at that time the medical degree took three years, Green had two long periods of absence due to illness and he qualified a year late on 13 March 1845.

1846

He was always of a religious nature, and during his medical course he had thoughts of 'going missionarying' when he completed his studies. His brother John had gone to China to practise medicine and he wrote to him but did not receive an encouraging reply. In November 1846 he established contact with the ABCFM and attended a farewell meeting for Dr Scudder who was returning to South India and for Rev. Levi Spaulding who was returning to Jaffna. Dr Green immediately offered his services to the ABCFM. He received his letter of appointment on 26 November 1846 and promptly replied to them the next day:

> I yesterday received notice of my appointment as a Missionary Physician, to labour in connection with the Mission in the island of Ceylon. The decision of the Committee I welcome as a termination of my state of suspense. I feel their conclusion to be the will of the Lord concerning me. I was more anxious to get the result of their deliberations, than about the nature of the result. As they have decided upon my entering their service, I feel a desire to obtain from them such directions as they may conceive would be of service..... I have some thoughts of going to New York City before long and there bending my energies towards perfecting myself in my profession. I also have

> an idea of cultivating under a good master a good natural faculty for drawing.[2]

A few days later on 30 November 1846 he wrote again to the ABCFM asking for information on what he should take with him:

> I would like as definite an idea as can be given of all that is needed. For how long a time is an outfit to last? What is requisite for the voyage – what for living in Ceylon – am I to carry housekeeping articles, whether single or not?[3]

A little later he wrote to the ABCFM whether he should take a horse-drawn carriage with him to Ceylon, referring to a letter from Rev. Howland who had reached Jaffna a few months earlier.

> Mr Howland from Ceylon writes his father that he much regrets not having taken out a carriage with him, as wants one very much there. I infer from this that in my capacity a vehicle would be much more requisite. I saw one in town made for Mr Spaulding at a cost of about $US138. If there be nothing in Ceylonese roads requiring a narrower running vehicle than here, I would like to be informed, as also whether it be deemed expedient that I should take one.
>
> I am thinking of purchasing books on tropical diseases, and to do this to advantage, it would be well to know what works on this subject are already in the library. Regarding instruments, Dr Scudder suggests some for eye treatment..... Also I think advisable to get some dental instruments such as forceps and other much used instruments in this line. I think strongly of taking an apparatus for inhaling Anodyne vapours[4] as I have much confidence in the use of it from my own experience.[5]

In a letter dated 18 December 1846 to the ABCFM he thanked them for their approval of the purchase of a carriage and he confirmed that he had placed an order for a carriage with Messrs Tolman & Co. of Worcester.[6] Albert Tolman (1808—1891) was a carriage maker for 45 years and had made a carriage which was taken to Jaffna by Mr Spaulding who worked there for the ACM from 1820 to 1873.

1847

On 18 January 1847 Dr Green wrote to the ABCFM asking for their approval to board with Rev. Samuel Hutchings in New Jersey for a few weeks to study Tamil from him. Rev. Hutchings had been with the ACM in Jaffna from 1833 to 1843. Since Dr Green already had a good knowledge of Latin, Greek, French and German, he did not anticipate any difficulty in learning one more language. He also gave a list of his anticipated outfitting expenses:

> About the sum to be reserved for an outfit to Ceylon, I find more will be required than I had supposed, say $US150. Mr Hutchings tells me that a good horse will cost me a hundred dollars.

	$US
A Horse to be bought in Jaffna	100
Carriage and harness	150
Saddle	25
Already spent	161
A good Watch	35
A McIntosh (India-rubber coat)	15
Hair mattress, pillow, blankets	12
Sundries	10
Furniture to be bought in Jaffna	50
Total	$US558[7]

This he says is about $US100 more than his outfit allowance. The standard ABCFM outfit allowance was one year's salary. He goes on to say that he may be able to manage if he buys the horse from salary savings after he goes to Jaffna. He also said:

> Some have advised my taking a Daguerreotype with me together with plates and chemicals necessary, mainly to give the natives an idea of the advance of science, the expense of such an instrument with chemicals and instruction would be about $US50. Also I propose taking drawing apparatus with water colours to make diagrams for use in the Seminary.[8]

The Daguerreotype was an early type of photographic apparatus invented in 1839 in France. It worked by directly exposing an image on to a mirror polished surface of silver halides. It was the first commercially viable photographic process but you could only get one copy of the picture. However, it would appear that the ABCFM did not favour the expense so Dr Green dropped the proposal to take one to Jaffna.

On 24 March 1847 he wrote to ABCFM confirming that he was going out as a bachelor and acknowledging that he had been booked to travel on the 'Jacob Perkins' from Boston and would await notification of the sailing date. He also noted that he had not been able to obtain a book on Tamil grammar to study on the long voyage,[9] but two days later he wrote to say that he had been able to get a copy from a Mr Crane.[10]

The 'Jacob Perkins' sailed from Boston for Madras on 20 April 1847. He said goodbye to his father believing at that time that he would never see him again. Perhaps his thoughts must have been similar to the verse sung later at the 50th Anniversary Meeting of the ABCFM in Boston on 2 October 1860:

Shall we, whose souls are lighted
With wisdom from on high
Shall we to men benighted
The lamp of life deny?
Salvation! O, salvation!
The joyful sound proclaim,
Till earth's remotest nation
Has learned the Messiah's name.[11]

There was only one other passenger and Dr Green was disappointed that neither the passenger nor any member of the crew was religious minded. He describes his voyage in a letter written from Jaffna dated 9 December 1847.[12] When rounding the Cape of Good Hope they ran into a violent gale, and he wondered whether the ship would capsize. He had a good view of Ceylon in the distance when they sailed round it, and the ship reached Madras on 4 September 1847, a non-stop voyage of about four and a half months after leaving Boston. He spent

about two weeks in Madras in the company of the American missionaries based there, including Dr John Scudder's son, Henry Scudder. He left Madras on 20 September 1847 on horseback accompanied by three coolies, a servant and a horse-keeper for the 200 mile overland journey south. They reached Point Calymere without incident on 2 October and set off for Jaffna in a 'dhoni' on 6 October, reaching Point Pedro in nine hours sailing time, which was relatively fast. From there he went to Valvettiturai and spent the night in the residence of Rev. Cope, who was also of the ACM. He finally reached his station of Batticotta (Vaddukoddai) on 8 October 1847, the day before his twenty-fifth birthday, having stopped on the way to meet fellow ACM missionaries in Tellipallai, Pandatheruppu and Manipay.

He did not waste any time and engaged a Tamil Tutor the day after he arrived. His target was to be able to preach in Tamil within one year. He set up a small Dispensary and started seeing patients the day after he arrived. A few days later, on the 20 October he was called to see a patient with a large abscess in his groin. Dr Green would not have realised that his treatment of this patient would make him universally known in Jaffna. After Dr Green died in 1884, Dr E Waitillingam who was trained by Dr Green, and had joined Government Service and rose to the high position of Assistant Colonial Surgeon, described this case in detail in his reminiscences:

> In the year 1847 there were very few English Doctors, and none among the Tamils of Jaffna had any idea of European medical practice. The Jaffnese would not dare to gainsay their own physicians.....so there was prejudice and ignorance for the new Doctor to overcome.....
>
> Mr Mutatamby, a Tamil and Sanskrit Pandit (my uncle), who was generally the Tamil teacher of the missionaries, got fever and was suffering from it for a long time, —under my father who was a native physician. Fever grew worse and worse daily, and suddenly turned out to be something else. The patient was left for a few days without treatment, to see what was the cause of the bad state. All hopes of recovery were lost. Other native physicians were equally unable to solve the difficulty. I

suggested to my father to have recourse to an European Doctor and alluded to Dr Green, who was then in Batticotta, a few days after his arrival.

After great hesitation and consultation, it was decided that Dr Green can be invited, because he was a missionary..... Dr Green pronounced that there was an abscess in the abdomen, and advised immediate operation. I bravely responded to it, and the patient was also willing. He discovered the abscess and cut it open. The patient got free and was a hundred times better than he was. Dr Green dressed the wound, and attended very carefully and cured him.

The people heard about the success, and the fame of the Doctor spread very soon throughout the peninsula of Jaffna. The people began to talk that the English Doctor had removed the bowels out, adjusted them, and refixed them..... From that day forth Dr Green was considered a demi-god by the people, who all flocked to him afterwards from all parts of Jaffna.[13]

The net result was that Waitillingam (a graduate of the Batticotta Seminary) decided there and then to study medicine under Dr Green, and was one of the first batch of three medical students.

1848

At a meeting of the ACM on 11 January 1848, it was decided that Dr Green should move from Vaddukoddai to Manipay, as the latter station was more centrally situated in relation to the other mission stations. At Manipay he set up a Dispensary and a small hospital and he was assisted by Dr Gould. At the other ACM mission stations the dispensaries were manned by Dr Evarts at Vaddukoddai, Dr Daniel Nicholls at Uduvil, and Dr Ropes at Tellipallai. All of them had been trained at the Vaddukoddai Seminary by Dr Green's predecessor, Dr Ward. Note that Dr Green gives the title of 'Dr' to Gould, Evarts, Nicholls and Ropes. There was no system of registration of Medical Practitioners in Ceylon at that time. The Colombo Medical School commenced only in 1870. The Medical Registration Ordinance was

passed in 1905. It was only after 1905 that to practice western medicine and surgery, a medical practitioner had to register with the Ceylon Medical College Council. The certificates of registration were signed by the Registrar of the Ceylon Medical College. The Ceylon Medical Council, now known as the Sri Lanka Medical Council, is the body now responsible for the registration of medical practitioners. It was established by the Medical Council Ordinance No. 24 of 1924.

Dr Green was anxious to start a program of training locals in the practice of western medicine and surgery. His target was to aim for one Doctor for every 10,000 inhabitants of the Jaffna Peninsula. As the total population of the Peninsula was about 300,000 at that time, this meant training at least 30 Doctors, plus extra to cover attrition.

The first batch of medical students (1848—1851)

Joshua Danforth
John Dennison
Eliatamby Waitillingam[14]

The first batch of three medical students was selected in 1848 for a three year course in medicine and surgery. At that time three years was the standard length of a medical course in America and England. The first two were graduates of the Batticotta Seminary, and may well have had some preliminary training under Dr Ward who was closely involved with teaching at the Seminary. Ceylon's first western medical school had been inaugurated. Dr Green dissected two human bodies and was pleased with the opportunity to display practical Anatomy to the students.[15] Joshua Danforth also tutored Dr Green in Tamil and also did some writing work for him, for which he was paid. Meanwhile Dr Green carried out regular preaching on Sundays.

1849

In a letter written to the ABCFM in 1849[16] Dr Green mentions that there was a severe epidemic of cholera raging in Jaffna, almost as severe as the epidemic in 1845 which took away one-tenth of the population. In this epidemic, two of the American missionaries were taken away.

Cholera and small-pox were the major killers of the day. The three medical students made good progress with their studies, and completed a year of study. About seven dissections were carried out with them and they benefitted greatly in terms of acquired knowledge.

Dr Green was now in charge of the two ACM English schools in Manipay. However he found that the constant exposure to the sun was very trying and hoped that he would get acclimatized in due course. In a letter dated 3 February 1849 to his brother John who was in Valparaiso at that time, Dr Green wrote about the operations he performed in the thirteen months he had been in Jaffna:

> I have removed lots of tumours, have operated for cataract several times, for strangulated hernia once, amputated the arm once, removed several cancers, amputated fingers and toes and portions of the hand several times; treated a good many fractures and severe wounds; attended some very bad cases of childbirth etc. So, I am not idle, you see, in the way of our dear profession..... Last Monday I removed the left upper jaw and cheek bones for a cancerous fungus in the antrum filling the whole mouth and left nostril. Yesterday couched a cataract, today after attending the most necessary cases, have been dissecting a fine subject with my students.....[17]

This shows that he had carried out a wide variety of operations in just over a year, but nowhere does he mention anything about the anaesthetic used, or whether it was used at all. Even the word 'anaesthetic' was coined only in 1846 by Oliver Wendell Holmes. Dr C G Uragoda, an eminent medical historian and President of the Sri Lanka Medical Council was puzzled by this and stated in a lecture to the College of Surgeons of Sri Lanka:

> The real advances in surgery took place during the British period. At first, it was a private hospital, namely Green Memorial Hospital that took the lead in surgery. General Hospital, Colombo was established only subsequently.
>
> Samuel F Green was a medical missionary sent to Jaffna in 1847 by the American Board of Commissioners for Foreign

> Missions in Boston, Massachusetts. He established the first medical school in Sri Lanka and the eponymous hospital at Manipay. In the first thirteen months since his arrival, he treated 2544 patients, of whom a third had surgical conditions.....
>
> Green could not have accomplished such a formidable list of surgical operations without anaesthesia, but nowhere does he mention the anaesthetic used.[18]

We know that Dr Green brought with him an apparatus for the inhalation of Anodyne Vapours. The use of chloroform started after Dr Green left America, so he could not have used chloroform. The use of ether was demonstrated in Massachusetts in 1846 and as Dr Green sailed from there in April 1847 it is possible that he may have brought some with him. He may have used opium, either by itself or mixed with ethanol to form laudanum. We know from the ACM records that their Dispensary did stock opium. Perhaps in addition the patient may have been given a stiff alcoholic drink!

In his semi-annual report dated 5 April 1849[19] Dr Green said that 2912 patients were treated. He praised the work of his Tamil assistant; Dr Gould who he says is very diligent and has won the confidence of the patients. While dispensing medicines he also distributed tracts to the patients and conversed with them on spiritual matters. Extracts from the Bible were printed on the reverse side of the patient's tickets and they had to read it out (or have it read to them) before treatment commenced.

1850

In the beginning of this year Dr Green was in indifferent health and perhaps also must have had a spell of homesickness because in March he wrote[20] to the Corresponding Secretary of the ABCFM, Rufus Anderson, that he would like to return to America late this year or early next year. He wanted to return via England to improve his knowledge, and said that he would meet the additional expenses of the journey. He also mentioned that he is now fluent in Tamil and also wished to be ordained so that he could be in charge of a station.

Dr Green's semi-annual report dated April 1850[21] recorded that there are now about 4500 patients registered with the Dispensary. He also reported that the first batch of medical students had nearly completed the second year of their course and they were being introduced to practise among the people for clinical experience.

He also stated that the Jaffna Friend-in-Need Society has collected 700 Pounds Sterling in donations and intends to establish a Dispensary and Hospital in Jaffna Town. This Society was formed by P A Dyke, the first and very long serving Government Agent of the Northern Province. A circular issued in March 1848 soliciting donations states inter alia:

> *Addressed to the Inhabitants of the Jaffna Province touching the proposed erection of a Hospital and Dispensary*
>
> The want of any adequate means of obtaining assistance, advice, and medicines for the sick, and persons suffering from accidents in this Province, having been for a long time much felt, it is proposed by the 'Jaffna Friend-in-Need Society' to adopt measures to supply this desideratum, so far as the resources available for the purpose will allow. With this in view it has been resolved:
>
> 1. To purchase a piece of ground, in the Town or its vicinity, whereon to erect buildings for the reception of those sick persons who may be desirous of such accommodation, and those cases that require close and constant attention.
> 2. To secure the best medical advice and attendance afforded by the Province....
> 3. To furnish the necessary medicines of the best quality, to all who may be presented for by Medical Officers of the Institution.
> 4. To supply medicines and medical comforts such as sago, arrowroot, etc to all other applicants for payment.....

The eager desire that has heretofore been shown on the part of large numbers to obtain assistance of the medical members of the American mission seems at once to afford evidence of the

> extent of such assistance and of the readiness of the people to avail themselves of it.[22]

By 2 September 1850, the Friend-in-Need Society Dispensary and Hospital were built and were opened for business. This Hospital became the present day Jaffna General Hospital in 1899. The Morning Star, ACM's newspaper records that:

> Medical and Surgical Aid
>
> We are glad to know that the Dispensary and Hospital of the Friend-in-Need Society was opened on Monday the 2nd inst., for the healment and reception gratuitously of poor patients and of those from any temporary difficulties are unable to obtain Medical and Surgical relief elsewhere.
>
> Persons requiring the aid of the Institution should observe that they must make application to some member of the Friend-in-Need Society or some periodical subscriber to the Hospital and Dispensary, who will give such applicant a ticket to produce to the Medical Officer at the Dispensary.
>
> The tickets must be produced at the Dispensary punctually at 8 o'clock in the morning, and all patients must attend strictly to all directions that may be given to them by the Medical Officer.[23]

A few weeks later Dr Green wrote that he had received a letter from Mr Dyke, the Government Agent:

> In which he intimates the willingness of the Government to give aid to the support of our medical department, and proposes to supplant the old class of medical sub-assistants throughout the Province by young men trained as Gould, Evarts and Waitillingam have been. This proposal is the greatest encouragement I have met with; and if I can get a select class of six once in three years, I shall hope in the course of time, if my life is spared, to stud the Province with well educated physicians, to be men thoroughly drilled also in the principles of Christianity.[24]

Dr Green accepted the Government grant which had no conditions attached. The grant continued for about thirty years and was doubled twice within that period. The second batch of medical students started their course towards the end of this year.

The second batch of medical students (1850—1853)[25]
Nathan Parker
Samuel Miller
Joseph H Town
Charles Mead
A C Hall (joined the class in 1851)

All of them were graduates of the Batticotta Seminary. The first two were married.

1851

On 06 February 1851 he wrote to his sister Mary in America:

> I have a good class of students coming on. I hope to have my doctors stationed through the country, well-read, practical men. I hope they will feel bound to do what they can to promote medical practice on true principles. I hope to rout the superstitious practice of the native doctors; or at least to begin that rout, in the belief that ere many generations it will be completed. I want in my day to give an impulse to change for the better in all things medical in the land; to be a reformer in my department here, to practise, to write, to teach, to encourage truth to medical men and things.[26]

Dr Green's report of 3 May 1851 states that he considered that his main tasks were:

1. To run the Mission's Dispensary.
2. To train medical students.
3. Prepare a Tamil Medical Vocabulary.
4. Acquire a good knowledge of Tamil.[27]

The number of patients registered with the Dispensary is 2217. The day's patients assembled punctually at 9 am and were addressed by Dr Green or a catechist for about 15 minutes on the plan of salvation as stated synoptically on the back of their medical ticket. The first batch of three medical students completed their course of study. Joshua Danforth is employed as an Assistant to Dr Green in the Dispensary; John Dennison has joined Government Service and has been posted to Point Pedro. He receives the handsome salary of 24 Pounds Sterling per annum. These two were graduates of the Batticotta Seminary. Eliatamby Waitillingam is employed in Mullaitivu. He was a student of Peter Percival at the Wesleyan High School, now known as Jaffna Central College.

Dr Green now had the urge to start writing and translating medical books into Tamil, something, he said, worthy of publication. He realised that the difficulty was the technical terms, so he began to give his attention to preparing a Tamil Medical Glossary:

> This vocabulary extended over all the departments of medical science; anatomy, physiology, chemistry, botany etc.; but of course that which was needed had to be prepared first. His method was to do everything according to the best reason for doing it so, instead of otherwise. He named the bones, with their peculiarities, from the shape, position, use or translation, choosing the most brief, descriptive and euphonious expressions. In a similar way he went through the several branches necessary for his purpose.[28]

His application made the previous year to the ABCFM for leave to go to America was approved. At that time it took a total of about eight to ten months for a letter to go from Jaffna to Boston and for a reply to come back. However, as his health was better, he decided not to go to America, instead he went to South India for two months. In Madras he studied 'Indo-British medical practice'. He also studied drawing and the art of making plaster casts. Joshua Danforth looked after the Dispensary when he was away. John Dennison of the first batch who joined Government Service died of cholera in July, contracted while caring for cholera patients.

Rev. Bailey, the Bishop's chaplain was sent from Colombo to assess the need of grants to schools etc. and in his report to the Government he recommended that an annual grant of fifty Pounds Sterling be given to Green's medical school. He also mentioned that Gould (now working for the Government) "possesses the acquirements quite equal to those of the majority of the young men who enter the medical profession in England".[29]

1852

The annual Government grant of fifty Pounds Sterling was released at the beginning of the year. This was meant for the support of the medical department, particularly indigent students. However an application, made at the suggestion of the Government Agent, Mr Dyke, for a lump sum of two hundred Pounds Sterling for the purchase of a microscope and other equipment, was turned down.[30] The second batch of medical students had been reduced from five students to three students because Joseph H Town has joined the Jaffna Friend-in-Need Hospital staff and Samuel Miller had gone to learn office procedures and awaited a government job. The reason for their dropping out is not stated, it could be for financial reasons. As Batticotta Seminary graduates they would be in a position to obtain good salaries.

The number of patients seen in the Dispensary during the last six months was 1279 patients; there has been a drop in the number of patients ever since the Friend-in-Need Hospital was opened. Joshua Danforth, Dr Green's assistant in the Dispensary was transferred to Uduvil and his place taken by S A Evarts (he was formerly Dr Ward's assistant) who also helped Dr Green with his translations. Dr Green felt that European medicine is gaining ground in Jaffna. The Friend-in-Need Society Dispensary sees about 3000 patients a year, Dr Green's Dispensary sees about 2500 patients a year and Dr Green and his assistants have about 500 house calls a year, making a total of 6000 patients a year, out of a population of about 300,000. Dr Ward's former trainees are doing well; Ira Gould has successfully couched a cataract and amputated a leg, he has been appointed Medical Officer of the Colonial Life Assurance Co., and Jeremiah Evarts is practising in Colombo and earns about a hundred Pounds Sterling a year doing

various operations. To get this in perspective, the annual living costs for an European at that time was about fifty Pounds Sterling a year.

Dr Green started work on an elementary treatise in Tamil on Anatomy, Physiology and Hygiene. The book was intended for medical students as well as native physicians and householders. The work that he used for translation was the 189 page first edition of Calvin Cutter MD's book 'First book on Anatomy, Physiology and Hygiene for Grammar Schools and Families, with 83 engravings' which was published in 1850. Presumably he also added supplementary material from another book by the same author published in the same year, 'A Treatise on Anatomy, Physiology and Hygiene, designer for Colleges, Academies and Families'. The latter book ran to 487 pages. Cutler says that:

> He did not propose to make a literal translation; but rather to make the book the guide and basis of an elementary treatise, "put as simply as possible into the native language". He wrote to Dr Cutter, asking if he would furnish him with the illustrations, as without them the natives would find it difficult if not impossible to understand the text. He also wrote to the Secretary of the Board on the subject: "Some gifts of cuts illustrative of the structure and functions of the human body would be most acceptable and useful; with them we could print illustrated books and make pleasing and intelligible to all the large reading community what without them would be a difficult and dark science because so utterly novel here". Dr Cutter responded promptly and generously, and in due time the cuts were forwarded; thus removing the only doubt that embarrassed the undertaking....[31]

Dr Green's efforts in translating Calvin Cutter's book were later acknowledged on page 477 of subsequent editions of Cutter's Treatise with the following statement (note that 'India' should read 'Ceylon'):

> Cutter's Anatomy, Physiology and Hygiene has been introduced as a textbook in the mission schools of China, Burma, Ceylon, Sandwich Islands and the Cherokee Indians. *It has also been translated into the Tamil language by the missions of India.*

1853

Dr Green's half-yearly reports state that 1198 patients were treated in the first half of the year and 1173 patients were treated in the second half of the year. The Dispensary was mainly run by Dr Evarts assisted by three final year students, C Mead, A C Hall and N Parker, taking turns. The junior class of four students was mainly taught by Dr Evarts. They had one subject for dissection. One of the students left and went to study at the Madras Medical College but returned when he found that the living expenses were too expensive. The third batch of students was:

The third batch of medical students (1853—1856)[32]

T Hopkins
G M Reid
C McIntyre
A McFarland

The second batch of three students is nearing the end of their studies (Samuel Miller died of cholera).

Dr Green had some comments to make on the diseases prevalent at that time, apart from cholera and small-pox which were the major killers.

> Cancer of the mouth, in the cheek, gums and tongue is a very common disease here arising from the habitual use of quicklime with the betel quid. Some chips of arecanut are enwrapped in a betel leaf on to which a little quicklime is dabbed – to this is added a little tobacco, cloves, cinnamon etc. It is very common to see a set of otherwise very fine teeth hang dangling in the mouth, the gums less hardy than they, having shrunk away from the constantly applied caustic lime.
>
> Fever and ague *(i.e. malaria)* is very common in the eastern parts of the Province, and the miserable victims of its long continued attacks are very frequently seen – with enormous bellies, shriveled members, bloodless tongues and eyelids. The

> spleen becomes really prodigiously enlarged, in many cases reaching over to the right side and nearly or quite down to the hip bone.
>
> Many of the wealthy die of diabetes, the effect of their vegetarianism, licence and luxurious indolence combined. The corpulence that some of them attain is wonderful![33]

The printing of Dr Green's 148 page first book in Tamil on Anatomy, Physiology and Hygiene was completed this year. The printing was completed in three months by ACM's Manipay Press, who also made some of the wood cuts for illustrations. Within a week a quarter of the print run was sold, and Dr Green was gratified to learn that "native doctors were reading it eagerly". An order was received for 134 copies from Tinnevelly in South India, proof that this work had not been undertaken too soon.[34]

With all this activity and home visits to see patients, Dr Green feared that his health has been impaired, particularly due to over-exposure to the sun.

1854

Dr Evarts left the ACM Dispensary and joined the Friend-in-Need Society Hospital on the princely salary of 50 Pounds Sterling p.a. and a nice 'European' house. His place was taken by Dr Charles Mead of the second batch of students. Others from this batch include Dr A C Hall who was appointed to the Planters Association on an annual salary of 24 Pounds Sterling and Dr Nathan Parker who was appointed to the Planters Association, but declined the offer and looks after his farm and acts as a village Physician.

The present medical class is four in number and suffers from the disadvantage of a lack of subjects for dissection. Dr Green hoped that a generous donor in America would think of gifting a Mannikin (i.e. an anatomical model of the human body). The cost of a Mannikin was about $US300, of which Rev Daniel Poor, the first Head of ACM's school in Vaddukoddai, had raised $US25 when he was on leave in America.

There was an epidemic of small-pox in the Province this year. Although vaccination was practised in Europe from the early part of

the nineteenth century, this is the first reference that Dr Green made to it:

> Small pox is widely prevalent in the Province. Vaccination, though it modifies, still fails in a large proportion of cases to prevent the occurrence of this pestilence. Whether the vaccine – virus is effete and needs merely renewal direct from the cow.....is a question.[35]

This year in the Jaffna District alone 2500 cases of small pox and 8000 cases of cholera were recorded.

1855

Until now the American staff had not been affected by cholera until on 02 February Rev Daniel Poor fell ill with cholera and died within two days. Poor was one of the first batch of American missionaries who arrived in Jaffna in 1816. He was an ardent educationist and was Head of the Batticotta High School and later the Head of the Batticotta Seminary for many years. A few days later on 8 February Dr Green fell ill with cholera. By the 12th of the month he was so severely ill that few expected him to survive. However he self-medicated himself with "medicine enough for a horse" and was out of danger by the 16th, but left severely enfeebled, and took several weeks to recover fully. During his illness and convalescence he was looked after by his American brethren including Burnell, Lord, Smith, Spaulding, Hastings, the two Tamil doctors Evarts and Gould, and above all "Our best Friend was there too. He sat beside me and whispered, 'I am with thee".[36]

By the 21st of the month he had recovered sufficiently to send out this thank you note to those who had looked after him.

TO THE MISSION

> To all the Brethren – Salaam !
> Brothers and Sisters:
>
> For all your kindness and sympathy, your prayers and divers kindly offices, allow me most unfeignedly to thank you. "I was brought low and He helped me". May the resuscitation He has vouchsafed be a resurrection to newness of life, even though on

> this side of the river. These chastisements, though for the present not joyous but grievous, nevertheless yield indeed the peaceable fruit of righteousness to them that are exercised thereby. I should indeed be sorry to exchange the experiences of the past week for the same period of unintermitted health, though they have been bought at the expense of a good deal of trouble to others, for which, however, the Lord will duly reward them. May the Lord in mercy shine upon us and our people, and cause our hearts to rejoice in seeing the sickness temporal end in the health spiritual of this community. "Promised Spirit, grant us soon thy gracious aid".
>
> Truly,
> Samuel F Green[37]

In his six monthly Report dated 1 October 1855[38], Dr Green stated that the third batch of students are now down to three in number and will complete their course in three months time. Dr Green stated that the fourth batch of students are seven in number, although Cutler lists eight students, presumably one of them was a late entry.

The fourth batch of medical students (1855—1858)[39]

J H Bailey
A Blanchard
J P Harward
F Latimer
J Wilson
J Ropes
J Flud
D P Mann

The new batch was taught Anatomy by McIntyre, and Physiology by Reid. Teaching of Anatomy was a problem due to lack of subjects for dissection and a Mannikin and a microscope are an urgent necessity. The students took down their notes in Tamil and it is intended that the next batch will taught entirely in Tamil. The students received a stipend between five shillings and seven shillings and sixpence per month and in return performed some service for the mission.

Dr Green considered that a full set of text books in Tamil was a necessity if the teaching was going to be in Tamil. A work on Midwifery has been one-third translated into Tamil, and Tamil notes have been made available to the students. A *Dictionary of Tamil Medical Science* was also being compiled, and a full work of *Medical Synonyms, English and Tamil*. Dr Green hoped that the ABCFM would provide funds for printing these books, as well as payment of salary for a Munshi (i.e. a Tamil Pandit). The present Munshi, Mr Nevins, was paid a salary of two Pounds Sterling a month from Dispensary income.

The method used for the translation of the books was as follows:

> A standard textbook was selected and a chapter translated with the aid of the munshi. The translation was dictated to the class with explanations and enlargement as needed to render it thoroughly understood. They transcribed it and then their copies were carefully compared with Dr Green's, corrected and revised and a fair copy made. This laborious process went on for years. Additional translators and munshis and copyists were employed and finally Dr Green succeeded in getting through the press the following books, some 4000 pages in all: Cutter's *Anatomy, Physiology and Hygiene*, Maunsell's *Obstetrics*, Druitt's *Surgery*, Gray's *Anatomy*, Hooper's *Physician's Vade Mecum*, Well's *Chemistry*, Dalton's *Physiology* and Waring's *Pharmacopoeia*. Several of these bore the name of the Tamil physicians trained by Dr Green, his loyal assistants in the work.[40]

The ABCFM in Boston sent out a Deputation to India and Ceylon consisting of Dr Rufus Anderson who had been their Corresponding Secretary for three decades and Rev G C Thompson, with full power and authority to give such directions as they judged to be in the best interests of the missions, subject to the subsequent revision by the ABCFM. Basically, the ABCFM felt that the Ceylon Mission did not bring in sufficient converts for the money and effort expended, compared with missions like the one in Sandwich Islands. The Deputation was also to inquire into why there been no native pastors to date in the ACM in Jaffna. The Deputation arrived in Jaffna from India

on 2 April 1855. Three weeks were spent having discussions with the missionaries, and the Deputation recorded that, "We nowhere found a more intelligent and devoted body of missionaries".[41] A meeting was held with the missionaries on 25 April and a list of 21 items which the Deputation wished to discuss was handed over to them. The discussions on these items went on for twenty days. Regarding medical activities, these were the points that the Deputation wished to discuss.

> Item 16: Medical establishment:—Where should the headquarters of the mission physician be—what are his duties—medical practice out of mission—presents—medical class—should their instruction be in the vernacular—general results.[42]

Sub-Committees were appointed to study each of the 21 items and the Sub-Committee for the Medical item consisted of Rev Hastings and Dr Green. Hastings had arrived in Jaffna in 1847 and subsequently went on to work there until 1890. At the time of the Deputation visit he was the Principal of the Batticotta Seminary.

The Deputation's final report was fairly scathing about the Batticotta Seminary:

> The Batticotta Seminary has been shorn of the great religious strength it possessed in former times, and under the force of circumstances beyond direct control, was working mainly for the secular advantage of the native youth..... Only eleven out of ninety-six pupils were members of the Church, and many were looking forward mainly to government for employment, and "seemed determined", in the language of the mission, "to have nothing to do with Christianity". The introduction of pay-scholars was filling the institution more and more with sons of rich men, or of men connected with government, who were preparing for secular posts of honour or profit, and might be expected to prefer heathen wives, with large dowries, to a connection with our pious Oodooville girls..... Their studies were mainly in English, which has gained on the Tamil.....[43]

The Deputation report had this to say about the Uduvil Girls School.

> The Oodooville Female Boarding School ..... has retained its excellencies as a religious institution..... The firmness with which the females from this school have adhered to their Christian profession is remarkable..... They were intelligent looking women, thoroughly christianised, cordial in their manners, and evidently a blessing to their community..... It was deemed necessary for twenty-five years, to receive pupils on the basis of remaining till they married, and also, when married, to give each of them a dowry of about twenty dollars..... The object of the school is to give a select number of promising females an education superior to what they can obtain in the Christian village school, with a view to their becoming the wives of native pastors, catechists and other missionary agents.[44]

The far reaching principal changes instituted by the Deputation visit were as follows.

1. English education was abolished in toto. The Vaddukoddai Seminary and the station English schools were summarily closed and all English was eliminated from the course of study at Uduvil.
2. The number of pupils at Uduvil was reduced to twenty-five, the number estimated as "needed for wives of the Christian helpers in the Mission".
3. A maximum wage for helpers was set, somewhat lower than the highest then paid.
4. Government grants-in-aid were declined and the number of schools reduced.
5. Separate churches were established and native pastors ordained and set over them.
6. The Mission Press was passed over to native management.[45]

As far as the medical establishment was concerned the main changes were as follows:

> In teaching the medical students, English was to be excluded, so far and so soon as practicable,—greatly to Dr Green's

> satisfaction. The grant by the colonial government might be retained, as the physician was not strictly a missionary and might be allowed to act philanthropist—using funds not derived from the Board. He might prepare medical text books in Tamil, printing them with funds derived from the local government, from philanthropic physicians in America, and from any other legitimate source. Dr Green had early discovered that the natives desired to be taught English in order to be eligible to lucrative positions under the government; and that the only way to get them to settle down as physicians in the villages of their own people would be to educate them in the vernacular alone, at least, so far as possible.[46]

Dr Green did not waste time implementing the Deputation's proposals. From August, charges were made for Dispensary patients, from those who were able to pay. The charge for medicines was cost plus one-third. McIntyre and Reid in partnership were in charge of the Dispensary and a total of 1058 patients were seen during the six month period. The medical students were asked whether they would continue their studies here if the medium of instruction was changed to Tamil.

> My boys ..... are quite unsettled by the change from English to the vernacular, thinking their prospects of getting a salary from government less promising, as indeed they are, as the aim is henceforth to get doctors to settle down and live in their villages. I gave the class a vacation of ten days to settle whether they will proceed with their studies or go to some other occupation.[47]

In the event, it would appear that all of them continued with their medical studies because Dr Green does not record any change in the total number of students which remained at eight. In any case, it appears that classes continued in English for the time being.

1856

In February, Dr Green completed the translation of the medical text book on Midwifery. Henry Maunsell MD, was a Professor in the Royal College of Surgeons in Dublin, Ireland and in 1834 he wrote a book

titled *The Dublin Practice of Midwifery* which was published in London. In the Preface to his book, Maunsell gave his answer to medical students who asked him:

> What book do you recommend to me to take to the Lying-in room?..... The works, however, of Denman and Burns, Ramsbotham and Merriman, though excellent in the study, do not supply the want indicated in the question of the student. Their size and price disqualify them for this service; and giving, as they do, the history and principia of the science, conclusions and rules cannot be obtained from them with the facility and quickness so desirable to the student and practitioner during the actual bustle of business.[48]

The net result was an almost pocket sized book of 244 pages, and to further ensure that the price would be within the range of a student, there was not a single illustration. In 1842, Chandler R Gilman MD, who was Professor of Obstetrics and Diseases of Women and Children in the New York College of Physicians and Surgeons, brought out an American edition of Maunsell's book by incorporating some notes and additions and increasing the length of the book to 292 pages, but still without any illustrations. As Green was a student in the same College from 1841 to 1845 and Dr Gilman would have been his teacher in Obstetrics, it seems almost certain that Green would have used this book to study Obstetrics and this was why Dr Green would have chosen this book for translation into Tamil. However, Dr Green was not happy about the Tamil translation not having any illustrations. Meanwhile, Stephen Tracy who was Professor of Obstetrics and Diseases of Women and Children in the New England Female Medical College published a book in 1853 titled, *The Mother and her Offspring* which had several illustrations. Dr Green wrote to Prof Tracy asking whether he would provide the wood cuts used for the illustrations. Prof Tracy readily agreed and Dr Green used them for illustrations in his Tamil book. Dr Green estimated the cost of printing the book in the ACM Press in Manipay as fifty Pounds Sterling and awaited funds from the ABCFM for the cost of printing.

The next book that Dr Green planned to translate was a book on Surgery which would cost about seventy-five Pounds Sterling to print in view of the large number of illustrations. He planned to follow this with a book each on Materia Medica, Practice of Physic, Anatomy and Physiology. He estimated that it would take a year or more to translate each book.

In his six-monthly Report dated 9 April 1856[49] Dr Green stated that 754 patients were treated during the past six months. The drop in the number of patients was because charges for medicines and operations were being made. However, very poor patients (about 25% of the total) were exempt from payment. In any case, the charges for treatment were very much less than the charges made by native physicians. The fourth batch of eight medical students, who started their studies in the previous year, completed their study of Anatomy and Physiology.

Dr Green's six-monthly Report dated 1 October 1856[50], reported that the number of patients who received treatment during the last six months was 1032. The 35% increase in the number of patients was because the Friend-in-Need Hospital in Jaffna Town had also started charging patients. The preliminary education of the eight medical students was not as good as previous students. Previous students were generally graduates of the Seminary, but with the closure of the Seminary the entry study level of the students would have been relaxed. Six of the students received a government grant of between four shillings and seven shillings a month, and the seventh received a grant from the Chundukuli Church. Of the seven students with grants, four of them spent each afternoon mapping the lanes, temples and houses in each village. In this way it was hoped to prepare a general map of the Parish, which would be of help to the work of the catechists. The three others worked part-time as an accountant, secular agent and writer.

The former Munshi, Mr Nevins, left for a very lucrative post in Madras. He was replaced by Mr Muthuthambi, described by Dr Green as a man of considerable attainments in Sanskrit and the vernacular. Dr Charles McIntyre, one of the third batch of medical students who completed their course this year, wrote a fifty page handwritten manuscript treatise in English titled *Yatpana Piravasa Vyththiyam* which can be loosely translated as *The medical science of childbirth in*

Jaffna. The Preface states that it is, "A view of Midwifery as held and practised by the Hindus of Jaffna – compiled from various sources (including) a Midwife of note..... by Dr Charles McIntyre alias Asirvatham Nallathambi, educated in medicine by the American Ceylon Mission". An overview of the treatise is given in Appendix V and it is an interesting insight into the midwifery and childbirth customs in Jaffna in the 1850s.

1857

Dr Green's six-monthly Report dated 1 April 1857[51] stated that he has now been asked to look after the Pandatheruppu station as Rev Smith who was at that station had left. This required Dr Green to make a weekly visit to that station. The number of patients seen in the Dispensary in the past six months was 1003. The fourth medical class of eight students was progressing well and should complete their studies next year. They had recently commenced the study of Surgery and will soon start on Midwifery, of which they already have much practical knowledge, having attended to cases too complicated for midwives. He reported that there is quite a call for Medical Practitioners from the government and from Coffee estates where they are prepared to pay salaries of seven to twelve Pounds Sterling a month for qualified Practitioners.

Dr Green commented on the dietary habits of the Tamils as follows:

> The natives generally prefer cold food. The women cook at about 5 pm, when the family drinks the rice water that is poured off. The rice and curries are set by till 8 pm to be eaten cold as the principal meal of the day. The overplus of this cold rice is mixed, in plenty of cold water, with onions etc., and set by till morning. At 6 am this old rice is eaten cold (and usually sour, like swill). About noon the poor take a soup-like gruel of palmyra root flour mixed in with a great variety of vegetables. The rich boil their noon rice at about 10 am, drink the rice water, and take the rice cold at noon with cold curries. Those who can afford it eat fruit freely, sometimes a dozen mangoes at a time. These are delicious and in great variety.[52]

The Tamil translation of Cutter's *Anatomy, Physiology and Hygiene* which was first published in 1853 was thoroughly revised and more illustrations added. The book was sent to the Mission Press in Madras for printing. The print run will be 4000 copies, of which the South Indian Schools Book Society will purchase 3000 copies and the balance 1000 copies will be sent to Jaffna. The book was of an introductory nature, suitable for use in schools as well. In fact it was used at Uduvil School where:

> Dr Green's Anatomy and Physiology, and the Tamil Minor Poets were also regularly studied in the highest class.[53]

An application to the government to subsidise the cost of printing the book was turned down on the grounds that:

> "the non-English policy pursued by the Mission was, in the Governor's view, disastrous and suicidal". The trouble with the policy was that it would diminish the supply of native doctors for positions the Government had to fill, by fitting them to practise in their own villages where only the vernacular was used.[54]

Meanwhile the draft of the Tamil text on Midwifery was still with Dr Green and had undergone two revisions and was carefully compared again with Maunsell's original. It was sent to the ACM's Press in Manipay and the printing was completed in July. The cover page reads as follows: *The Theory and Practice of Midwifery, adapted to India and translated into Tamil by Samuel F Green MD, for the American Ceylon Mission. Jaffna, Ripley and Strong, Printers, 1857.* The last line of the Preface reads, "May God graciously make this book, a blessing to the Tamil people". The book runs to about 250 pages including a thirty page Glossary of Tamil medical terms. A sample page of the Tamil book is reproduced in Appendix II. It is the first page of Chapter XXIII on Puerperal Mania and for comparison the same page is reproduced from Maunsell's original English book.

On 5 October Dr Green left Jaffna for America. He felt that two winters in America would enable him to recover his health, but in the event it was five years before he returned to Jaffna. What had he

achieved in his ten year stay in Jaffna? He had set up a small Hospital which treated close to twenty thousand patients and carried out numerous operations; he had started Ceylon's first western medical school and trained twenty Tamils as Medical Practitioners up to the highest standards of the time; he had learned sufficient Tamil to preach in Tamil and translate books; he had coined Tamil scientific and medical terms at a time when western science was unknown to the Tamils; he had translated and published Cutter's *Anatomy, Physiology and Hygiene* into Tamil and it had run into a second revised edition; and he had translated into Tamil and published Maunsell's *The Dublin Practice of Midwifery* and improved on the original by including illustrations. In addition he had published several tracts including one on Secret Vice.

Judge Murray, the Scottish District Judge of Jaffna, sent this farewell message to him in a letter dated 18 September 1857:

> We shall lose, and all will miss, an excellent member of society on your departure from our shores. May an All-wise Providence conduct you safely to Fatherland; and, on the establishment there of lost health, restore you again to this dark and needy portion of the Vineyard where active, practical benevolence, such as yours, is so urgently needed.[55]

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Chapter 6

Samuel Fisk Green M.D., (1858—1862)

This Chapter covers the five year period spent by Dr Green away from Jaffna, recuperating and recovering his health after his debilitating ten year stay in Jaffna. Dr Green sailed from Jaffna to India on 5 October 1857, just one day short of a ten year stay in Jaffna. He arrived in Madras on the 23rd, and spent nearly two months there waiting for a ship sailing to UK. While he was there he translated a small popular work on anatomy and physiology titled *The House I Live In*, and also composed in English another popular work on midwifery titled *The Mother and Child*[1]. He sailed from Madras in the *Agra* on 19 December 1857.

1858

The *Agra* arrived in London on 1 April 1858, travelling via the Cape of Good Hope and St Helena. On board the ship he was officially the Surgeon and Physician to the crew and soldiers who travelled on the ship. During the voyage he practised drawing and continued with his translations.

On 13 April 1858 he wrote a letter from London to Rufus Anderson, the Corresponding Secretary of the American Board of Commissioners for Foreign Missions (ABCFM) informing him that he had reached London on his way from Ceylon and that through the generosity of a friend in the USA who had provided him with some funds he planned to make a short visit to Paris and other European cities. He said in his letter that:

> If you could give me any letter to persons here, who might aid me in my contemplated works in Tamil on Surgery and Chemistry, I should be glad to avail myself of them, to secure the needed funds for cuts etc., which are best procured here.[2]

The Medical Missionary Society in Edinburgh had a Mission in Madras and Dr Green had made contact with them when he was in Madras. The result of this contact was that when Dr Green arrived in London he was sent a cordial letter from the Secretary of the Medical Missionary

Society in Edinburgh inviting him to the Annual Meeting of the British Medical Association to be held in Edinburgh in July and inviting him to deliver a lecture to that august body. The views that he expressed on transferring medical science into the vernacular were as follows:

> Mere translations are comparatively useless. It is better to devise one's own plan, and compile freely from many authors, taking their ideas only; but sometimes, as a labour saving measure, it may be best to select a well planned elementary treatise and use this as a basis for a vernacular issue; which may prove to be a compilation, translation, and original work combined; interleave it, add, erase, and transpose matter, remodel sentences, phrases and figures so as to adapt the book to the language of the people, avoiding a literal rendering and making it free and simple. Every book should be in simple, clear style, and freely illustrated by cuts, as many ideas which among Europeans are considered perfectly simple, are strange and nearly incomprehensible to the heathens.[3]

One of the sources of satisfaction to Dr Green was that the native physicians bought his Tamil medical text books and some of them sent their sons to study western medicine under Dr Green. As regards western medical systems and indigenous medical systems, Dr Green expressed the view that:

> .....the medical missionary should investigate the native systems of medicine, know the native doctors, fraternize with them as far as possible, consult with them when desired, communicate information freely, assuming no appearance of superiority, and drawing out their views and experiences.[4]

An article by the ABCFM on the qualities of a missionary physician titled *Claims of the missionary work on pious Physicians* is included in Appendix XII.

Dr Green sailed from Liverpool on 07 July and arrived in New York on the 21 July. The New York Times newspaper edition of 24 July 1858 recorded his arrival in the Personal column as follows:

> Dr Samuel F Green returned in the Kangaroo, on Wednesday, from India, after an absence of eleven years, during which time he has been connected with missions and engaged in the establishment of a school for the instruction of natives in Medicine, and in the preparation of books in the same language on medical subjects.

He was immediately examined by a doctor who gave his opinion that there was "nothing decidedly wrong".[5] After meeting his brothers and sisters who lived in New York, he proceeded to his home village of Green Hill where his eighty-two year old father lived and spent the winter there.

1859

In March Dr Green prepared a printed circular appealing for donations on behalf of the American Ceylon Mission (ACM) for a total sum of a thousand US dollars for medical equipment and printing costs towards continuing the work that he had started in Jaffna. In his appeal, which was widely distributed, he outlined what had been achieved so far and what he planned to do when he returned to Jaffna. The appeal was commended to philanthropists and signed by several eminent Professors, Surgeons and Pastors. The text of the appeal is included in Appendix VIII—*Appeal for donations by Samuel Fisk Green MD, in 1859*. It would appear that the appeal was printed in New York, because Dr Green forwarded copies of the appeal to the ABCFM in Boston along with a letter dated 23 March 1859 in which he says that, "My gain in health is not encouraging".[6]

In spring of this year he thought he felt better, but when he was examined by Dr Jeffries he ruled that he doubted whether he could return to Ceylon. Following this the ABCFM advised him to consider staying in America for two or three more years and to spend his time, as health permits, in creating medical works in the Tamil language.[7] On 13 June 1859 he wrote to the ABCFM that he had consulted Dr Gordon Buck of New York and two other Doctors and that the consensus of opinion was that he should not go back to Jaffna for two more winters, and that when he does he should keep out of the sun and only carry out

indoor activities. Dr Green added that, "I should with extreme reluctance give up the idea of going back to Ceylon, I hope I should be happy in considering Vox societatis vox Dei".[8] The last comment is significant. Dr Green had been in regular correspondence with his Tamil friends in Jaffna, all of them inquiring when he would come back, and it is for this reason that he says that the voice of (Jaffna) society is the voice of God.

For some time there had been requests to the ABCFM from the Madurai Mission in South India for a missionary physician. Dr Nathan Ward was Dr Green's predecessor in Jaffna, and worked there from 1833 to 1846 and returned for health reasons. Now, thirteen years after his return from Jaffna and restored in health, Dr Ward offered to the ABCFM to go back to Jaffna. The ABCFM wrote to Dr Green about this offer and asked Dr Green whether he would agree to go to Madurai instead of Jaffna. He replied as follows in his letter dated 04 November 1859:

> Allow me to reply your queries in order:
>
> Though Dr Ward has latterly been more a preacher than a physician in America, he would I think most likely be more a physician than a preacher in Jaffna, as (my impression is) he lacks familiarity with Tamil..... Should Dr Ward go to Jaffna, that position would be fitted and I should feel no special call to that particular portion of the Tamil field.
>
> Were the climate of Madurai as favourable as that of Jaffna, I should, on account of the larger scope and the greater demand for mission labour of all sorts, prefer that field. I fear my weak eyes would scarce endure the ophthalmia so troublesome there, and my head (even in Jaffna peculiarly sensitive to the sun and heat) would ill endure the hot dry winds and the higher temperature of Madurai. I should feel willing to try it, if thought expedient, though probably I should need to be made an exceptional case, and spend always the hot season on the Hills. Perhaps such an arrangement would not work happily as it might give rise to feelings of unfairness etc.

> Though I have a strong attachment to the work in Jaffna and to many friends there, white and coloured, yet I would cheerfully relinquish that for any other part of the Tamil field. Only my fear is that none other offers a climate so little trying to my constitution as that of Jaffna. I would just leave the case with the Committee – to send me, if at all, where they can turn me to the most account.
>
> I think I can see no good hope of return to the tropics before the spring of 1861. The fact of a nearer supply to the medical department of Jaffna, and lesser likelihood of my usefulness in any other region among the Tamils, diminishes perhaps in some degree my obligation to return, and if ever the Committee perceives that providence closes my way to India, I hope to be resigned to stay, as I should be glad to go again.[9]

The ABCFM decided on 17 November 1859 that Dr Green be transferred to the Madurai Mission and that Dr and Mrs Ward be re-appointed to the American Ceylon Mission in Jaffna.

1860

On 16 May Dr Green had his:

> .....chest auscultated and percussed by Dr Camman, who found, on the right infra clavicular region, the respiration roughened and the expiration prolonged, but thought there were no tubercles and that these physical signs might be accounted for by adhesions.[10]

When the news reached the Madurai mission that Dr Green would be coming there, there was much rejoicing among the missionaries. Rev. Rendall of the Madurai mission wrote to Dr Green:

> How glad we are all to hear of your appointment to our Mission..... I rejoice with our Madurai brethren, and if need be, shed a tear or so with the Jaffna brethren..... I was hoping for some good doctor who would be obliged to stammer for years; but now, behold the Lord sends one who has Tamil at his tongue's end.[11]

This view was naturally not shared in Jaffna, and a Tamil teacher wrote to Dr Green from Jaffna:

> I hope you are quite well and you will kindly condescend to dwell among us and do good to us and not to the Madurai people. Your absence from Jaffna is felt and lamented all over Jaffna. I hope that you are aware of it. I assure you, Sir, that your name is printed in our minds in capital letters and cannot be easily obliterated. Many young men desire to learn medicine, but who will teach? These young men are anticipating your arrival in Jaffna. Sir, kindly change your mind and come to Jaffna.[12]

Dr and Mrs Ward sailed out from Boston on the *Sea King* on 30 October 1860, expecting to reach Madras in March 1861. Also on board were Rev. and Mrs Smith who were returning to Jaffna, and Rev. and Mrs Bates who were going out to Jaffna for the first time.

On 7 November Dr Green wrote to the ABCFM that he had consulted Dr Jeffries and that his opinion was decidedly adverse to Dr Green going back in spring of the following year. Dr Green said that he looked forward to working amongst the Tamils of Madurai, but that day seemed far distant. As there is enough work for two missionary physicians in Madurai, Dr Green suggested that another doctor be recruited and sent to Madurai and that he would follow later when he is fully recovered in health. In December the ABCFM replied that despite their best efforts they were unable to recruit another doctor and suggested that Dr Green goes to Madurai when he is fit and that he could spend the first year or two in the hills. Dr Green replied thanking them but said that the state of his health required him to defer his travel to Madurai by one more year.[13]

1861

The *Sea King* in which Dr Ward sailed reached Madras on 11 March 1861. A few months later news came back to Boston from the ship that Dr Ward had fallen ill during the voyage and died when the ship was about thirty days out at sea, and was buried at sea. On 23 August Dr Green wrote to the ABCFM that he agreed to go to Madurai because of

Dr Ward's appointment to Jaffna, and as Jaffna was 'now destitute of a missionary physician' and because he is much better in health, he wished to apply for the vacancy in Jaffna. The ABCFM agreed to this and Dr Green started to make preparations for his travel back to Jaffna, purchasing the latest medical textbooks, equipment, medicines etc., using a grant of $US300 provided by the ACM.[14] This money was probably raised by the Appeal sent out in America by Dr Green in 1859.

During Dr Green's absence the fifth batch of eleven students had started their medical course with Dr Charles McIntyre as their teacher. The students were:

The fifth batch of medical students (1861–1864)[15]

Karttekaser	alias	M Hitchcock
Ethernayakam	alias	C T Mills
Swaminather	alias	S W Nathaniel
Kanakadattinam	alias	L S Strong
Vaittilingam	alias	D W Chapman
S Navaratnam		
A Appapilly		
J B Shaw		
Sivappirakasam		
William Paul		
L Spaulding		

1862

Dr Green wrote to the ABCFM on 07 January 1862 that he was ready to travel by the first available vessel, and he was informed in March that the earliest available sailing was in May. Rev. and Mrs Howland were also returning to Jaffna on the same ship. Dr Green returned from New York to Green Hill to say his final farewells to his father, now eighty-five years old, whom he knew he would never see again. Then Dr Green sprang a surprise on his friends and relations. As Cutler says:

> On the one subject which his friends in Ceylon had urged upon him as so important he seems to have maintained a dignified silence; not, however, a stoical or careless indifference. It soon appeared that he had chosen one to be his companion for life

> who was in every way worthy of himself; and on the 22nd of May at a farewell missionary meeting in the Central Church, where they had both been accustomed to worship, he was united in marriage with Miss Margaret Phelps Williams, the Rev. Sweetser performing the service.[16]

Four days later, on 26 May 1862, Dr and Mrs Green set sail from Boston on the *Star of Peace*, bound for Madras. The ship reached Madras in the first week of October without any major incident, after a non-stop voyage of four and a half months. After a stay of about two weeks in Madras, they set sail for Jaffna in a brig on 19 October, reaching Udupitty and from there went on to Manipay.

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Chapter 7

Samuel Fisk Green M.D., (1862—1873)

1862 contd

The Greens received a very warm welcome back to Manipay, not only from the Americans but also from his Tamil friends. A particularly warm reception was accorded to the newcomer 'Sister Green'. The fifth batch of eleven medical students had already started their medical classes the previous year under Dr McIntyre, and on his arrival Dr Green took over the supervision of this class. On 28 November 1862, Dr Green wrote a letter to his older brother Andrew Haswell Green. Andrew was a lawyer and city planner, later to become the Comptroller of New York City. He was the driving force behind the creation of such New York icons like Riverside Drive, Morningside Park, Central Park, the American Museum of National History and the New York Public Library. In his letter to Andrew, Dr Green mentioned his new medical class and said:

> I should like to have you present at two or three of my hour sessions with the medical class, eleven in number, an intelligent set of young men earnest to acquire the medical science and art, and who hang upon me so confidingly and look to me so docilely for training; and then go a few times to the Dispensary and see the crowds of sick seeking relief.....[1]

The American Ceylon Mission's (ACM) annual report for 1862 had this to say about Dr Green's return:

> His return has produced no small stir in the community. The sick, the lame and the disabled are brought to him from all quarter, giving a new impulse to medical practice on European principles and also adding interest to the instruction of the class.[2]

On 19 December 1862, about two months after they arrived, Dr Green and his wife had a lucky escape from serious if not possibly fatal injury.

There had been heavy rain for nine days with the onset of the north-east monsoon. At about 6 am he awoke to some loud noises and he got out of bed to investigate. Finding the door to the study locked he was about to return to the bedside drawer to take the key when he heard a crash and the bedroom roof caved in. He called out to Margaret who was still in bed and was relieved to hear her answer back sounding as calm as ever. He went to her bedside to find a rafter resting on her head, another on her shoulder and yet another one on her right leg. He called for help and they were able to free her. Fortunately there was no wound or fracture, though she had come within an inch of death. On his adjacent bed he found that a roof beam had crashed on it, completely crushing the bed. If he was still in bed, the chances of survival would have been remote. His wardrobe, chairs, couch, hat-tree etc were completely smashed. It took three months to repair the house, during which time they had to find temporary accommodation.[3]

1863

P A Dyke, the long serving Government Agent of the Northern Province asked Dr Green whether he would agree to be the Superintendent of the Friend-in-Need Society's Hospital (FINSH) and Dispensary in Jaffna Town. After discussion with the ACM, Dr Green agreed for two main reasons. Firstly, there would be additional income which could be used for translation and printing of medical textbooks in Tamil, and secondly his students would have exposure to a wider variety of medical cases. Dr Green would spend two days a week at the FINSH and the Government agreed to pay ACM fifty Pounds Sterling a year plus twenty-five Pounds Sterling a year to cover Dr Green's travel costs for the five mile journey from Manipay to Jaffna Town. The arrangement would initially be tried out for a trial period of three months and then reviewed. The arrangement was a success and Dr Green was particularly pleased because his students had good facilities for practical anatomy dissections. During the year a total of 8630 patients were treated at the FINSH.

Some idea of a day's work for Dr Green at the FINSH can be deduced from his note dated 7 August:

> Dr Danforth sent me a note saying two chank gatherers had been severely bitten by a large shark. I saw them this morning. One has four bad, deep, large bites in his right thigh, and the other has his right thigh bitten off, leaving as stump the upper third. We sawed off a bit of the bone which projected about three inches; performed Sim's operation on an unhappy woman; and tapped a Moorman, making out a pretty good surgical clinic for the thirteen students and three doctors present.[4]

Regarding Sim's operation mentioned in the above paragraph, he mentions it also in his half-yearly report of 12 October:

> We now carry out successfully and repeatedly Dr Sim's famous operation – one of the most important advances in surgery of the past quarter century.[5]

Dr J Marion Sims (1813—1883) was a Gynaecologist who pioneered the operation for cases of vesico-vaginal fistulas, which became known as Sims operation. His innovation was the development of Sims Speculum, Sims position and the use of silver wire instead of silk thread for sutures. He went on to found the Woman's Hospital in New York City, the first hospital for women in New York, and was highly regarded as a surgeon during his time. He was originally from the deep south of Alabama and nowadays, however, his reputation has fallen off the pedestal when it was revealed that Dr Sims perfected his technique by experimenting on women slaves, and reportedly operated on one woman thirty times.

The medical class was eleven in number and is progressing in their studies and have one year more to complete their course. Instruction is still in English and they all hope to join government service. A Manninkin presented by Dr Delafield, President of the College of Physicians and Surgeons, New York was of much assistance in their studies.

Translation of medical textbooks into Tamil was progressing. A graduate (this was Dr Joshua Danforth) worked on the book on Surgery for which an ample supply of illustrations was now available. Two others were to start work shortly, each on volumes on Practice of Medicine and Medical Jurisprudence.

The Manipay Dispensary was run by Dr McIntyre 'who has ripened into an experienced physician', assisted by three students in daily rotation. The number of patients treated during the year was 1217. Towards the end of the year Dr McIntyre joined the Planters Society in the eastern part of the Province on a salary of fifty Pounds Sterling per year and was presumably provided with a house. His successor was Dr Latimer of the fourth batch, and he served on the same terms as his predecessor, drawing no wages but depending on fees and profits from the medicines. When Dr McIntyre passed away in 1891, it was recorded as follows by the Morning Star newspaper:

> We are sorry to chronicle the death of Dr Charles McIntyre at Colombo on Wednesday the 11th instant. He was one of the senior Medical Officers under the Government of Ceylon and was held in great esteem by all who knew him for his professional skill and efficient service.....was first employed at Badulla for over three years and then he was transferred in 1869 to the Maradana Hospital where he continued for ten years, gaining influence and popularity among Europeans and natives. In 1879 he was sent as Medical Officer in charge of Puloly Hospital when it was first opened; and then from 1885 till his death, he was called upon to fill various places in the Department in the Central and other Provinces and in every one of them he earned the approbation and confidence of the Principal Medical Officer and his immediate superiors".[6]

Dr George M Reid of the third batch was now a General Practitioner in Jaffna Town, and had two students under him for training. There was also another former student who was a GP in Jaffna Town, and two others who recently left government service will probably start private practice and Dr Green observed that:

> One can but hope that notwithstanding the tendency to seek salaried positions, the country will gradually become duly supplied with well trained medical men preferring to live by their own individual enterprise.[7]

1864

On the first of January 1864 Dr Green wrote to his father announcing the birth of his first child. She was named Julia after one of Dr Green's older sisters. In his letter he said:

> Your grand-daughter waves you a kiss with her own hand, and wishes you a 'Happy New Year'.
> If the Giver spares her life, I shall teach her to love her grandfather Green, and to revere his memory. May the Saviour develop this additional twig, upon the Green-family-Tree, into a bough, abundantly 'fruitful in every good word and work'.
> Pray thus for her, and that her parents may aright train this tendril, that it draggle not in dust, but clamber on the trellis of the Cross.[8]

Julia certainly did not draggle in the dust but clambered on the trellis of the Cross, because forty-two years later she did return to the land of her birth, Jaffna, as a missionary with the ACM for five years, from 1906 to 1910.[9]

Advertisements were placed in the Morning Star newspaper for applicants for the next medical course, which would be the first course to be conducted in Tamil. There were thirty applicants, of whom eleven were selected and the course started in May. They were:

The sixth batch of medical students and the first to be taught in Tamil (1864—1867)[10]

K Elyapillay
Kandapper
S Sittambalam
A Sivasidambaram
V Sittambalam
S Sinnappu
Samuel David
Samuel H Murugasu
Daniel Vettivalo
R S Welopilly
S Mandalam

Two members of the class received stipends, and in return one cared for the premises and the other acted as a monitor and librarian. The existence of the class secures the prospect of a series of textbooks in Tamil. Due to the lack of textbooks in Tamil, English textbooks are used for the lectures and the students take down their notes in Tamil.

The senior class of students (fifth batch) completed their course in November and each was rewarded with a set of textbooks. About half the class will be retained for another year to help with teaching, translations and the running of the Dispensary. Two have already started lecturing in Anatomy and Physiology and a third acts as Dr Green's Munshi. Another has started writing a manuscript on Natural Philosophy and a fifth runs the Dispensary. Dr Green considered himself 'singularly privileged' to foster the study of medicine in Tamil in this land.[11] The number of patients treated in the Dispensary during the year was 1260, and in the FINSH 6480 patients were treated.

Regarding translations of medical textbooks, Dr J A Evarts was hoping to complete by the end of the year the translation of *Hooper's Physicians Vade Mecum,* and Dr Joshua Danforth was working on a translation of *Druit's Surgery,* which was ready in manuscript form and was used for classes. Dr Ira Gould was now working in Badulla was asked by Dr Green whether he could translate a book on Medical Jurisprudence, and he replied in his letter dated 6 May 1864 as follows:

> What work will you recommend for the translation? The edition of Taylor, which I have at present, is an old edition—1852. During the last twelve years great advancement has been made in Physiology and Pathology, which throws great light on Medical Jurisprudence. It is therefore very desirable that I should translate the latest edition of the work. Could you spare me a copy?[12]

The Taylor referred to by Dr Gould is Dr Alfred Swaine Taylor (1806—1880) an English toxicologist and medical writer considered by many as the father of British Forensic Medicine. He was a lecturer in Medical Jurisprudence at Guy's Hospital, London. The first edition of his book on Medical Jurisprudence came out in 1845 and several revised editions followed at regular intervals.

Dr Green wanted his Doctors to work among the poor people of Jaffna and not to go off and join government service for high salaries. This was the main reason for the switch over to Tamil as a medium of instruction. He wrote:

> I hope by going into vernacular education, to get some doctors who will in native dress start off afoot in response to calls, and not demand a horse and carriage to be sent and a heavy fee also in addition. This aping European habits is very well in moderation, but young Jaffna overdoes it.[13]

He also did not wish the Tamils to fail to distinguish between western civilization and Christianity and said:

> I begin to think that the change here will be from a waist-cloth to pants, from a scarf to a coat, from a turban to a hat, from vegetarianism to carnivorism, from a hut to a house and so on till many while yet un-christianised may be denationalized. I would rather here see Christian Hindus than Hindus Europeanised.[14]

1865

The class of eleven medical students who started their course last year has completed their studies of Natural Philosophy, Anatomy, Physiology, Materia Medica and Chemistry and is starting their study of Surgery. Teaching in Tamil is done by giving the best available English textbook on the subject to the lecturer together with a list of equivalent Tamil words for the medical terms. The lecture is given in Tamil and the students take down their notes and are examined on the topic the next day. These translations formed the basis for a future series of textbooks in Tamil. The book already available in Tamil is the translation of Maunsell's Midwifery which was published in 1857 and the manuscript translation of Druit and Erichsen's Surgery which was done by Dr Joshua Danforth of the first batch of students and who presently works in the FINSH. Also available was the translation of Cutter's Anatomy, Physiology and Hygiene which was an introductory book printed in 1857. The series of Tamil books is expected to comprise

volumes on Anatomy, Chemistry, Physiology, Materia Medica, Practice of Medicine, Surgery, Obstetrics (already done) and Medical Jurisprudence. Eventually volumes will also be published on Diseases of Children, Diseases of Women, Pharmacy and Botany. Vocabularies have already been prepared on Natural Philosophy, Chemistry, Anatomy, Physiology and Materia Medica. Ultimately it is hoped that all the glossaries will be brought together in a single Tamil-English Medical Dictionary.[15] During the year 1092 patients were treated in the Dispensary and 6617 were treated in the FINSH of whom 371 were in-patients.[16]

During the course of the year, Dr Green's second daughter was born. She was named Lucy, after Dr Green's eldest sister who was a mother figure to him after his mother died when he was ten years old. On the 25th of September Dr Green received letters from his siblings that his eighty-eight year old father had passed away in the family home in Green Hill, Worcester, Massachusetts. He wrote letters to all of them and in his letter to his brother Andrew who had looked after his father, he wrote:

> By the roadside about one and one-half miles from Batticotta, stands a Banyan (tree). The parent trunk, bulky and decayed, has long parted from the soil and is lifted up in mid air, borne by a staunch secondary stem. It reminds me of the venerated sire and the noble son who so liberally and tenderly has cared for him these many years.[17]

1866

Dr Joshua Danforth, of the first batch of students, who now worked in the FINSH carrying out major operations, completed the translation of the textbook on Surgery this year. It was revised and edited by Dr Green and in December it was sent to the ACM's press in Manipay for printing. The title of the 504 page Tamil book was *The Science and Art of Surgery*. It was a distillation of two books by eminent British surgeons. The first was John Eric Erichsen's, *The Science and Art of Surgery, being a treatise on surgical injuries, diseases and operations*. The first British edition of this book was

published by Walton and Maberly in 1853. The first American edition of this book was published by Blanchard and Lea of Philadelphia in 1854 with 908 pages and 311 wood cut engravings. There were many subsequent editions of this book. The American Government issued a copy of this book to every medical officer during the American Civil War. Erichsen (1818 – 1896) was Professor of Surgery at University College, London and later became Surgeon to Queen Victoria. The second British source book was Robert Druitt's (1814—1883) book titled, *The principles and practice of modern surgery*. The first British edition of this book was published around 1840 and the first American edition was published by Blanchard and Lea of Philadelphia in 1842 with 193 wood engravings. There were several subsequent editions of this book. Dr Green was fortunate in being able to purchase from the publishers, Blanchard and Lea, 187 wood engravings used to illustrate these two books at a cost of only hundred dollars, a fraction of their market price. These engravings were used to illustrate the Tamil edition. Dr Green wrote to the ABCFM in Boston asking whether the payments made by the Ceylon Government for his part-time work in the FINSH could be used for purchase of wood-cuts for illustrations for books, and the ABCFM agreed to release $US400 for this purpose.

The next textbook planned for translation was the 1859 American edition of *Anatomy, descriptive and surgical,* by Henry Gray, FRS. This was also published by Blanchard and Lea of Philadelphia, and it was hoped that they will continue to provide the wood cuts for illustrations at a nominal price. Henry Gray (1827 – 1861) was a Lecturer in Surgery at St George's Hospital, London. He was elected a Fellow of the Royal Society when he was only twenty-five years old. In 1858 he wrote the classical book on Anatomy which was a runaway success, particularly because of the clear cut illustrations by Henry Carter. He died of small-pox at the age of thirty-four, contracted while caring for his nephew who was dying of small-pox. *Gray's Anatomy* is still the classical textbook on the subject and has reached the fortieth edition of about 2000 pages in the year 2008. It is also available as an electronic version with web access and weekly updates.

Dr Green was so pleased with Dr Danforth's work that he wrote to Edward Delafield MD (who had earlier presented a Mannikin worth $US300 to Dr Green's medical school), the President of his alma mater, the College of Physicians and Surgeons, New York, now the Post-Graduate School of Medicine in the Ivy League Columbia University. In his letter he wrote recommending that Dr Danforth be conferred the honorary degree of Doctor of Medicine:

> .....I do not apply for those unworthy, nor for those who would not earn it by doing a bona fide service in the cause of Tamilizing western medicine. Their service must be gratuitous and valuable, and they must stand repeated examinations at he hands of educated foreign Physicians, and show certificates of their proficiency and ability aside from any he could give.[18]

One object of the application was that the success of it might stimulate others to engage with earnestness in the enterprise he was prosecuting for a Tamil Medical literature. As the Suez Canal was not yet opened (it opened three years later in 1869) it still took about three or four months each way for a letter to go to or from Jaffna to America, and the reply from the College was received only in mid 1868. Dr Green replied promptly to their reply as follows:

Manipay, Jaffna, Ceylon, July 18, 1868

Edward Delafield, Esqr., M.D.
President College of Physicians and Surgeons

Dear Sir:

Permit me to express to the Trustees of the College of Physicians and Surgeons my gratitude for the favour they have extended me in conferring upon J Danforth the honorary Degree of Doctor of Medicine, and my conviction that he will reflect credit on his adopting Mother. I believe this recognition of merit will have a happy influence upon the many Practitioners in trained in Medicine by the American Mission.

I doubt not, on receipt of his Diploma, Mr Danforth will speak for himself his high appreciation of the honour the College has done him.

> Pray accept my hearty thanks for your very kind action in this matter, and believe me to be, dear Sir,
>
> Yours respectfully,
> Samuel F Green[19]

During the year ended 30 September, 1251 patients were seen in the Manipay Dispensary and 6360 patients were treated in the FINSH. The business of the Dispensary is now wholly carried out in Tamil. Names of medicines and diseases, prescriptions, labels, books of account etc are all in Tamil. Attendance on the sick is at 8 am in the morning and 12 noon except on Tuesdays and Fridays when Dr Green goes to the FINSH. Urgent cases are seen at any time by the Dispenser who lives nearby. An extra charge was made for this service.

Medical Missionaries in South India (there were now five in number) had also started medical classes in Tamil and kept requesting manuscript Tamil texts from Dr Green. In order to meet this demand and also to meet the requirements of his students as well as translate other medical texts into Tamil, Dr Green employed four manuscript copyists, a full time Munshi, a Sanskrit Munshi who worked two days a week and two lecturers who also translated and wrote out their own work.[20]

The medical class (the sixth batch and the first vernacular batch) is in their final year. They have completed their study of Surgery and are now studying Medicine. They have two more courses to complete before they can graduate. One member of the class has left and is employed as a Health Officer in Mullaitivu. Dr Green was very pleased with the way his experiment of teaching medicine in Tamil was progressing and said in his six-monthly report that:

> I feel more than ever convinced that work in vernacular is the most effective way, to bring down the blade of truth upon the many ties and tangles of superstition which wreathe into the medical systems of the land.[21]

1867

Advertisements were placed in the Morning Star calling for applicants for the seventh batch of medical students, which would be the second batch in the Tamil medium. There were 36 applicants, 24 were called

for the entrance examination and 13 were admitted to the course in December. Cutler records only eleven names, so it would appear that two of them later dropped out during the course. Their names were:

The seventh batch of eleven medical students, the second Tamil medium batch (1867—1870)[22]

A Appapillay
A Appuckutty
Arumugam
S Sarawanamuttu
V Senivasagam
S Saminather
S Kandavanam
Edward Lovell
V Vannitumby
Visuvanathan
S Vinasitamby

This was a busy year for translation of medical texts into Tamil. By March there were four different works in the hands of his graduates for translation, and by June, Dr Green had received nearly two thousand pages of manuscript translations for revision and editing. The revision of the Vocabularies had been completed. The printing of the book on Surgery continued in the Press at the slow rate of about one page a day.

Towards the end of the year, the Government Agent, Percival Acland Dyke, passed away while on circuit in Kopay. Dyke had been the Government Agent from 1833 till he died in harness in 1867. During this period of thirty-four years he went to England on furlough only once, but cut short his holiday and returned to his beloved Jaffna immediately because he was appalled when he found that on arriving at London's Victoria railway station from Southampton docks there was nobody to open the railway carriage door for him nor a porter to carry his bags! He was a flamboyant character and was popularly known as the Rajah of the North as he sometimes went for his circuits on the back of an elephant. It is not generally known that 'The Residency' in the four acre Old Park at the entrance to Jaffna Town, which was the residence of the Government Agent, was the personal

property of Dyke who built it at his own expense. Although he was a life-long bachelor, it was an imposing building with a driveway lined with mahogany trees, a superb collection of rare books on Ceylon, six huge bedrooms, a colonnaded verandah, stables for horses and an elephant paddock. The furniture was exquisite, including Chippendales and a twenty-six seat dining table. When he died without issue he left the building in trust to his successors in office, but in the 1980s, sadly, the building was bombed to a heap of rubble.[23]

Dyke and Dr Green were close personal friends and Dr Green was designated as the 'second mourner' at the funeral. It was Dyke who was responsible for the annual government grant to Dr Green's medical school, and Dr Green returned the compliment by agreeing to be the part-time Superintendent of the Friend-in-Need Society's Hospital (FINSH) in Jaffna Town, which institution was the brain child of Dyke.[24]

During the year, 1316 patients were seen in the Manipay Dispensary and 5887 patients were seen in the FINSH. The Dispensary was extended to provide a study for the Physician, more room for the medical classes and an operating theatre.

The first batch of medical students who studied in the Tamil medium completed their course and nine of them graduated in December. Two students from the previous class worked on translations, one on a textbook of Medicine and the other revised the book on Physiology. The medical school lecturer translated the book on Diseases of Women and the Munshi translated the work on Diseases of Children. The ABCFM allocated funds for the purchase of wood cuts for the proposed translation of *Gray's Anatomy*.[25]

1868

The seventh batch of medical students, being the second batch studying in the Tamil medium, completed a year of study. They completed their courses in Natural Philosophy, Chemistry, Anatomy, Physiology and Materia Medica. They have started studying Surgery using the newly printed Tamil translation of Erichsen and Druitt's Surgery, and following an urgent request from the Missions in South India, fifty-four copies of the book were dispatched to them. They will shortly start

studying Medicine using the Tamil manuscript prepared by Dr William Paul of the fifth batch of students. Six out of the eleven medical students received a government grant of between five to eight shillings per month. In return they provided some part time service to the medical school.

The translation into Tamil of *Gray's Anatomy* has been completed and was being revised and edited by Dr Green. It will be the next textbook to be printed. Wood cuts for this book have been received. It is hoped to obtain wood cuts for a book on Chemistry, for which Dr Green's sister Mary has undertaken to meet the cost. The number of patients seen during the year in the FINSH was 5775 and in the Manipay Dispensary was 1376. The government doubled the annual grant to the ACM medical school to one hundred Pounds Sterling a year.[26]

In September, Dr Green resigned his official connection with the Friend-in-Need Society Hospital (FINSH) in Jaffna Town as he wished to concentrate more on teaching, translation and Manipay Hospital. The arrangement which started on a trial basis for three months had continued for over five years. In his letter to the FINSH, Dr Green asked that the following facilities be continued:

(a) That he and his students be allowed access to the FINSH for clinical teaching, practical Anatomy, dissections etc.
(b) The arrangement by which the Manipay Dispensary and FINSH exchanged drugs and supplies at ex-London cost plus 75% to cover transport costs to Jaffna.
(c) FINSH to accept pauper sick patients referred by the Mission.[27]

The FINSH replied reluctantly accepting his resignation, agreeing to the continuation of the above facilities and added:

> ....whether it was possible by any offer or by any concession, to retain his services which had brought the Institution to its present high state of efficiency.... Should it any time suit your convenience, or again become compatible with your missionary duties, to resume the charge of the Hospital, the Committee would hail with the greatest satisfaction your return to an office

> which must otherwise long remain vacant for want of a successor who will be worthy of you.[28]

Dr Green replied thanking them and suggested that Joshua Danforth MD of the first batch of his students (1848—1851) be appointed as Superintendent of the Hospital as he had been working there full time for the past ten years and for the past two years had been carrying out all the major operations.[29]

On 6 April 1868, Dr Green sent an article on the pronunciation of Tamil names for publication in the Missionary Herald in Boston, the official journal of the ABCFM. In the covering letter he gave an unsolicited encomium to the Tamil language:

> Written Tamil excels written English in indicating to the eye, the pronunciation, the accent and the syllabic division of words.[30]

1869

After the Government Agent, Northern Province, P A Dyke, died in 1867 he was succeeded for a few months by H S O Russell, after which W C Twynam became the Government Agent for several decades. In 1869, H S O Russell was transferred and promoted as Government Agent, Central Province and was ex-officio a Member of the governing Legislative Council. On 12 October 1869 he wrote to Dr Green from Kandy as follows:

> You have probably learned from the local press that the establishment of a Medical School at Colombo is contemplated by the Government. At the discussion of this subject in Sub-Committee, I mentioned the utility and high character of your Medical School, and from the reception with which my remarks met, I am inclined to think that if the case of your institution were properly brought before the Legislative Council, it might be possible to obtain a grant of Government funds in aid of your school. I shall be happy to do what I can to further so desirable an object, if I know that you are willing to accept a grant. Will you kindly let me know this by return of post, and at the same

> time give me any details which you think it is expedient to communicate with reference to the present condition, the scope and the future prospects of the Medical School at Manipay.[31]

Dr Green replied at once to Mr Russell that:

> 'The Mission would be very glad of some additional help from the Government in their endeavours to promote Medical education, and to develop a Medical Literature in Tamil' and giving an account of the enterprise, the Class, and the expenses, and said that, 'two hundred Pounds Sterling a year would be most gratefully received and strictly applied'.[32]

In December, Dr Green was delighted to hear from Dr W P Charsley, the Principal Civil Medical Officer in Colombo, that his request was approved and that the Government would provide a grant of two hundred Pounds Sterling per annum to his medical school from next year. This was particularly pleasing to note because the Government was just about to start its own medical school in Colombo with Dr Loos as the Principal, and to get the amount of the grant in perspective, the annual budget of the proposed Colombo Medical School was five hundred Pounds Sterling per annum. Dr Green noted that:

> It is encouraging that the Government should have so liberally considered our request, in the very face of a medical school of their own, and of the fact that the teaching here in English is relinquished for the Vernacular.[33]

As FINSH now provided free treatment, the number of patients coming to the Manipay Dispensary has dropped to about 1100 patients this year, and this gave Dr Green more time to work on translation of textbooks. He also reduced the number of operations that he personally carried out, so as to give an opportunity to the new doctors to gain experience. The ACM Press completed printing of 250 copies of the Tamil book on Surgery, an octavo size volume of about 504 pages. They are about half-way through printing of 250 copies of the volume on Anatomy, progressing at the rate of about five pages per week. This will be about the same size as the Surgery book. The wood cuts for Wells' Chemistry

had arrived. Hooper's Physician's Vade Mecum was translated by Dr William Paul of the fifth batch of students and was being revised and edited by Dr Green. It is intended to print this book in the Mission Press in Nagarkoil, South India as the Manipay Press is inundated with a backlog of printing work.

Robert Hooper MD (1773—1835) studied at Oxford and obtained his MD from the University of St Andrews. He was Physician to the Marylebone Infirmary. His book, the full title of which is "*Physician's Vade-Mecum: containing the Symptoms, Causes, Diagnosis, Prognosis, and Treatment of Diseases. Accompanied by a select collection of Formulae, and a Glossary of Terms*', was first published in 1809, and the American edition was published in the same year. It went into several subsequent editions and sold over 20,000 copies. The 1865 edition was used for Dr Green's translation. The publishers wanted five shillings for each of the one hundred and three electrotypes used for the illustrations, making a total cost of about twenty-five Pounds Sterling. Friends and well-wishers in Scotland raised the required amount and gifted the electrotypes to Dr Green.

The Mission's annual report for 1869 recorded Dr Green's efforts with the book translations as follows:

> In the preparation of these books, Dr Green has undertaken a great work. Every sentence of the translations must be revised personally and carefully by him, in order to secure the correct idea to be expressed. Many new terms must also be made or old ones improved, as nearly all those now in use are associated with error. This involves an amount of hard work, steadily persevered in day after day, for months and years, which would be appalling to any but a faith which disregards present obstacles in view of the certain future success of the truth.[34]

The seventh batch of medical students, eleven in number, completed two years of study. This year they have completed their study of Anatomy, Materia Medica, Surgery and Obstetrics and have started studying Medicine and Diseases of Women. The class visited the FINSH in Jaffna Town once a week for clinical instruction.

1870

The seventh batch of eleven medical students completed their studies of Practice of Medicine, Diseases of Women, Medical Jurisprudence and Diseases of Children. They completed their three year course in December. They were presented with an outfit of two Pounds Sterling each, and those who achieved merit marks received an additional two Pounds Sterling each. The Colombo Medical School opened in June. Dr Green feels that the inducement to study in Manipay in Tamil will be lessened as students will go to Colombo to study in English. To counter this, he planned to increase the student stipends and outfits for the next batch of students, using funds from the government grant.

Printing of the Tamil translation of *Gray's Anatomy* reached page 512 in early October and is progressing at the rate of about five pages a week. The completed book will have about 900 pages. The initial translation of this work was done by Daniel Chapman of the fifth batch and then revised and edited by Dr Green. The electrotypes for the Tamil translation of Hooper's Vade Mecum were received and printing was proceeding slowly. The revision and editing of the translation had taken Dr Green fifteen months. Dr Green started translation of Wells' *Principles and Applications of Chemistry, for the use of Academies, High Schools and Colleges,* the electrotypes for this having been received, thanks to the generosity of Dr Green's sister.

David Ames Wells (1828—1898) was a multi-talented individual. He was an engineer, textbook writer and economist. Apart from the book on Chemistry, the first edition of which appeared in 1858 and ran into several subsequent editions, he also wrote books on Natural Philosophy, Geology, Economics and Taxation. He edited the journal *The Annual of Scientific Discovery* from 1850 to 1866. Among the many posts he held were Assistant Professor at Harvard University; Chairman, National Revenue Commission; and President, American Social Science Association.

Dr Green recorded progress in translation as follows:

> The work of translation proceeds steadily. The only path to the real accomplishment of our series is that of persistent personal endeavour. Experience demonstrates that both languages must

> be represented each by its native, in order for a satisfactory result, and that any expectation that Western ideas can be transplanted in their integrity, by even the most accomplished Tamilian, is illusory.[35]

The Manipay Dispensary treated 1185 patients during the year. The FINSH introduced a scale of charges for their Resident Surgeon and offered his services to the mission when required by the Mission Physician.

Dr Green now has three daughters. The new arrival has been christened Mary. Like her two older sisters, she too has been named after Dr Green's older sisters.

The Colombo Medical School opened this year with 25 students following a three year course. Dr James Loos was the Principal and lectured in Medicine and Physiology, he was assisted by Dr R Andree who lectured in Anatomy and Surgery and Dr E L Koch who lectured in Materia Medica and Midwifery. Students were charged a fee of two Pounds Sterling to be paid at the beginning of each session[36], unlike Dr Green's school where medical education was free and in addition most students received a stipend. Dr E L Koch, who like his father and grandfather were all born in Jaffna, became the second Principal of the Colombo Medical School, succeeding Dr Loos. Dr Koch was the nephew of George Koch who studied medicine under Dr John Scudder in Jaffna in the 1820s. In an address delivered by Dr E L Koch at the opening of the second session of the Colombo Medical School in the early 1870s he said:

> I can illustrate this best by referring to my own personal experience of the Northern Province, where the great mass of people, simply because they have *longer* enjoyed the advantages of European practice so generously introduced by the American Mission, than the inhabitants of any other part of Ceylon, have little or no faith in their own Native Doctors; and it is a well known fact, that the number of patients who resort to the Friend-in-Need Society's Hospital at Jaffna, is *infinitely larger* than the number who voluntarily resort to any Civil Hospital in the Island. To such an extent indeed has the

> confidence of the Natives in the North been won over to the superiority of the Western System of Medicine, that to supply the want of Medical men among the people, Dr Green has been compelled to organize a Vernacular Medical Class for whose special use he has himself translated the English text books into Tamil.[37]

1871

During this year a total of 813 patients were treated in the Manipay Dispensary. A new class of eleven started their medical course in February. The class included three close relations of the three leading native physicians in Jaffna, and this was a particular source of satisfaction to Dr Green. During the year they completed their study of Natural Philosophy, Chemistry, Physiology, Materia Medica and Anatomy using the new textbook for which the printing had been partially completed. Four of the students receive a monthly stipend of between six and seven shillings. Their names were:

The eighth batch of eleven medical students, the third Tamil medium batch (1871—1873)[38]

J Amerasinger
S Arunasalem
M Ramalingam
V Catheravaloo
V Sadasivam Bates
S Sarawanamuttu
S Sinnatamby
S Sinniah
K Tilliampalam
K Vaittilingam
K Wellopilly

The Glossary and Index remain to be printed for the translation of *Gray's Anatomy*. Printing of the translation of Hooper's Vade Mecum was continuing and should be completed next year. 3000 copies of a little book on Childbirth, in Tamil, had been printed and issued. Work

has started on the printing of the translation of Dalton's Physiology. This was translated by Dr Daniel W Chapman of the fifth batch of students and revised and edited by Dr Green. Dr John Call Dalton (1825—1889) studied Medicine at Harvard University. He was America's first Neuro-Physiologist, and the first full-time Professor of Physiology. His book, *A Treatise on Human Physiology, designed for the use of Students and Practitioners of Medicine,* was first published by Blanchard and Lea of Philadelphia in 1859. It went through at least seven editions and was America's first major textbook on Physiology and was the standard textbook used in medical schools. He was later Professor of Physiology and Microscopical Anatomy at the College of Physicians and Surgeons, New York and finally President of that august College.

Both Dr Green and his wife are in indifferent health and he felt that they should return to America within a year or two and he wrote to the ABCFM accordingly and also asked them to recruit a replacement missionary physician for his position, 'but he will have to grapple with the translations'.[39] The Greens now have the last of their four children, their first son, who was christened Nathan. Unlike the girls who were named after Dr Green's sisters, Nathan was not the name of any of Dr Green's brothers. One wonders whether he selected this name because it was common to both Americans and Tamils. Nathan graduated from Yale University in 1894 and then studied medicine in his father's alma mater, the College of Physicians and Surgeons, New York, obtaining the degree of MD in 1898. He worked at St Lukes Hospital in New York where he was a Thoracic Surgeon and did a considerable amount of research. He was appointed President of the American Association for Thoracic Surgery in 1925. He passed away in 1955 at the age of 83 years.

By now Dr Green was regarded as a leader in the creation of scientific nomenclature in Tamil, not only in Ceylon but in South India as well. Dr Green was pleased by the recognition accorded to him by this letter from Professor D Sashilugar, the Professor of Vernacular Literature in Presidency College, University of Madras, dated 22 October 1871 asking for his views on the introduction of Science in Tamil. Professor Sashilugar wrote:

> The accompanying papers are sent to me by the Director of Public Instruction, Madras, asking for my opinion regarding the rules to be adopted for the rendering of technical and scientific terms on a uniform system. He also leaves me the option of consulting any friend whom I may consider qualified to pass an opinion on the matter.
>
> Though a stranger, I have heard from various quarters of your professional and scientific skill, and I firmly believe that you are an authority upon philosophical and scientific questions of this nature; and therefore I have ventured to ask your valuable opinion on the subject, which will be forwarded in original to the Director.[40]

1872

The translation of Wells' Chemistry by Dr Green was completed and sent for printing to the Mission Press in Nagarkoil, South India, in view of the backlog of work and long delays in the Manipay Press. The book on Anatomy has been printed, bound and distribution commenced. Regarding the translation of Dalton's Human Physiology, to avoid further delay, the first 134 pages, out of an ultimate total of 590 pages, were printed as a separate booklet. This was translated by Dr Chapman and revised and edited by Dr Green. Dr Chapman, who was working in Government service, was released to work on translations for the Mission. 3000 copies of a little work on Mother and Child were printed and distributed. Printing of the translation of Hooper's Vade Mecum was progressing.

The eighth batch of medical students who started their course last year is progressing well. They have completed the study of Anatomy, Surgery, Medicine, Midwifery and are now studying Hygiene and Diseases of Women. They still have to study Diseases of Women and Medical Jurisprudence. They also have a weekly clinic at the FINSH. The ninth batch of eighteen medical students, the fourth batch to be taught in the vernacular, have been selected out of over fifty applicants and classes have started. It is by far the largest class so far. Half of them receive stipends. Their names are:

The ninth batch of eighteen medical students, the fourth Tamil medium batch (1872–1875)[41]

A Amerasingam
R Ambalam
T Kanagasaphy
C Kumaravaloo
Richard S Adams
Benjamin Lawrence
V Sellappah
N L Joshua
N Tambimuttu
M Nannitamby
Abraham V Nitsinger
Joshua K Pereatamby
V Ponnambalam
K Ponnambalam
S Ponnambalam
Mutiyah S Ropes
N Mutatamby
V Vetteawanam

Of the medical practitioners trained by the Mission so far, eighteen are in Government service, twenty-one are in private practice, eight are in the service of foreigners, fourteen have passed away and details of the remainder are not known.

Dr Green reminded the ABCFM that an able and devoted physician from abroad is required to continue the work that he is doing. He wrote to them that:

> Although my health urgently needs the invigoration of a cold climate, the exigencies of book work constrain me to tarry awhile, in hope to leave it in a more satisfactory condition.[42]

The apart from Dr Green, the staff of the Mission's Medical Department now consist of a Supervisor (probably Dr C T Mills or Dr Daniel W Chapman, both of the fifth batch), two Lecturers (medical graduates), in charge of the Dispensary was a graduate from the first vernacular

class, and a full time writer/translator was from the third vernacular class. Except for Dr Green's salary, all other costs were met from the Government grant and Dispensary fees. With the Medical Department having a full time staff of six persons, the ABCFM in Boston could be forgiven for wondering whether the ACM in Jaffna in Jaffna was beginning to lose its focus from the main function of a Mission, and whether the tail was beginning to wag the dog. Dr Green gave a hint of this in a letter to one of his siblings:

> If SFG is to be the last American physician here, he may have to stay on yet awhile longer; for I seriously doubt whether, if willing and able to return, the ABCFM would send him. The powers seem to think the medical work of the ACM ought to be about finished by this time.[43]

According to ABCFM policy, the most important reason for sending out missionary physicians to missions where adequate medical facilities were not available locally, was for the these physicians to provide medical care for the American missionaries and their families. Adequate local medical facilities were not available in Jaffna in the early years of the ACM, but this was no longer true because the FINSH in Jaffna Town, staffed by Dr Green's graduates was providing appropriate medical care. FINSH was growing in popularity and treated as many as 579 in-patients and 10,010 out-patients this year.[44] FINSH had more patients than all the hospitals in the other provinces in Ceylon.[45]

1873

At the meeting of the ACM held on 16 January 1873, Dr Green handed over the Medical Department to Rev Hastings. The latter had come to Jaffna in 1847, the same year that Dr Green first came to Jaffna. Rev Hastings continued to work in Jaffna until he passed away in 1890. In a letter written to his sisters dated 6 March, Dr Green said that in the event that anything untoward happened to his whole family during the journey to America, all his property should go towards founding a Medical Professorship in Jaffna College. On 7 March, the Green family sailed from Jaffna for Colombo in the 'Serendib'. On 27 March, Dr

James Loos the Colonial Surgeon and the first Principal of the Colombo Medical School wrote to Dr Green as follows:

> .....I am grieved that sickness has prevented me from seeing you. I should have been happy to take you round our hospital and show you the work we are carrying on—**a work in which we are humbly imitating you** (authors emphasis). Medical education in Ceylon is deeply indebted to you and your predecessors. You have loosened the foundations of quackery, and I trust it may please God to bless us also in our efforts to place the medical practice among the natives of this Island on a more rational and scientific basis. Your Tamil works on Medicine will remain a memorial of you after you are gone, and you will not soon be forgotten. We, as natives of this Island, are much indebted to the American Mission for their efforts in the cause of Christianity, civilization and science, although these have been confined to a part of the Island.[46]

The Green family sailed for London on the 'Good Hope' on 29 March 1873 and the ACM did not have a foreign medical missionary for the next twenty years. It was left to Dr Green's Tamil cohorts to shoulder the responsibility of carrying on what he had started for the next twenty years.

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Chapter 8

Samuel Fisk Green M.D., (1873—1884)

1873 (contd.)

This Chapter covers the period of Dr Green's life from when he left Ceylon to his passing away in 1884. The Green family sailed in the *Good Hope* which left Colombo on 29 March and touched at Aden, Port Said and Malta, reaching London on 19 May. As it sailed through the Suez Canal, the voyage took 51 days, compared with Dr Green's first sailing to Ceylon which took four and a half months. They spent three months holidaying in England and sailed from Liverpool on 13 August in the *Canada* reaching New York on 26 August. They spent a few days in New York with Dr Green's brother and sister and then proceeded to Dr Green's ancestral home in Green Hill, Worcester, Massachusetts, reaching there on 13 September.[1]

On 13 November he wrote to the American Board of Commissioners for Foreign Missions (ABCFM) suggesting that if for health reasons he is not sent back to Jaffna, he would prefer to be paid a monthly pension rather than a lump sum. Nevertheless, he expressed a desire to return, but did not pressurize the ABCFM, and wrote in his usual diplomatic manner:

> The Tamils most urgently need help in the production of Christian literature and my conviction is that if restored, I could and ought to aid in it. Perhaps I ought to add, that my sense of propriety would not allow me to interpose any obstacle, if for any reason, personal or otherwise, it should be deemed wiser that official relations between the Board and myself should terminate.[2]

On 13 December he wrote to the ABCFM that he would like to complete the Tamil translations of the remaining books in the medical textbook series, i.e. completion of Dalton's *Human Physiology,* and books on Materia Medica and Medical Jurisprudence. He expected to receive shortly some translation manuscripts from Jaffna for revision and editing. He again asked the ABCFM whether he could be sent back

when his health improved. If sent, he would go with his wife and asked whether the ABCFM would make arrangements to care for his children who would stay back in America. Similar arrangements had been made in the past for other missionary's children.[3]

The eighth batch of eleven medical students, the third to be educated in the Tamil medium, completed their course this year.

1874

In 1874 Dr Green submitted a short essay titled *Medical Missions* to the Edinburgh Missionary Society. This has been reproduced in Appendix X. It was published in the May issue of the *Quarterly Paper of the Edinburgh Missionary Society*. The editor of that journal added the following note after that article:

> The foregoing contribution has been sent us by our esteemed friend and fellow-labourer while in India. Dr Green, while in Ceylon, **than whom no living Medical Missionary has had such lengthened experience** (author's emphasis), nor done so much to extend the benefits of European skill, by translating and publishing a comprehensive Medical and Surgical Literature in the South Indian vernacular, and by training native medical evangelists.[4]

Towards the end of the year, on 23 October, he wrote to the ABCFM that there had been no marked improvement in the health of either himself or his wife but that they expected to be able to go back to Jaffna by the end of 1876.

In August his sister Lucy donated the sum of a $US1000 to be added to the amount left in Jaffna by Dr Green towards the endowment of the *Green Professorship of Medicine and the Natural Sciences,* in Jaffna College, in memory of their father.

From May onwards Dr Daniel Chapman sent from Jaffna instalments at fortnightly intervals of the Tamil translation of Dalton's Physiology. Dr Green would carefully revise and edit these instalments and send them back to Jaffna. Due to sea mail parcels now coming through the Suez Canal, the transit time for sea mail was just over two months, more or less what it is today, more than a century later.

1875

This year Dr Green took a keen interest in the newly opened Jaffna College which had risen like a phoenix from the ashes of the Batticotta Seminary. On 25 September he wrote to the ABCFM strongly supporting the request from the President of Jaffna College, Rev. E P Hastings, that a young man be sent out to help him with the running of the College. Later, in 1885, Rev. Hastings' brother-in-law, Grover Cleveland, the brother of his wife Anna, was elected President of USA. This meant that the sister of the then President of USA was a resident of Vaddukoddai for the next four years. On 25 October Dr Green wrote to the ABCFM asking whether Jaffna College had a Charter conferring on it the power to grant literary degrees, and if not, suggested obtaining one by Massachusetts State legislative action. The alternative to a Charter, he suggested, was to get affiliated to an American University, and suggested Amherst or Columbia Universities. Dr Green also suggested the need to start a Medical Missionary Society like the one in Edinburgh, Scotland, but this proposal did not receive any encouragement from the ABCFM, who felt that it would duplicate their work and lead to a dilution of donations.

On 30 September Dr Green sent to the ABCFM a draft of rules for the general guidance of those who seek aid from the mission Dispensary. He suggested that the rules be translated into Tamil and issued to each patient instead of the present ticket system.[5]

Printing of Wells' Chemistry was completed this year at the Nagerkoil, South India, London Mission Press. This book was translated by Dr Green and had 520 pages. The title of the book in Tamil was 'Chemistham'.[6] The ninth batch of eighteen medical students, the fourth to be educated in the Tamil medium and the largest batch so far, completed their course this year.

1876

The tenth batch of eighteen medical students was selected and started their studies, and the Medical Department in Manipay was flourishing. The translation of Dalton's Physiology by Dr Chapman and its revision and editing by Dr Green was progressing. Dr Green also wrote in Tamil some religious tracts and popular scientific monographs. The latter

were four in number and titled *The Eye, The Ear, The Hand,* and *The Mouth.*[7] They were all sent to Jaffna for printing and distribution. There was still no substantial improvement in Dr Green's health and he felt that at least another year must elapse before he and his wife could think of going back to Jaffna.

A meeting of the Trustees of Jaffna College was held in New York but they were reluctant to make a formal application for a Charter for Jaffna College as they felt that they may be personally responsible for any debts incurred by Jaffna College in Jaffna. A legal opinion was to be sought regarding this point.

1877

During the year Dr Green continued his work in support of Jaffna College. In January he submitted to the ABCFM a draft Charter, suggested three new names for the Trustees of the College Fund and reminded them to pursue the question of affiliation with Amherst University.

He reminded the ABCFM that it is now more than four years since he returned and that he is now ready to go back towards the end of this year or next year. He received a reply that implied that the Committee desired his return to Jaffna when his health was adequate, to which he replied that he proposed to return for ten years or as long as his health allows. He said it would take two or three years to complete the set of medical textbooks, after which he would write and translate religious books into Tamil.[8] Within a week he received an unexpected reply:

> So after a careful consideration of the case, having in view your children and your own health, the advanced condition of the Medical Department in Ceylon in consequence of your past labours, and the adjustments made there in your long absence, the Committee did not think it expedient for you to return.[9]

On 23 March Dr Green wrote to Dr Chapman, who had been regularly sending him translated pages of Dalton's Physiology for revision and editing, regarding the Glossaries of medical terms:

> The several Glossaries were prepared one after the other. All the while experience and acquaintance with the work of nomenclature were growing. Therefore the latest should have

> precedence of any made previously. First came the Midwifery, secondly the Surgery, thirdly the Anatomy, fourthly the Physic, fifthly the Chemistry, and now sixthly the Physiology. There has been a gradual change in the style of terms and, I feel, a steady improvement. In any subsequent edition of the books, this should be regarded, and the Terms throughout the books severally, and in the Glossaries, should be conformed to the latest phase, the most advanced and improved style. The most radical change in the Glossaries was giving the English the preference over the Sanskrit as a source for Terms.[10]

In the latter part of the year the translation, revision and editing of Dalton's Physiology was complete and the ACM decided to go ahead with the printing of this 590 page book at the Manipay Press. The Tamil title of the book was *Manusha Sukaranam*.[11] The ACM also decided to go ahead with the translation by Dr Chapman of *Waring's Pharmacopoeia of India* and *Taylor's Medical Jurisprudence*. Although Dr Ira Gould had started translation of the latter many years ago, he does not appear to have made much progress. Dr Chapman started work on the translation of the Pharmacopoeia without further delay.

Edward John Waring MD (1819—1891) was born in Tiverton and obtained his MRCS from Charing Cross Hospital, London in 1842. In 1847 he joined the East India Company and was posted to Madras. In 1856 he was promoted as Physician to the Maharajah of Travancore. He continued as a Surgeon in the British Army and he was requested to write a book on the Pharmacopoeia of India and a Committee was appointed to assist him, almost all of whom were Fellows of the Royal Society. The 502 page book was first published in 1868 and the full title was *Pharmacopoeia of India: Prepared under the Authority of Her Majesty's Secretary of State for India in Council (1868)*. The book is still in print.

1878

Early this year the ABCFM informed him that the formation of a Board of Trustees for Jaffna College was progressing and that it is proposed to raise a fund of $US50,000 in America, invest it, and use the interest to support an American Principal of Jaffna College.

The correspondence that Dr Green had with the ABCFM this year explains the hesitancy of the ABCFM in agreeing to Dr Green returning to Jaffna. It would appear that sometime after Dr Green returned to America, the ABCFM appointed a Sub-Committee to look into the question of continuing support for a medical missionary in the ACM. The Sub-Committee had reported back that due to the advanced state of the Mission's Jaffna Medical Department it was no longer necessary to send an American medical missionary. However, in view of Dr Green's eagerness to return 'to his adopted people', and pressure from the ACM in Jaffna for Dr Green to come back, the ABCFM offered a compromise. They would pay the cost of the passage to Jaffna for Dr Green and his wife. He would be given free accommodation, use of the library, surgical facilities etc in Manipay, but he would not be paid a salary and would have to depend on his earnings from fees charged to patients for his income. After carefully considering the matter, Dr Green felt that since the main reason for his return was to complete the set of Tamil textbooks, it would not be possible for him to do this in his current state of health if he had to work full time in the Dispensary to earn a living. He therefore respectfully declined the offer from the ABCFM.[12]

An insight into Dr Green's thoughts about his choice of profession are given in this letter to a newly qualified Doctor:

> I am much interested to learn of your entrance into the Medical Profession. Allow me to extend you a hearty welcome, and to wish you a long and useful career.
>
> I was re-born a physician thirty-three years ago. I have never desired to change my vocation. I have yet to see another calling a better way to usefulness. I am glad to have relieved bodily suffering, and gladder to have found, in course of professional ministry, opportunity to speak a word to those that are weary or to those out of the way.[13]

1879

Dr Chapman continued to send regular instalments of his translation of Waring's Pharmacopoeia for Dr Green's revision and editing. The tenth batch of eighteen medical students completed their course. At the quarterly meeting of the ACM, the following resolution was passed:

> Voted that a new medical class not exceeding 15 in number be taken on condition that each pupil pays Rs 3 per month tuition, boards himself and provides his own books with the exception of the Tamil books used in the class which will be furnished gratis.
>
> That Dr Mills be retained as Teacher at his present salary (which was Rs 40 pm) provided a class of 15 can be secured on the above terms.
>
> That Dr Adams be informed that his services will not be required as a Teacher after April 30th.
>
> That each pupil of the new class be requested to deposit Rs 25 on entrance towards outfit and tuition in advance.[14]

Accordingly, the eleventh batch of fifteen students was selected. They did not realise it at that time but this was to be the last batch of medical students in the ACM Medical School. The teachers were the Tamils, Dr C T Mills, Dr William Paul and Dr Clives. Dr William Paul's son, Dr Samuel C Paul was the first Ceylonese to obtain the FRCS, and Samuel's son Dr Milroy Paul was Professor of Surgery in the Colombo Medical College for twenty-seven years.

On 22 September, Dr Green wrote to Rev Howland in Jaffna regarding future printing of books:

> Let me advise that our future Medical Vernacular book printing be done at Nagerkoil. It will be the lesser of two evils to have a long list of Corrigenda in each volume than to have our translator's time frittered away in reading and re-reading and re-re-reading proof for a local press. I think this will expedite the completion of the long-talked-of series more than any other practicable version.[15]

1880

Rev Smith was in overall administrative charge of the ACM's Medical Department in Jaffna. Dr C T Mills was in charge of teaching in the medical school and Dr Richard S Adams was in charge of the Dispensary. Dr Daniel W Chapman worked on translation of Waring's

Pharmacopoeia and also looked after the medical needs of the missionaries and was based in Uduvil. He reported that Waring's Pharmacopoeia had been translated up to page 430, out of a total of 502 pages, and the translations have been sent to Dr Green for revision and editing. The Appendix and Index also has to be prepared. The printing of Dalton's Physiology in the Manipay Press was progressing. An Index was being prepared for this book. Rev Smith reports that:

> The need for a medical missionary is as great as ever. I have no doubt that a clever and popular man could be supported with little aid from America, but we seem as far away from having our need supplied.[16]

Dr C T Mills reported that the eleventh batch of fifteen medical students is progressing with their studies. They have completed their studies of Anatomy, Chemistry and Physiology, and have started on Materia Medica and Surgery. They were all examined on 10 September and acquitted themselves well where only memory was required but less so where an intelligent grasp of the subject was required.[17]

In January of this year, the Leitch sisters, Mary and Margaret arrived in Jaffna as ACM missionaries. They were initially posted to the Udupitty Mission and later moved to Manipay and Uduvil and were in Jaffna for seven years. Subsequently, these two ladies carried out a tremendous fund raising effort in England, Scotland and America and were responsible for raising the funds for the expansion of the Manipay Hospital and for the building of the McLeod Hospital for Women and Children in Inuvil and for the staffing of these Hospitals with foreign medical missionaries.

1881

Dr C T Mills continued with the teaching of the medical class. This year they completed Materia Medica and Surgery which they had started on last year. The new subjects that they completed this year were Midwifery, Diseases of Women and Practice of Medicine. They have two more subjects to cover next year to complete their course,[18] they are Diseases of Children and Medical Jurisprudence.

The popularity of Western medicine seems to be increasing.

During the year the Friend-in-Need Society Hospital in Jaffna Town sold twice as much medicine as in the previous year, and so did the Mission Dispensary, as this extract from the Annual Report for 1881 indicates:

> The Dispensary has been working as usual and much more effectively this year owing to the Mission Superintendent residing with us in Manipay. This is seen in the amount of Dispensary receipts for the year (Rs 770). The Dispensary becomes a useful institution in later years, not so much as one giving medical relief but more as an apothecary's shop in aid of the public, especially our graduates in the different villages.[19]

In March, Dr Green sent to Rev Howland in Jaffna a fifteen page layman's medical tract in Tamil titled *The Body* for printing and distribution, and he followed this up in April with a twenty-eight page religious tract titled *The Believing Tradesman*. On 7 December he again wrote to Rev Howland:

> I feel a very great desire to have the Pharmacopoeia of India, now it is translated and revised, printed carefully in an edition of two hundred and fifty copies, and distributed to all the ACM Medical Graduates, and to all the Libraries of the Government, and of Missions in Tamildom, as per the list left by me.....
>
> We have the ACM's Medical Department much on our heart these days. We ask that the Great Medical Missionary shall influence the Brethren to do concerning it what is of Faith – what is judicious. We await the result of your annual meeting for business with much interest, especially on this matter. Even should the mission decide to take no more classes, I should wish the Pharmacopoeia completed and distributed.[20]

1882

The eleventh batch of fifteen medical students, the sixth group to be taught in Tamil, completed their course and graduated. The Minutes of ACM's quarterly meeting of 17 October records that:

> A letter from Government was read giving their decision that their grant for a medical class be reduced to Rs 1000 in 1883 and thereafter discontinued. In consideration of this it was voted to relinquish our attempt to get a Physician from America to be supported here and that no medical class is taken. Dr Mills services be dispensed with from 1 November.[21]

When the Ceylon Government realised that Dr Green was definitely not coming back, they informed the ACM that the government grant would be reduced to half next year and totally terminated after that year. Rev Thomas S Smith recorded this in the ACM's annual report as follows:

> The persistent refusal of the Government to continue its medical grant in aid of Rs 2000 has prevented the formation of a new class and will probably end in the early extinction of the Medical Department. Every effort was made to induce the Government to continue its aid but without success. In connection with correspondence with the Government on this subject, the following statistics were collected which are worth recording in our report.
>
> Of 113 Licentiates sent out from the School, of whom 87 are still living; 44 are or were at death employed on fixed salaries by the Governments of India or Ceylon, or by various Hospitals, Missions etc.; 48 are or were at death in private practice; 11 have given up the practise of the profession at present at least. Many of those on salaries also do private practice.....
>
> It is sad to contemplate the closing of any department of the Mission work but we can remember that our Medical Department has made a good record and the influence of its work will long abide in the land.[22]

With the closure of the Medical School, Jaffna did not have a medical school for almost a hundred years until the University of Jaffna Medical School opened in 1978. Dr Green was thus a century ahead of the times.

1883—1884

In 1884 the Governor of Ceylon, Sir Arthur Gordon visited Jaffna College and the Mission and gave a donation of Rs. 1000 in appreciation of past medical work by the Mission and for re-establishing this department of activity.

Printing of the Tamil translation of Dalton's Physiology was completed in 1883 by the Manipay Mission Press. The printing had taken six years. Printing of the Tamil translation of Waring's Pharmacopoeia of India was with the Manipay Press but was completed only in 1888; this also had taken six years to print. This completed the set of Tamil medical text books that Dr Green had planned. He had already dropped the idea of translating Taylor's Medical Jurisprudence, although a tentative start on this book had been made as far back as 1864. A complete listing of the Tamil publications of Dr Green is given in Appendix VII.

In the winter of 1883 it appeared that Dr Green's health was failing and the end could not be very far away. On 20 December 1883, he wrote to his brother Andrew:

> .....I was lately thinking that our little sphere, in its careering along and about in the universe, never doubles its track: for though it circles about our sun, the sun is in rapid flight around some greater centre. We are borne constantly through new regions, and shall be perhaps untold cycles in return to any former course. And so our own personal microcosm; physical, mental, spiritual; from strength to strength, from glory to glory. Oh how we need the strong grasp of the pierced hand, as in our littleness we toddle forward the interminable journey. Joy, that it is ever stretched out towards us to cherish and to cheer.....[23]

In the spring of 1884 it was clear that the end was in sight. On the morning of 28 May 1884 he called into his room, one by one, his brothers and sisters, children and wife. To each of them he said goodbye with farewell words of tender affection. A few minutes later:

> Serene and composed, he asked to be aided to turn on his side, then shortly turned his face upward; and in a few minutes,

> without a struggle, his loving gentle spirit winged its flight to the bosom of Jesus who was his all; to that city which none can enter "but they which are written in the Lamb's Book of Life".[24]

Thus ended the life of one of the greatest men who lived in Jaffna during the nineteenth century. The entry in the Record Book of the family home in Green Hill for 28 May 1884 starts as follows:

> Our precious and most dearly beloved brother Samuel died at fifteen minutes past twelve o'clock this afternoon.
>
> The day was rainy; the apple blossoms were in their full sheen in the orchards. The trees in their bounteous freshness of their new leafage, and the fields smooth and bright in the luxuriant verdure of their carpeting. The whole landscape seemed animated by the vital forces of the resurrection of Spring; all about was peaceful and still.[25]

The funeral was held two days later on 30 May 1884. He was buried in the family ground at Worcester Rural Cemetery. Rev. Cutler gave the funeral oration and he started by reading a brief extract from his will:[26]

> I wish that my funeral may be conducted as inexpensively as possible as may consist with decency and order. Let the exercises be simply to edification; and of the dead, speak neither blame nor praise. Should I ever have a gravestone, let it be plain and simple, and bear the following inscription: viz.
>
> SAMUEL FISK GREEN
> 1822—1884
> MEDICAL EVANGELIST TO THE TAMILS
> JESUS MY ALL

The following are extracts from eulogies received shortly afterwards from those who had known Dr Green:[27]

From Rev. Henry Martyn Scudder MD, born in Jaffna, the son of John Scudder MD who was in ACM Jaffna from 1820 to 1836: "Dr Samuel F Green was one of the noblest of men. He possessed a clear, keen, cultivated intellect, sparkling with wit. He was large-hearted, sincere, generous, and unselfish. He was an earnest, faithful,

zealous, fearless, Christian. I loved him when living, and shall ever revere his memory".

From Rev. W W Howland, ACM missionary in Jaffna from 1846 – 1892: "Dr Green was eminently skillful as a physician and surgeon, and devoted himself to his profession with much enthusiasm; while thoroughly acquainted with the science and practice of medicine,....he was ever ready and anxious to learn everything new and valuable in theory or practice from any source;... ingenious and courageous, yet with the gentle touch of a woman, some of his operations seemed to the natives most wonderful".

From Rev. Edward Webb, American missionary in South India: "Of his missionary fidelity and self-denying labour, of his literary works in his professional department, of the unusual and very remarkable proficiency he acquired in the Tamil language, of his great success as a teacher and professor in the training of native physicians, there is perhaps no need I should write".

From Frank K Sanders, an American teacher in Jaffna College and son of Rev. M D Sanders ACM missionary in Jaffna from 1852—1871: "His memory is just as strong as ever, and I do not see any chance of its fading out. His plan was to train up doctors from among their own people. **The result is that today the leading doctors all over Ceylon are Dr Green's men".** (Authors emphasis).

From Dr J Waitillingam, Assistant Colonial Surgeon and a member of Dr Green's first batch of medical students: "He had a large heart glowing in sympathy for the world, and self-interest was never found in him.....His success in the surgical operation he performed, first induced me to study medicine, and that too under him".

From Dr Sivapragasam Pillay, of the fifth batch of Dr Green's medical students: "Although English medicine was introduced by others,.....it was reserved for Dr Green by his general skill to produce in the minds of the ignorant a faith in English medicine.....Dr Green's perseverance and zeal may be best seen in the number and character of his graduates, who are at this moment doing immense good in various parts of Ceylon and India".

From Dr Ethernayakam, alias C T Mills, Practitioner and Independent Medical Teacher, of the fifth batch of Dr Green's medical students: "He was very kind to all.....'The Guru Doctor' – the Missionary Doctor – is a household word among all the people.....He is an undisputed authority in Medicine and Surgery among the Tamil people, yea, even among the country doctors. He shall be our illustrious 'Agastier' in future all over the Tamil lands. His translations of Western Medical Works into the Tamil language will secure him this distinction.....

From Dr Kanakadattinam, alias L S Strong, Government Health Officer, of the fifth batch of Dr Green's medical students: " ...Dr Green, whose consecrated life combined with rare talent, accuracy, piety, ability, fidelity and excellent Christian character; who though dead is still in the hearts and lips of thousands in Ceylon and India; and whose medical and scientific works, combining Western theories and eastern practice, are left behind for the benefit of future generations.....When a respectable native gentleman remarked to him that all which could be spared must be spent in English medical education he replied, 'I must have the satisfaction, at the close of my work, of leaving behind this very useful study to the Tamil nation in their own tongue, as an abiding thing, and not in a foreign language which may in the lapse of time depart from the land'.....His work is still incomplete; who will carry it out? Is there not in all America one who can sacrifice his comforts and follow the footsteps of the departed, glorified, sainted doctor of souls and body, whose name is engraved in the hearts of the people?"

From Dr William Paul, Resident Surgeon, Jaffna Friend-in-Need Society Hospital, of the fifth batch of Dr Green's medical students: "His knowledge of the subject was vast, and his explanations clear and lucid.....All colloquial and common phrases and expressions he committed to memory. His free intercourse with the mass of the people enabled him to acquire a thorough knowledge of the colloquial language. As a surgeon he was *par excellence*. He had not the equal in the Island".

From Dr Vaitilingam, alias D W Chapman, Translator and Physician to the American Ceylon Mission, of the fifth batch of Dr Green's medical students: " I was with him for ten years almost every day except Saturdays and Sundays.....The Government appreciated the Doctor's work; in all matters of importance, such as appointments of medical officers and sanitary measures, he was consulted.....Throughout the Island, and even in India, he was considered one of the greatest men who lived in this century.....He was able to talk Tamil very easily and fluently; had the command of words, phrases, idioms and proverbs. The Tamil maxims he was daily using more freely than an ordinary Tamil man can do.....He writes:

May Jesus the Sun of Righteousnesness bless His servant's work, enabling his numerous students to follow the footsteps of their tutor".

Sir William Twynam CCS (Government Agent, Northern Province) wrote: "I venture to say without fear of contradiction that it would have been simply impossible for Mr Dyke (the former GA) or the Government to carry out what has been done in affording medical and surgical relief to the people of the Northern Province and even the Central Province from 1848 to 1890, but for the fact that men educated in the American Mission Medical School were ready to take up work under the Government when it had few men of its own".[28]

Dr B Amirthanayagam Mills summed up Dr Green's contribution as follows: "Most of Dr Green's students manned and pioneered the Government Medical Service when the Government had very few men of its own. They rendered outstanding service and helped the Government to open up a large number of hospitals and dispensaries in the remote parts of the country. They were very much in demand for employment in the Public Service not only in Ceylon, but even in India and Malaya".[29]

The Missionary Herald, the official journal of the American Board in Boston, recorded his passing away as follows:

Deaths. May 28. At Worcester, Mass., Samuel Fisk Green MD, a missionary physician connected with the Ceylon Mission from

> 1847 to 1873. After these years of faithful service at Jaffna, Dr Green was compelled by reasons of health to return to the United States, but he continued the preparation of medical works in the Tamil language. Several medical volumes were thus prepared by him, covering in all between three and four thousand printed pages, and these are now used as textbooks in Ceylon and India. Dr Green's name stands a household word among the people of the Island to whose interest he devoted his life. There is recorded no more marked example of the useful result of a life of self-denying devotion to the most elevated work.[30]

The official ABCFM obituary of Dr Green reproduced above does not even mention that he started the first western medical school in Ceylon, which led to the training of 113 Medical Practitioners. Why is it that this man did not receive the recognition that he deserved, neither in American nor in Ceylon? In Ceylon we only have his name enshrined in the name of the Manipay Hospital as the Green Memorial Hospital and the Rs2.50 postage stamp with his picture issued by the Government in 1998 to commemorate the 150th anniversary of the founding of the Manipay Hospital by Dr Green, a Hospital that is older than even the General Hospital in Colombo. Ambihaipahar offers this explanation for this lack of recognition of Dr Green in the Epilogue of his book:[31]

> But why didn't our society give due recognition to his work, as they did to the works of other dedicated missionaries?
>
> Missionaries of the calibre of Dr G U Pope, Fr. Beschi (Veeramaa Munivar), Rev. Miron Winslow, Rev. Peter Percival and other such great men have been acknowledged for their contributions to the development of the Tamil language in the pages of history. Why didn't the Tamils equate Dr Green's work with these?
>
> The answer is simple: The then Tamil society understood the significance of the contributions of those scholars. Their contributions were in the field of language development, Tamil

grammar, translation of Thirukural and Thiruvaasagam, lexicography and the like. The ambit was confined to language and literature.

In contrast, Dr Green dealt with an alien discipline, which was totally new to the society. Science in general and western medical science in particular, was new to the Tamils and the then society did not really understand the nature of his contribution.

Now that we understand what Dr Green laboured for at a time when our society was unaware of the developments of the west, we have a responsibility – a sacred responsibility to honour Dr Samuel Fisk Green and re-trace his trails. We should admire his vision and his mission.

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Chapter 9
The closing years of the Nineteenth century (1885—1899)

1885—1888

These were quiet years as far as the activities of the medical section of the Mission were concerned. Dr Adams ran the Manipay Dispensary and Dr Daniel Chapman was based in Uduvil and looked after the medical needs of the American missionaries.

The sisters Mary and Margaret Leitch who were American Ceylon Mission (ACM) Missionaries in Jaffna since 1880 left in 1886 on an extended furlough in England, Scotland and America where they were to actively raise funds for Jaffna College, Manipay Hospital and for a proposed Women's Hospital. For Jaffna College, their target was to raise 30,000 Pounds Sterling. Of this amount, 28,100 Pounds Sterling were proposed to be placed in fixed deposits and the interest used to fund the salaries of foreign and native Professors (including a Professor of Medicine) and sixty permanent scholarships for students. The balance sum of 1900 Pounds Sterling was proposed to be used for new buildings and improvements to Jaffna College.[1] In 1886 they raised the sum of 2395 Pounds Sterling in Scotland, most of which would be used for Bursaries for students. Mr William Walker of the firm of John Walker and Co. Ltd. also visited Jaffna College and donated Rs1000 towards the endowment of a Chair of Medicine.[2]

In November 1888, Rev. E P Hastings, the Principal of Jaffna College wrote to the American Board of Commissioners for Foreign Missions (ABCFM) in Boston that although the Misses Leitch have raised some funds, nothing has been done in Jaffna College about starting medical teaching.[3]

1889

In February 1889, Rev. Hastings again wrote a long letter[4] to the ABCFM and said that it appears that the Misses Leitch have selected Dr John Henry Marston MRCS, LRCP, from London to take charge of

the General Medical Mission in Jaffna and we have to put up with it though it would have been preferable to have someone from America. He also said that the Board of Directors of Jaffna College (which included W C Twynam the Government Agent, Northern Province) at their annual meeting in June 1888, resolved that: as the Leitches have raised funds in the UK for a Medical Department, the Board accepts the proposition with thanks; if funds are sufficient a Medical Department be started by the College; the Medical Department be located in Manipay; and that Dr Marston be appointed.

Privately, however Rev. Hastings did not display much enthusiasm for the creation of a Medical Department in Jaffna College and said that if such a Department is to be created it would be best that it should be separate from the Jaffna College particularly as it would have to be in Manipay where the Hospital was located. In a letter dated 4 March 1889 to the ABCFM, Rev. Hastings said that Dr and Mrs Marston are now in India and are expected here shortly, and that Dr Marston has asked for a salary of 300 Pounds Sterling per annum plus 25 Pounds Sterling per annum towards his life insurance premium and that this total was 75 Pounds Sterling more than the payment that was proposed, and that the Directors of Jaffna College had declined to agree until they had the funds in their possession. (For comparison the salary paid to Dr Daniel Chapman was about 40 Pounds Sterling per annum but he may have been employed on a part-time basis).

The Manipay Dispensary continued to function, but reported that turnover was down due to another of Dr Green's ex-students opening up a Dispensary nearby.

1890—1892

Early in 1890 Dr and Mrs Marston arrived in Jaffna. The Manipay Mission Dispensary was handed over to Dr Marston with Rs 500 worth of medicines and Dr Daniel Chapman placed in charge of it. Although he was a competent Surgeon and Physician, from the beginning Dr Marston expressed dissatisfaction with what he found and he also refused to teach medicine. He refused to do any work in the Friend-in-Need Society Hospital in Jaffna Town unless unless he had full control of that Hospital, which was not acceptable to the Society. He wanted the three Christian Missions in Jaffna,

namely the ACM, the Church of England Mission and the Wesleyan Mission to jointly assume support for him, which they were not prepared to do. He therefore continued working on a monthly basis being paid twenty-five Pounds Sterling a month and retaining all consultancy fees from private patients. Meanwhile he made plans to return to England which he did after a few months. There was a lot of animosity on this subject between the local population, the Misses Leitch and the ACM.[5]

In 1890 the Misses Leitch, who were still fund raising in UK and America released their 173 page book titled *Seven Years in Ceylon : Stories of Missionary Life*. The book had one Chapter on Jaffna College pp. 129 to 154, and one Chapter on the Medical Mission Agency pp. 155 to 167. In this book they state that they had by May 1890 raised for Jaffna College and the General Medical Mission in North Ceylon a total of 17,000 Pounds Sterling out of their target of 30,000 Pounds Sterling and that they would continue their fund raising until the target was reached.[6] The Clinton Courier newspaper of New York reported in their 17 September 1890 edition that Mary and Margaret Leitch had raised the (colossal) sum of $US85,000 in England and Scotland for missionary work in North Ceylon and were hoping to raise a further $US75,000 dollars in America.

The Morning Star newspaper of Jaffna in their edition of 4 October 1890 reported that the Misses Leitch have severed their connection with the ACM and will continue to work in Jaffna when they return, but with the Zenana Mission of the Church of Scotland. Zenana is a word used in India to denote the part of a house demarcated for women and girls, and women missionaries used to work with them in sewing and language classes. The Misses Leitch had also offered to buy ACM's Manipay and Pandatheruppu household properties for 600 Spanish dollars and the newspaper suggested that:

> The American Board would do well to accept their offer, or even to part with those two stations gratis for such a good cause and to such zealous workers as the Misses Leitch. They are ladies with large independent means, and their operations will be productive of greater benefits than those of all the paid missionaries put together, to the Jaffnese who are not very

> charitable in assigning motives, finding out causes and effects and construing words and actions. This reason apart, the Misses Leitch have left a very high impression in the minds of all the Jaffnese, and have already shown what stuff they are made of.[7]

Strong words from a newspaper run by the ACM itself. As things turned out, the newspaper report was not fully correct. The Misses Leitch returned only in 1893 and initially worked for the ACM. They were posted to Chavakachcheri and with their usual enthusiasm set about renovating the Mission building. However, things did not work out well between them and the ACM, possibly due to the previous reluctance of Rev. E P Hastings and subsequent reluctance of his son, Rev. Richard C Hastings, to have a Medical Department in Jaffna College. The Misses Leitch then resigned their posts and proceeded to Colombo.

On 30 May 1892, the ACM wrote to the ABCFM that they had been informed by the Government Agent, Mr W C Twynam that he had received a letter from the Colonial Secretary which stated inter alia that:

> In reply I am to state that as the American Mission has so often disappointed the Government in this matter, it has been thought best to withdraw the old offer made in 1884 of a subsidy to one of their officers for certain services to be rendered to the Government. I am to request you to notify Revd. Mr Howland with reference to his letter to the Governor of 29 March 1890, that the offer made by my letter of 3rd November 1884 is now withdrawn.[8]

It was presumed that the 'disappointment' referred to was the refusal of Dr Marston to work in the Friend-in-Need Society Hospital in Jaffna Town which was sponsored by the Government, and which shortly afterwards became the Jaffna General Hospital.

1893

This year was the turning point in the medical activities of the ACM, after twenty years of low key activity since Dr Green departed from Jaffna. From this year onwards there was a rapid expansion of medical services provided by the ACM. In June the Misses Leitch returned to Jaffna and brought with them the Canadians, Dr and Mrs Scott. Rev.

Thomas B Scott MD had qualifications in Arts, Theology and Medicine, and his wife Mary E Scott MD was a trained Teacher, Nurse and Doctor. They had qualified in Medicine at Queens University in Kingston, Ontario. At the age of 14 Mary had signed a pledge:

> *"Before God I this night pledge myself to the missionary work and I pray that I may be guided and helped in this work of winning souls to Christ. Mary Macallum. Aug. 24, 1879".*
>
> Six years later as a medical student she renewed the pledge in the following words: *"Almost six years ago the enclosed (above) was written.....No mortal knows of its existence, and yet in this strange city, away from home and friends, I today repeat it.....Mary Macallum, Feb 1, 1885."*
>
> When Mrs Scott arrived in Jaffna she was the first lady Doctor in this part of the world.[9]

The Scotts were overwhelmed by the flood of patients at Manipay, particularly by female patients when they realised that a lady Doctor was now available for the first time. Within the first two and a half months since their arrival they treated over 700 patients.[10] Realising that a good knowledge of spoken Tamil was essential for their work, they took a few months leave to learn Tamil and proceeded to the Palany Hills in South India, taking a language tutor with them. The Scotts continued to do good work in Manipay for the next twenty years.

1894—1895

The Scotts returned to Manipay from Palany in June 1894. They immediately set about re-organising the Manipay Hospital and Dispensary. Dr C T Mills, of the fifth batch of Dr Green's students and who had taken over the responsibility of teaching the batch of medical students who were half-way through the course when Dr Green left Jaffna and taught two subsequent batches of medical students, was recruited to the staff of the Hospital. In the last six months of 1894, a total of 1198 patients were treated, including 64 in-patients. A number of surgical operations were performed including several cataract operations. The total income from the sale of medicines and consulting

fees was Rs1879 and the Dispensary was almost self-supporting. Genuinely destitute patients, being about 25% of the total, were not charged fees for consultation or medicine.

The ACM was now awash with funds raised by the Misses Leitch and started a programme of erection of new buildings and renovations at Manipay Hospital, Jaffna College and Uduvil Girls School. Several teaching positions and student scholarships were endowed in Jaffna College. By the end of 1898 the total funds raised by the Misses Leitch for projects in Jaffna included: $US67,587 for Jaffna College, $US26,893 for the Women's Medical Mission (i.e. McLeod Hospital), $US24,496 for the General Medical Mission (i.e. Manipay Hospital), $US5000 for Udupitty Girls Boarding School and $US4400 for the Uduvil Girls Boarding School.[11] Helen Root says of the expansion:

> This was authorized by the Mission but the plans soon outgrew the expectations of the Jaffna missionaries who were embarrassed by the receipt of larger funds than they saw how to expend wisely at that stage of the work. An extensive scholarship scheme was established at this time and permanently endowed.[12]

It must be a matter for everlasting regret that this opportunity was not taken to establish a Medical Faculty at Jaffna College, when funds were available. This was due to the opposition from the Rev. Hastings (father and son) probably due to a personality clash with the Misses Leitch. If a Medical faculty had been started it may well have reached the world class stature of the Christian Medical College and Hospital in Vellore, South India started a few years later by the Scudder family of missionaries, direct descendants of Dr John Scudder who initially worked for the ACM in Jaffna.

1896

During the year the work of the Manipay Hospital and Dispensary continued to expand. The Scotts were away for three months for a holiday in the hills. Medicines and consultations were charged for except from the very poor who were treated free of charge. A twenty-five cent ticket was required for admission to the Dispensary and this

ticket was valid for three months. However this fee was refunded if the patient was not cured. It is a pity that this policy is not current for medical treatment nowadays! Medicines were supplied at cost plus a small amount to go towards the salary of the Dispenser and Compounder. For surgical operations the fee ranged from twenty-five cents to twenty-five rupees depending on the means of the patient. Private patients or home visits were charged at the rate of five rupees and transport had to be provided or charged for as extra if not provided. In-patients had to pay a few cents a week to cover the costs of cleaning the premises. A maximum of twelve in-patients could be accommodated at a time, but additional rooms were being built. Relations provided food for the patients. These charges covered about three-quarters of the running costs including salaries of local staff. The total income from fees and medicines for the year was Rs4584 and the total expenditure was Rs5992. The salaries of Drs Scott ($US648 each p.a.) were met by the ACM. In general, the charges for medicines and consultations were less than that charged by native physicians.

The total number of patients treated during the year was 1249, with the number of male and female patients being almost equal. Of these patients, 135 were in-patients. A total of 160 operations were carried out during the year. The most common diseases treated were Dyspepsia, Malaria, Scabies, Phthsis, Rheumatism and Bronchitis. There were a total of 217 Gynaecological cases.[13]

1897

Mary Irwin MD, a Caucasian educated in medicine at the Toronto Medical College for Women, Canada, a single lady, arrived in January to take up duties as a lady Doctor. In June it became known to the ACM that she was not a single lady but had secretly married in America, Mr S C K Rutnam, a Jaffna Tamil whose father was a native ACM Pastor in Tellipallai. Mr Rutnam was a graduate of Calcutta University and he had then proceeded to Princeton University, USA where he obtained a MA in Philosophy. The couple had met in New York when the ABCFM arranged for Tamil tuition for Mary Irwin by Rutnam. The ACM Committee unanimously deemed the situation 'irregular and scandalous', implying that she had obtained the post under false

pretences and she was asked to resign and return to America or to ask her husband to come to Ceylon and take charge of his wife.[14] She was also asked to refund the money expended by the ACM on her passage and outfit allowance. Her husband returned a few months later and she resigned and went to Colombo. She initially worked for the Government in Colombo but was later in private practice. She was the first woman Obstetrician and Gynaecologist in Colombo. She was involved in several pioneering Women's groups such as the Ceylon Women's Union, Tamil Women's Union, Lanka Mahila Samithi etc. She campaigned for maternal healthcare, childcare etc., and her school texts on healthcare and hygiene were widely used.[15] She was elected the first Woman Member of the Colombo Municipal Council. In 1958 she was awarded the Ramon Magsaysay (International) Award for Public Service. Jaffna's loss was Colombo's gain.

Also in January, Dr Isabella H Curr, LRCPS, from Scotland joined the ACM as a lady Doctor. She had been selected by the Misses Leitch. Dr Curr continued to work in Manipay and Inuvil for nearly forty years. In the Manipay Hospital and Dispensary, during the year 831 male patients and 942 female patients were treated, making a total of 1773 patients. This was a staggering 42% increase over the previous year and was an indication of the growing popularity of this institution.

Meanwhile, the Misses Leitch were hard at work. The Zenana Mission of England working on behalf of all the Christian Missions in Jaffna had purchased ten acres of land in Inuvil, about a mile from Uduvil. Construction work had already started and building work was in progress for a Hospital for Women and Children. The buildings under construction included a Lying-in-Hospital, Medical and Surgical Wards, a Home for Training of Nurses, a home for Lady Doctors etc.

In the neighbouring island of Karativu, Dr Visuvanather, a former student of Dr Green had collected funds, including his own contribution and some money sent by Dr Green's brother in America, and built a small hospital and dispensary and named it the Green Memorial Hospital, Karativu. The opening ceremony was on 12 January 1897 and it was opened in the presence of Sir William Twynam, the Government Agent, who had known Dr Green personally and his speech was described as follows:

> Sir William Twynam spoke of the character of Dr Green in his professional and in his home life. He regarded him as a man most honourable in all his dealings with others and most earnest in his desire to speak of the Truth, which he had come to make known. Though not physically strong, he had accomplished a great deal for the welfare of the people of Jaffna by his work of training men in medicine to care for the needs of their own people. The building erected in his honour was a most fitting memorial and one most in accord with his own desire for the people as it was his wish to see small hospitals placed within the reach of all the people.[16]

Many speeches were made by Dr Green's ex-students and those who had known him. The ACM realised that the present status of the medical work of the mission was because of the vision of Dr Green and decided as a fitting tribute that the Manipay Hospital and Dispensary should also be re-named the "Green Memorial Hospital".

1898

The Manipay Hospital and Dispensary continued to be very popular and during the year the number of out-patients treated increased to 1901. The Dispensary was almost self-supporting and was able to recover 81% of the costs, including local staff salaries, from fees and charges. There was also a big increase in the number of operations, a total of 328 were carried out during the year, in which anaesthesia was used 88 times without any untoward incident. Cocaine was also used as a local anaesthetic 42 times.

New buildings were opened on 6 August. These included twenty additional patient rooms, a Maternity Ward and two smaller wards. As a result of the increased accommodation being available, there was a big increase in the number of in-patients. During the year there were a total of 552 in-patients, compared with only 135 in-patients two years previously.[17]

In Inuvil, the construction of a spacious new Hospital for Women and Children was completed by the Zenana Mission of England on behalf of the Christian Missions in Jaffna using funds raised by the Misses Leitch.

On completion of the building work, the whole premises was gifted to the ACM, the Zenana Mission relinquishing all claims, a magnificent gift.[18] The buildings included a Medical Ward, Maternity Ward, Surgical Ward, Dispensary, Doctor's rooms and a Nurses Home. It was named McLeod Hospital after the biggest donor, Rev. and Mrs John Mcleod who donated $US10,000 through the Misses Leitch. Three other major donors gave a total of $US5500. The total cost of the building work was Rs64,000. The formal opening was on 24 September 1898.

The Physician in charge was Dr Isabella Curr and she was assisted by Miss Hettie Keyt who had completed the course at the Colombo Medical College, but had not yet completed the final examination. A Nurses Training School was also started here and also in Manipay Hospital, these were the first in Ceylon. The Nurses under training were Anna McLelland, Anna K Muthupilly, Lizzie S Annamuttoo and Susan T Howland. In the three months between the opening and the end of the year a total of 426 patients were seen, of whom 133 were in-patients. 28 Operations with chloroform were performed.[19]

1899

Since this was the first full year of operation of the Inuvil Hospital, there has been a substantial increase in the total number of patients seen. The total number of out-patients seen this year in the three Hospitals, Manipay, Inuvil and Karativu were 4569, compared with 2710 out-patients seen last year. The total number of in-patients treated in the three Hospitals this year was 1615 compared with 685 in the previous year. The total expenditure in the three Hospitals this year, excluding foreign staff salaries, was Rs12,810 and the total income was Rs11,590. A total of 451 operations were carried out in the three Hospitals, of which 90 operations were with chloroform.[20]

In Manipay Hospital there were 2135 out-patients, 785 in-patients and 276 operations were performed, of which 43 were with chloroform. Of the first two nurses who were in training, one has completed her training course and will take up her appointment in the Hospital. After the initial prejudice was overcome, there is now no shortage of applicants for the Nurse's training course. Nursing was now recognized as a vocation for women in Jaffna. At McLeod Hospital, Inuvil, there

were 1789 out-patients, 785 in-patients and 175 operations were performed, of which 47 were with chloroform. The Nurse's training class increased in size to seven Nurses. Towards the end of the year Miss Annie Young MD, a graduate of the Women's Medical College, Philadelphia joined the staff and relieved some of the heavy load on Dr Isabella Curr.

As we come to the end of the nineteenth century and the end of the scope of this book, full credit for the popularity of western medicine in Jaffna was given to Dr Green in the Annual Medical Report for 1899 of the American Ceylon Mission which said:

> *"Other men laboured and ye are entered into their labours"*
>
> If there is one truth more than any other indelibly impressed on our minds it is the above. As our work goes forward in ever increasing proportions and with continued encouragement we are constantly brought face to face with the facts that but for the work done by our predecessors we would have little to show. The self-support we have been able to attain is due to the work of the late Dr Green who trained young men to practise this art of healing with the scientific remedies and methods of the west. A desire for such treatment needed not to be created by us but was found waiting our arrival. Without this we could not have required payment for medicine and attendance as we have done.[21]

POSTSCRIPT

The twentieth century saw the continuing growth of the Mission's Hospitals. Dr Annie Young left in 1904, and the Drs Scott returned home in 1913, but Dr Isabella Curr continued for many more years. Dr S G C Mills, a son of Dr C T Mills, filled in the breach until Dr M O Chacko from Kerala joined in 1921. In 1923 Dr William J Jameson joined Manipay Hospital and another spurt of expansion followed. He secured grants and donations and purchased equipment, including an X-Ray machine and sent local staff for training abroad. He left in 1938.

After World War II, Dr E T Buell took over and added a state of the art operating theatre and a pathological laboratory. In 1950 Manipay celebrated its centenary year with the opening of the Centenary Block. In 1949 the Hospital treated 22,000 out-patients, 5600 in-patients, 5700 confinements and carried out 800 operations.[22] The middle of the twentieth century was the heyday of the two hospitals. When the conflict era started in Jaffna there was a decline in the hospitals as staff left. Manipay Hospital suffered collateral damage from shelling and was badly damaged, and came to a virtual standstill. The UNHCR used the buildings, but only for storage of items. In 2004, Global Ministries provided some funding and repairs and renovation was carried and a few staff appointed. Doctors worked for limited periods and out-patients were treated and mobile clinics also functioned. At the time of writing, Manipay has again started having in-patients and has ten beds, and Inuvil has a small out-patients section. As the conflict era is over, it is hoped that this great historic hospital complex founded 161 years ago and which could at one time handle 400 in-patients, will be restored to its former glory.

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2. *Papers of the American Board of Commissioners for Foreign Missions, Ceylon Mission, ABC 16.1.5*, Vol. 10, Annual Report for 1887, p. 42, Houghton Library, Harvard University.
3. Ibid, p. 159.
4. Ibid, p. 162.
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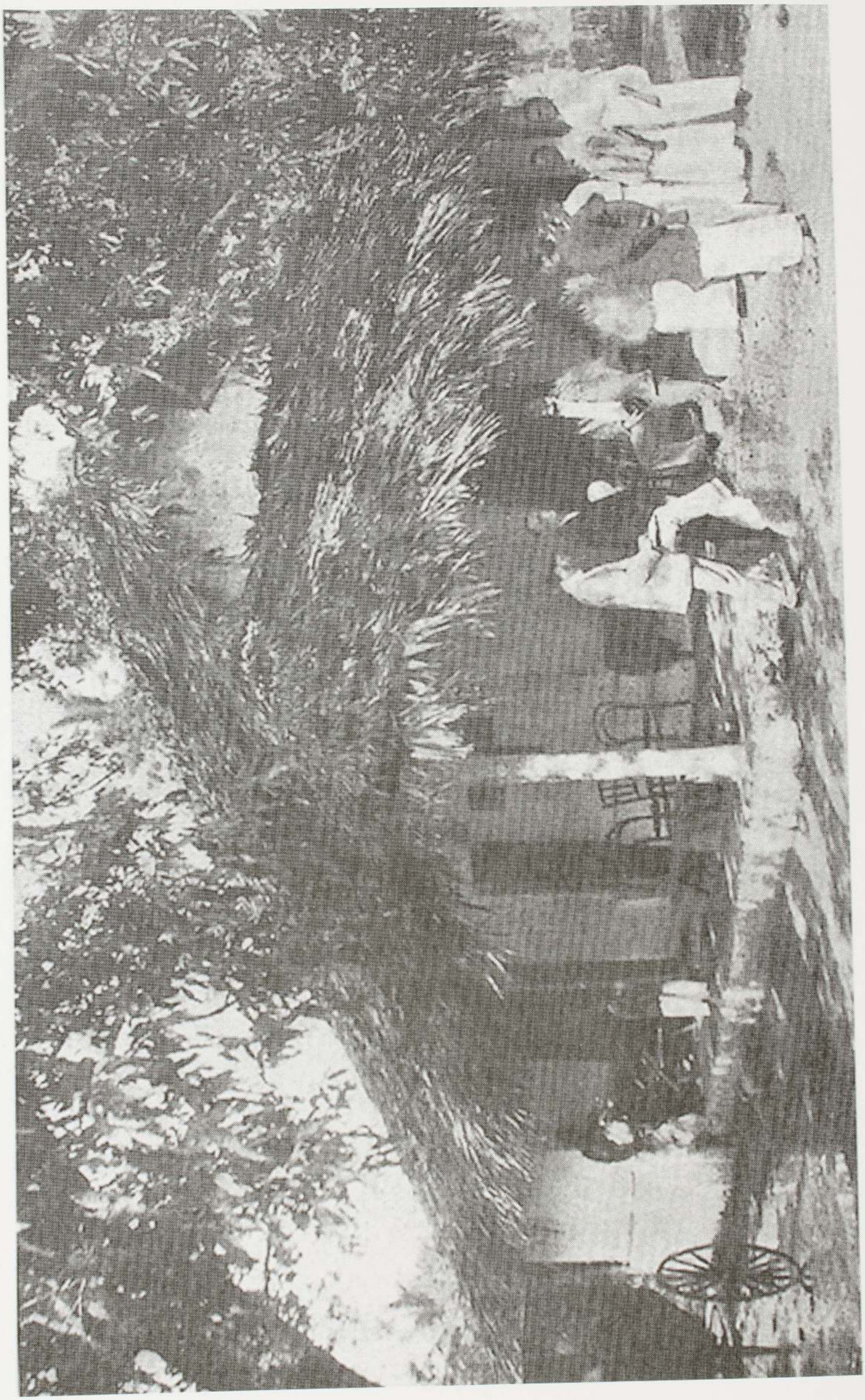
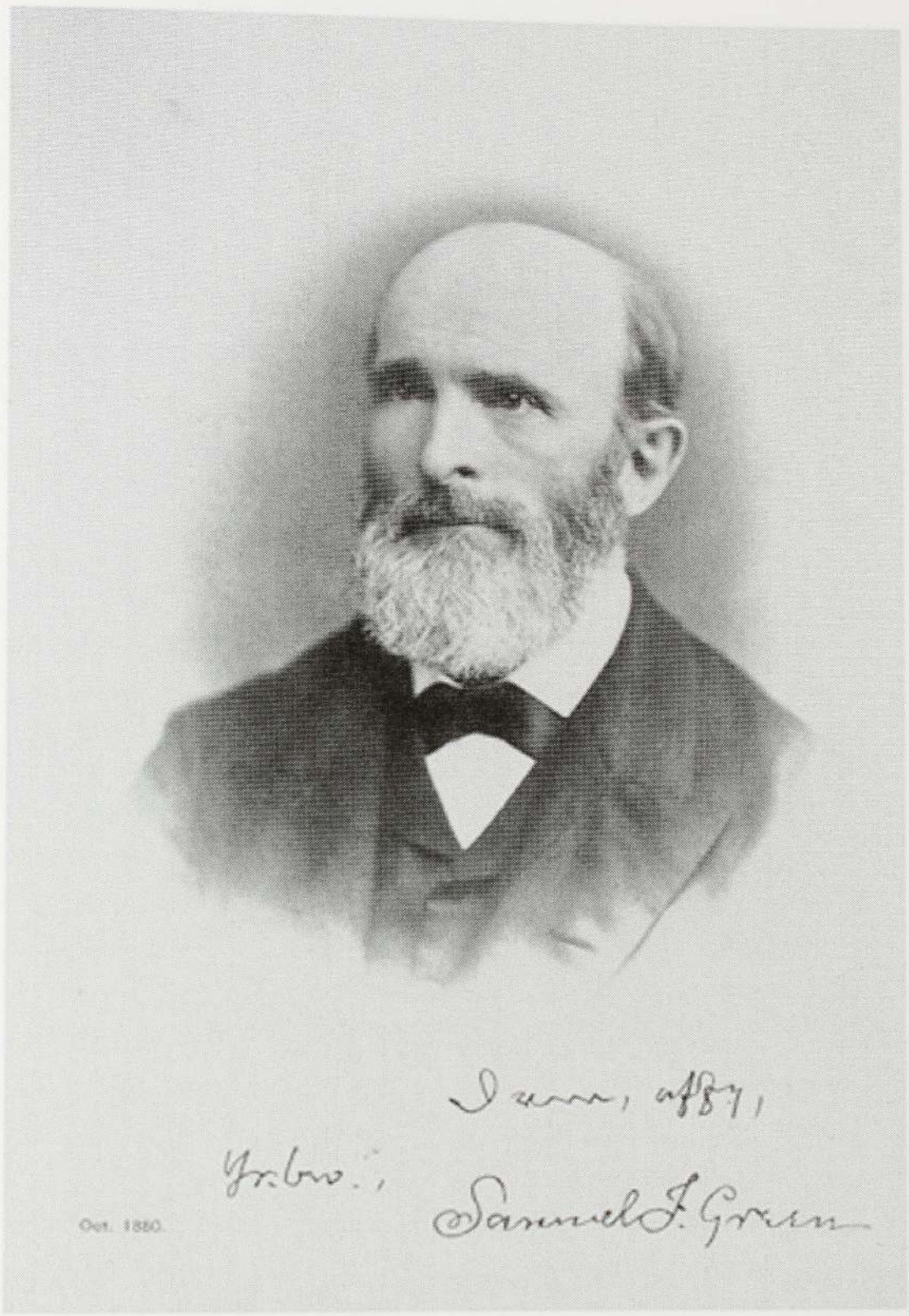
16. Report of the Medical Dept., pp. 11–12.
17. Papers of the ABCFM, Vol. 12, Annual Report for 1898, p. 12.
18. Helen I Root, p. 60.
19. Papers of the ABCFM, Vol. 12, Annual Report for 1898, p. 13.
20. Ibid, Annual Report for 1899, p. 15.
21. Ibid. p. 14.
22. J P Thurairatnam.

Illustrations

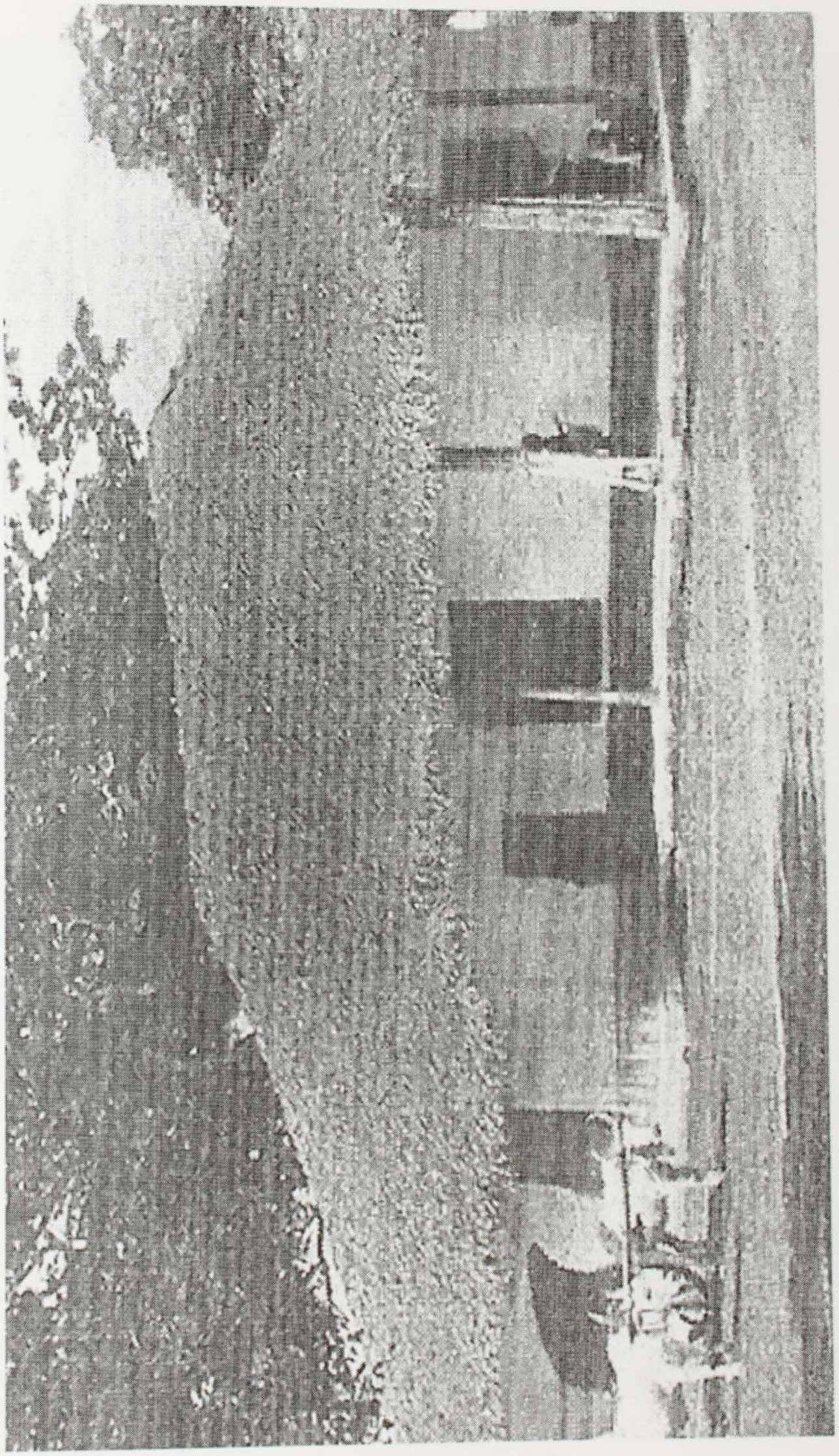


Dr Scudder's Dispensary. Note the Bandy (Horse carriage) on extreme left, brought from America

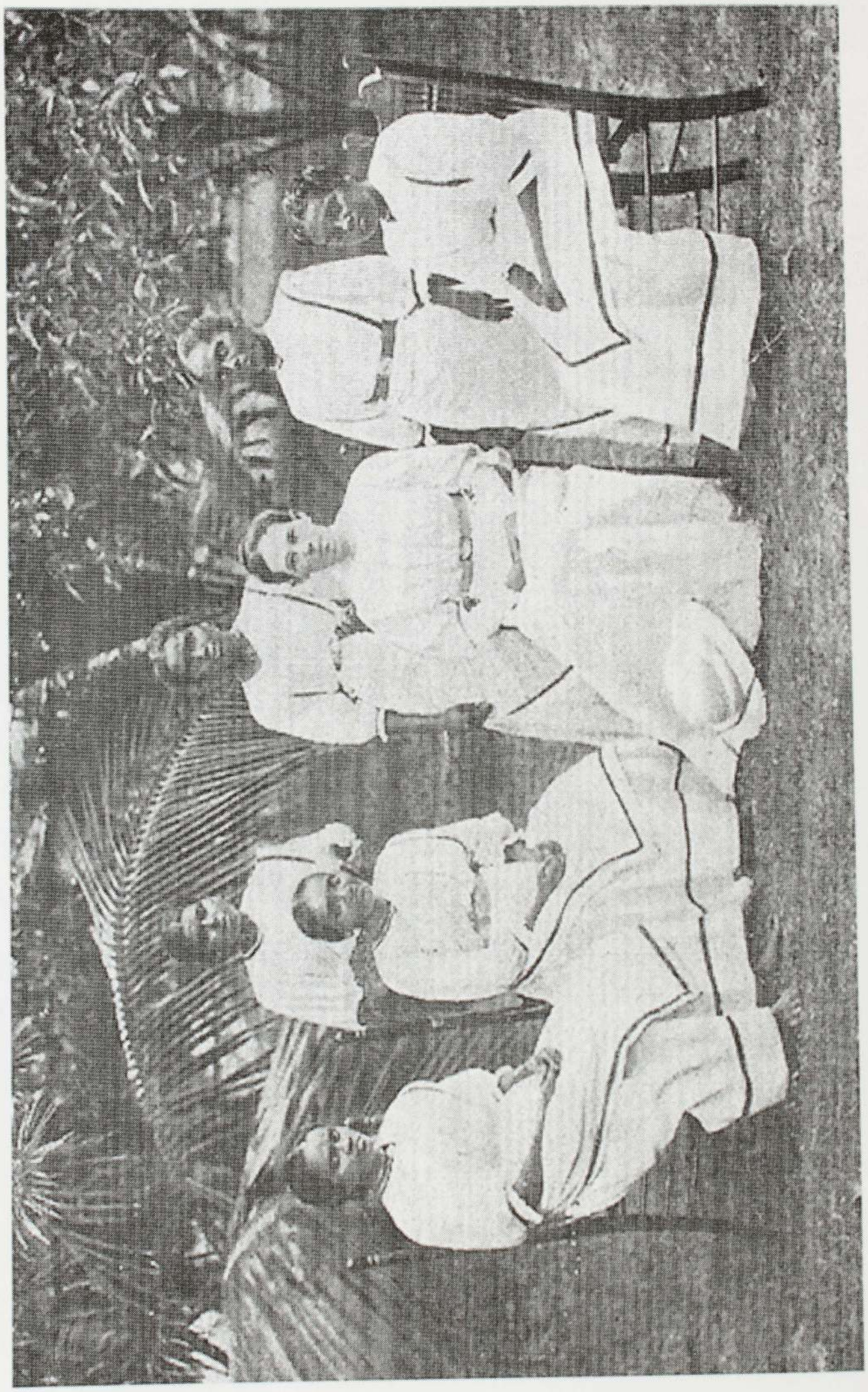


Samuel Fisk Green M.D.

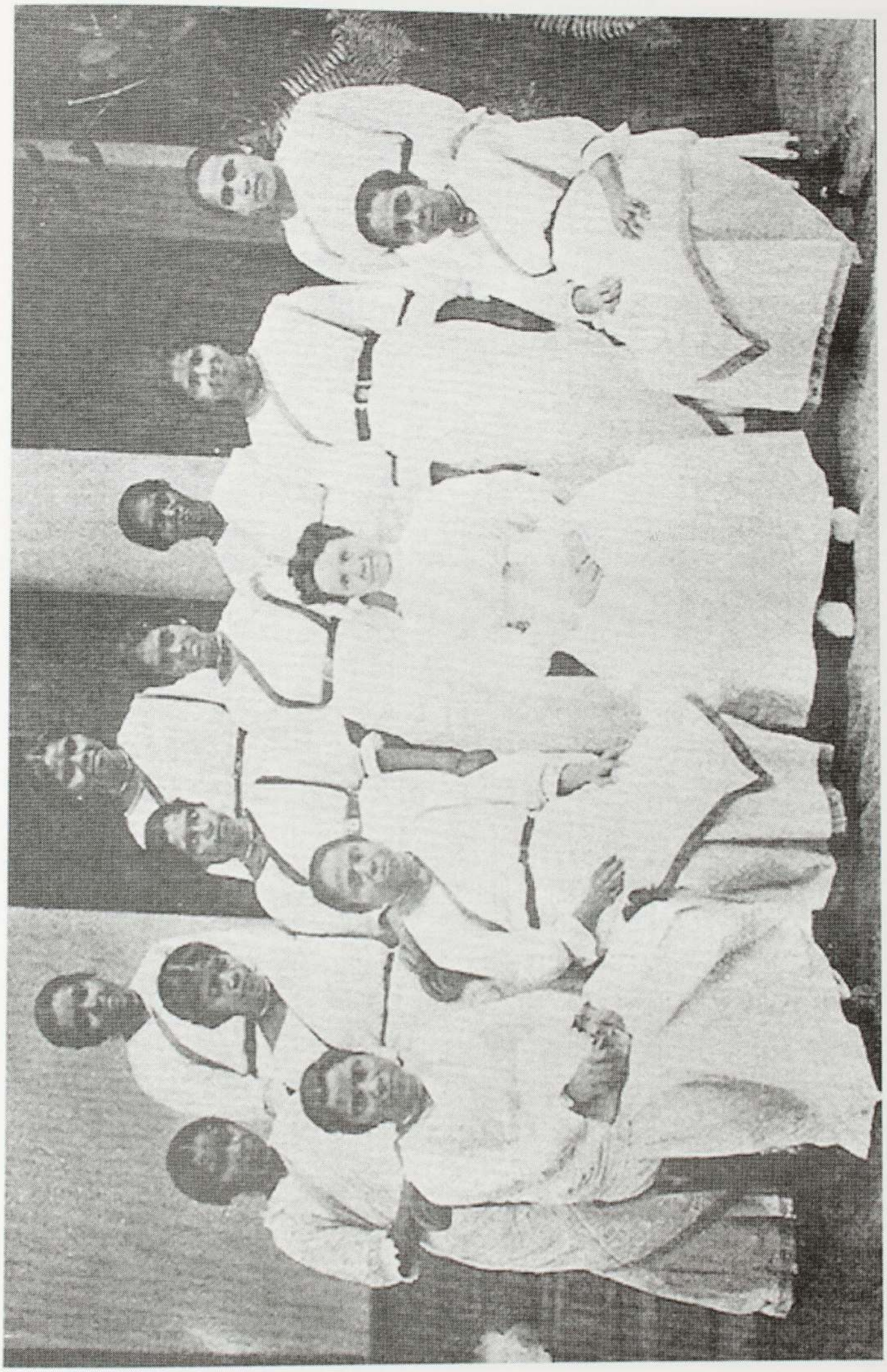
Some of Dr Green's students, from left to right: S. Miller, N. Parker, J.H. Town C. Mead, Joshua Danforth and A.C. Hall, all from the second batch of 1850—1853, except Joshua Danforth who was from the first batch of 1848—1850



Dr Green's Hospital and Dispensary, Manipay

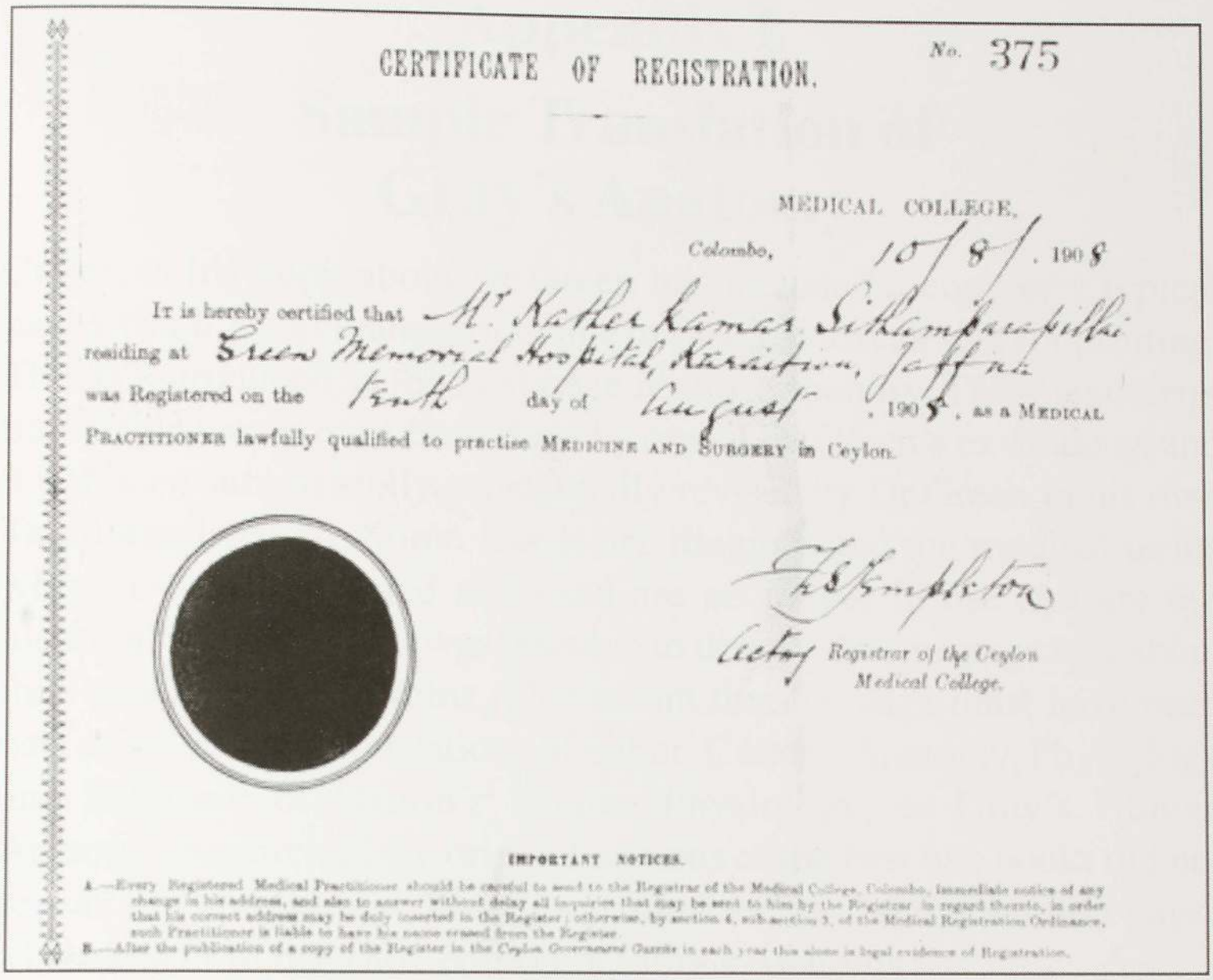


Mary M E Scott M.D. (the first lady doctor in Ceylon) with Nurses, Manipay



Dr Isabella Curr LRCPS with Nurses, McLeod Hospital, Inuvil

Green Memorial Hospital staff, Manipay, 1905



CERTIFICATE OF REGISTRATION. No. 375

MEDICAL COLLEGE,

Colombo, 10/8/ 1908

It is hereby certified that Mr Katherkamar Sithamparapillai residing at Green Memorial Hospital, Karaitivu, Jaffna was Registered on the Tenth day of August 1908, as a Medical Practitioner lawfully qualified to practise Medicine and Surgery in Ceylon.

Acting Registrar of the Ceylon Medical College.

IMPORTANT NOTICES.

A.—Every Registered Medical Practitioner should be careful to send to the Registrar of the Medical College, Colombo, immediate notice of any change in his address, and also to answer without delay all inquiries that may be sent to him by the Registrar in regard thereto, in order that his correct address may be duly inserted in the Register; otherwise, by section 4, sub-section 3, of the Medical Registration Ordinance, such Practitioner is liable to have his name erased from the Register.

B.—After the publication of a copy of the Register in the *Ceylon Government Gazette* in each year this alone is legal evidence of Registration.

The above is a Certificate of Registration as a Medical Practitioner of Katherkamar Sithamparapillai, signed by the Registrar of the Ceylon Medical College and dated 10 August 1908. The Medical Registration Ordinance was passed in 1905 and after that registration was required to practise as a Medical Practitioner. Sithamparapillai was trained in the American Ceylon Mission Medical School in Manipay and was working in the Green Memorial Hospital, Karativu, Jaffna. This Hospital was built by one of Dr Green's ex-students in 1897 and part of the cost was met by Dr Green's brother in America. There is no trace of this Hospital today.

(Courtesy Sinnathamby Kula Singam MBE, Malaysia, 1980)

Appendix I
Sample Translation of Gray's Anatomy

Cutler, in his book about Dr Green has included a copy of a typical handwritten Tamil manuscript page of medical text as sent for printing. This is reproduced as the next page in this Appendix. This manuscript translation would have been done by one of Dr Green's ex-students and it has been subsequently substantially revised by Dr Green in his own Tamil handwriting. Some words are illegible and the medical terms which Dr Green coined and used are no longer in use and are not identifiable. However it was possible to deduce that the page was about the Portal System of Veins. This meant that the page must have been part of Dr Green's translations of either: Cutter's Anatomy, Physiology and Hygiene; or Dalton's Human Physiology; or Gray's Human Anatomy. A search of the original editions of the first two books did not reveal any similar text, but almost identical text was found on pages 477 and 478 in the 1862 edition of Gray's Anatomy.

A search was then made through Dr Green's Tamil book on Human Anatomy and a description of the Portal System of Veins was found in pages 424 to 426. However the illustration in Dr Green's book was quite different from the illustration in Gray's Anatomy. It was noticed from the Preface of Dr Green's book that he had stated that he had also used source material from "Wilson's Vade Mecum and Smith and Horner's Atlas". A search of Wilson's *Vade Mecum* and H H Smith and W E Horner's *Anatomical Atlas, illustrative of the structure of the Human Body,* 1847, revealed on page 410 of Wilson the identical illustration used by Dr Green. In other words, Dr Green had used the text from Gray pages 477/8 and the illustrations from Wilson page 410. It is likely that since Gray's book had already become famous, Gray's Publishers would have asked a high price for use of their wood-cuts for illustrations and Dr Green may have used cheaper wood-cuts from Wilson's Publishers. This confirms that the manuscript page in Cutler is from the Tamil medical text *Manushavangaathipatham* or *Human*

Anatomy translated by Dr Daniel W Chapman from the fifth batch of Dr Green's medical students, and the translation supervised and edited by Dr S F Green and published in 1872. Dr Green uses the Tamil word 'Naalam' for 'Vein'. The pages in Appendix I are in the following order:

Page 159:

(1) Tamil handwritten manuscript page reproduced from Cutler, Ebenezer, 1891, *Life and Letters of Samuel Fisk Green MD of Green Hill,* USA, between pages 412 and 413.

Pages 160, 161:

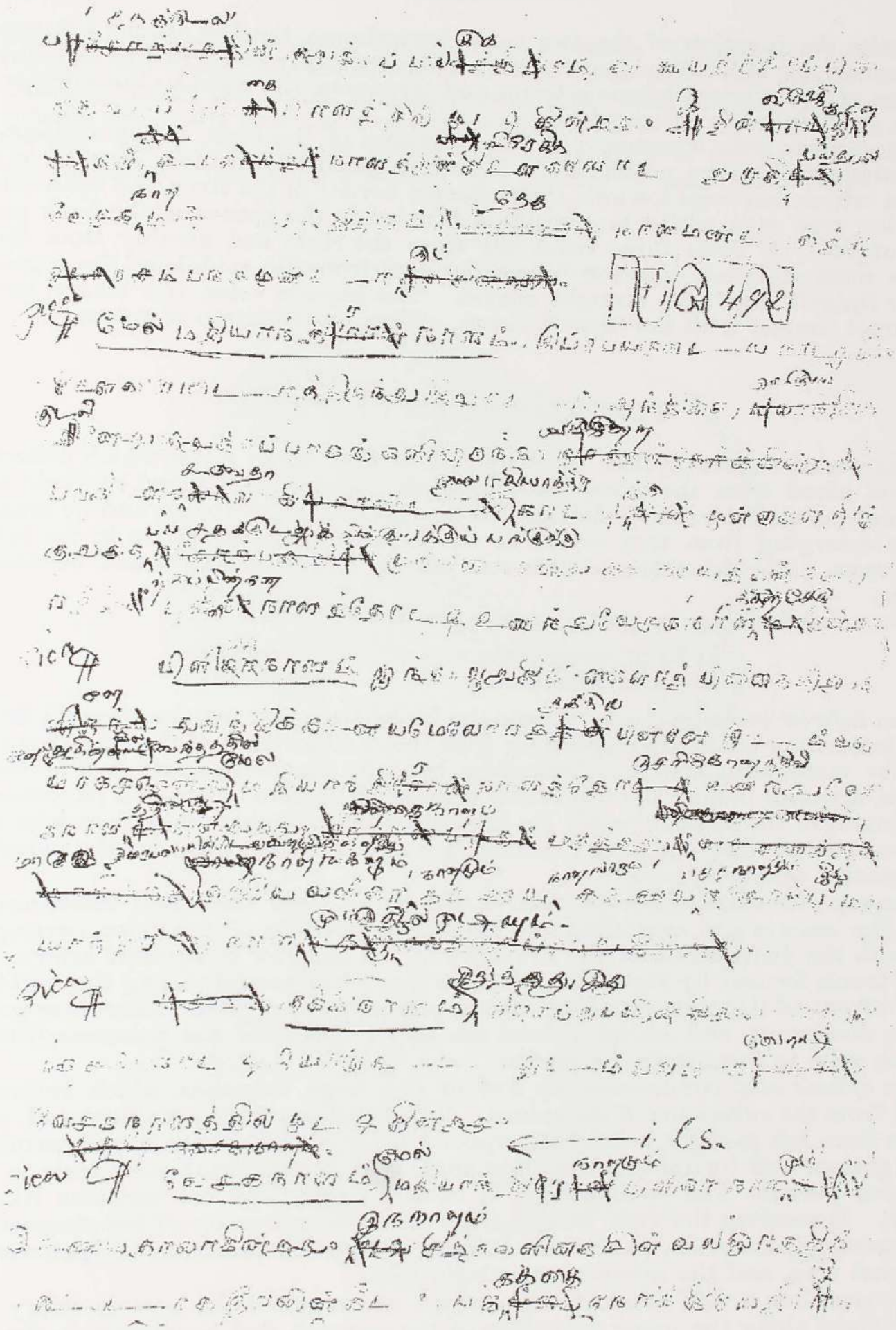
(2) Henry Gray, 2nd American edition 1862, reprinted 1867, *Human Anatomy,* pp. 477, 478.

Pages 162, 163:

(3) Erasmus Wilson, 8th edition, London, 1861, *The Anatomist's Vade Mecum : a System of Human Anatomy,* pp. 410, 411.

Pages 164–166:

(4) Daniel W Chapman and S F Green, Strong and Asbury Printers, Jaffna, 1872, *Human Anatomy,* pp. 424 to 426.



SPECIMEN SHOWING THE LABOR AND METHOD OF CORRECTING MANUSCRIPT OF DR. GREEN'S VOLUMES AS THEY WERE PASSING THROUGH THE PRESS.

opposite the junction of the two venæ innominatæ, the left in the left superior intercostal or left internal mammary. The *two inferior phrenic veins* follow the course of the inferior phrenic arteries, and terminate, the right in the inferior vena cava, the left in the left renal vein.

The *hepatic veins* commence in the substance of the liver, in the capillary terminations of the vena portæ; these branches, gradually uniting, form three large veins, which converge towards the posterior border of the liver, and open into the inferior vena cava, whilst that vessel is situated in the groove at the back part of this organ. Of these three veins, one from the right and another from the left lobes open obliquely into the vena cava; that from the middle of the organ and lobus Spigelii having a straight course. The hepatic veins run singly, and are in direct contact with the hepatic tissue. They are destitute of valves.

PORTAL SYSTEM OF VEINS.

The portal venous system is composed of four large veins, which collect the venous blood from the viscera of digestion. The trunk formed by their union, the vena portæ, enters the liver, ramifies throughout its substance, and its branches, again emerging from that organ as the hepatic veins, terminate in the inferior vena cava. The branches of this vein are in all cases single, and destitute of valves.

The veins forming the portal system are the

Inferior mesenteric.	Splenic.
Superior mesenteric.	Gastric.

The *inferior mesenteric vein* returns the blood from the rectum, sigmoid flexure, and descending colon, corresponding with the ramifications of the branches of the inferior mesenteric artery. Ascending beneath the peritoneum in the lumbar region, it passes behind the transverse portion of the duodenum and pancreas, and terminates in the splenic vein. Its hemorrhoidal branches inosculate with those of the internal iliac, and thus establish a communication between the portal and the general venous system.

The *superior mesenteric vein* returns the blood from the small intestines, and from the cæcum and ascending and transverse portions of the colon, corresponding with the distribution of the branches of the superior mesenteric artery. The large trunk formed by the union of these branches ascends along the right side and in front of the corresponding artery, passes in front of the transverse portion of the duodenum, and unites behind the upper border of the pancreas with the splenic vein, to form the vena portæ.

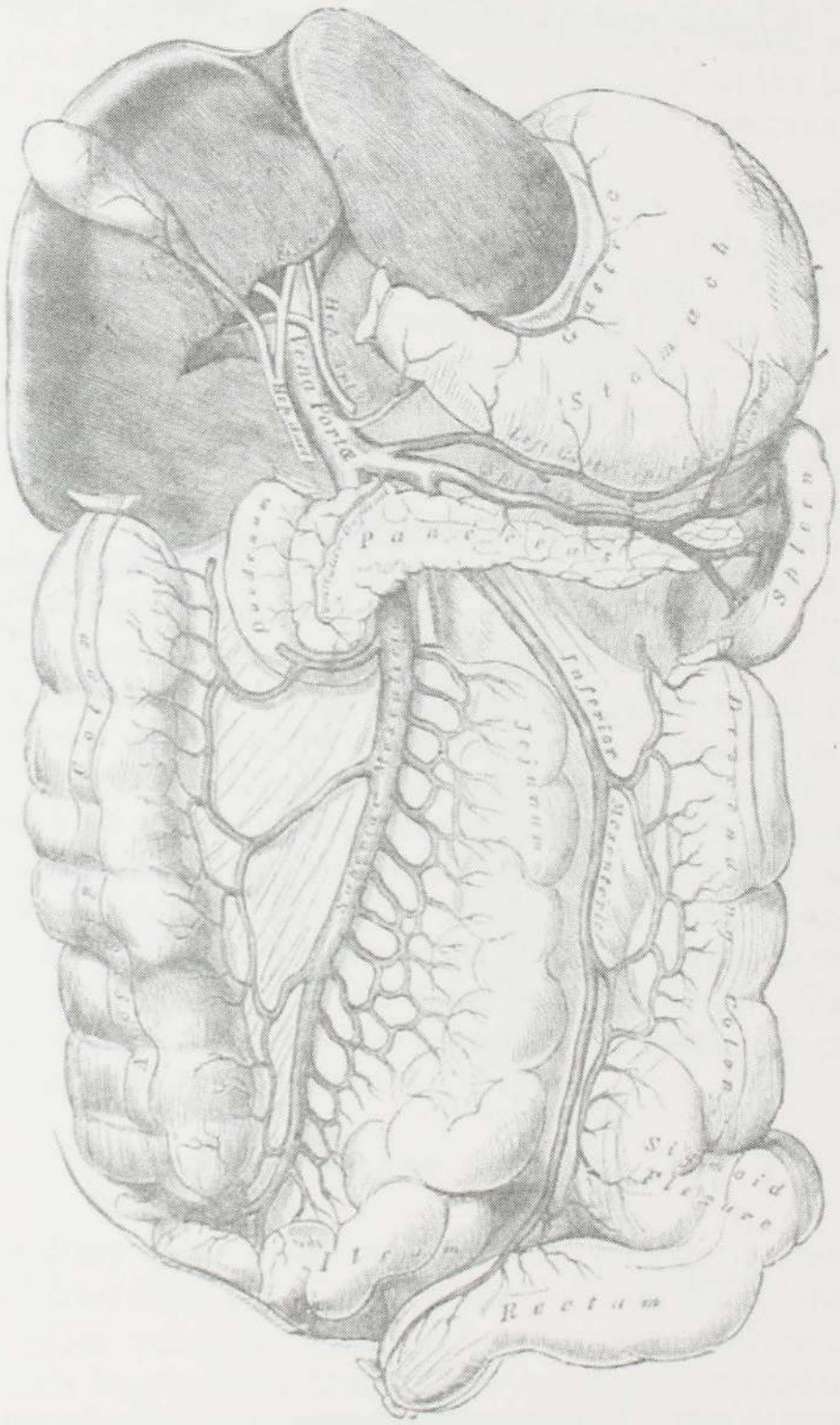
The *splenic vein* commences by five or six large branches, which return the blood from the substance of the spleen. These uniting form a single vessel, which passes from left to right behind the upper border of the pancreas, and terminates at its greater end by uniting at a right angle with the superior mesenteric to form the vena portæ. The splenic vein is of large size, and not tortuous like the artery. It receives the vasa brevia from the left extremity of the stomach, the left gastro-epiploic vein, pancreatic branches from the pancreas, the pancreatico-duodenal vein, and the inferior mesenteric vein.

The *gastric* is a vein of small size, which accompanies the gastric artery from left to right along the lesser curvature of the stomach, and terminates in the vena portæ.

The *Portal Vein* is formed by the junction of the superior mesenteric and splenic veins, their union taking place in front of the vena cava, and behind the upper border of the great end of the pancreas. Passing upwards through the right border of the lesser omentum to the under surface of the liver, it enters the transverse fissure, where it is somewhat enlarged, forming the sinus of the portal vein, and divides into two branches, which accompany the ramifications of the

hepatic artery and hepatic duct throughout its substance. Of these two branches the right is the larger but the shorter of the two. The portal vein is about four inches in length, and, whilst contained in the lesser omentum, lies behind and between the hepatic duct and artery, the former being to the right, the latter to the left. These structures are accompanied by filaments of the hepatic plexus and numerous lymphatics, surrounded by a quantity of loose areolar tissue, the

Fig. 246.—Portal Vein and its Branches.



capsule of Glisson, and placed between the layers of the lesser omentum. The vena portæ receives the gastric and cystic veins; the latter vein sometimes terminates in the right branch of the vena portæ. Within the liver, the portal vein receives the blood from the branches of the hepatic artery.

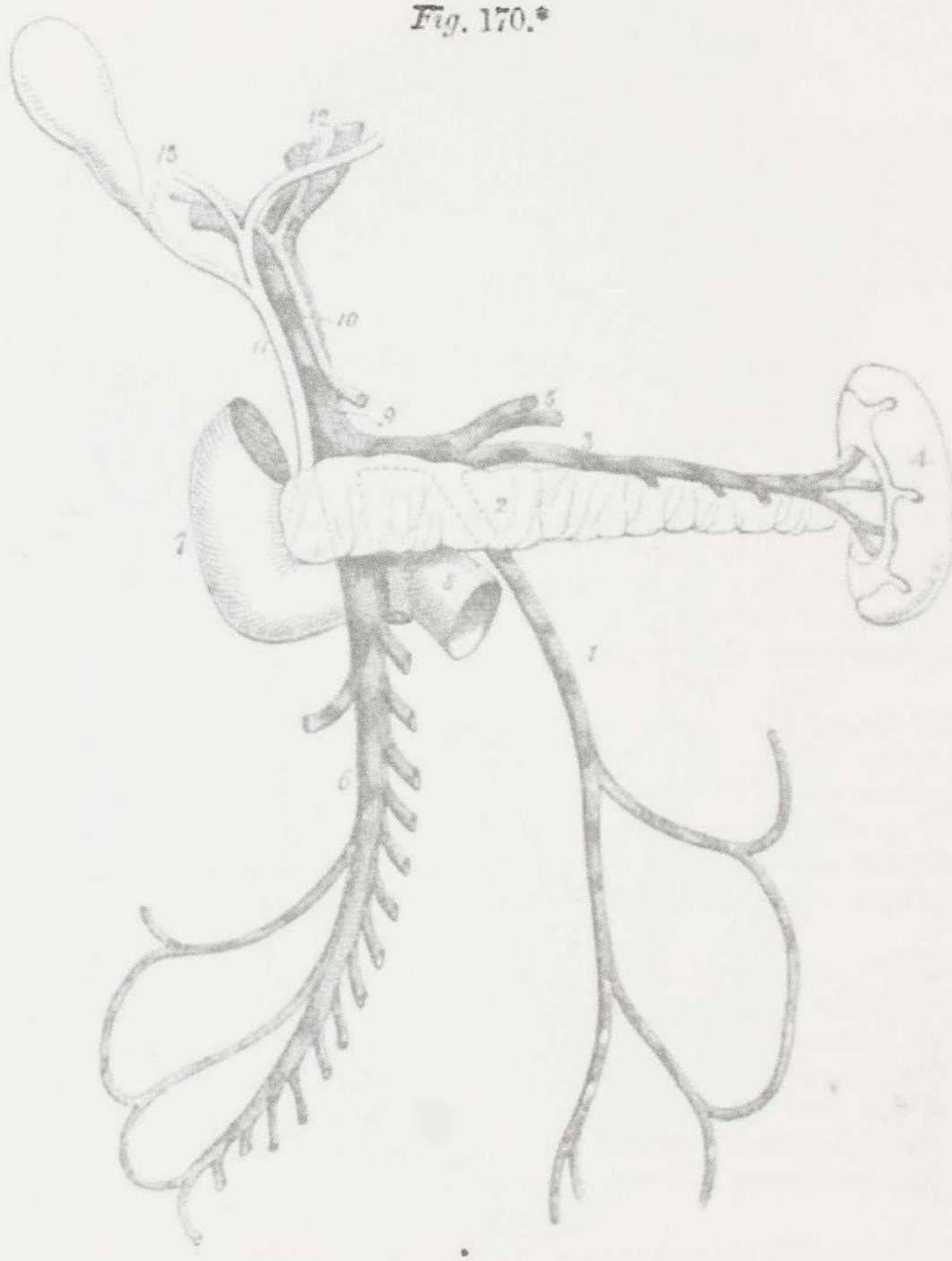
which convey the venous blood directly from the substance of the heart into the right auricle. The cardiac veins have no valves, excepting that at the orifice of the great vein.

PORTAL SYSTEM.

The portal system is composed of four large veins which return the blood from the chylopoietic viscera; they are the

Inferior mesenteric vein,	Splenic vein,
Superior mesenteric vein,	Gastric veins.

Fig. 170.*



* The portal vein. 1. Inferior mesenteric vein; it is traced by means of dotted lines behind the pancreas (2) to terminate in the splenic vein (3). 4. Spleen. 5. Gastric veins, opening into the splenic vein. 6. Superior mesenteric vein. 7. Descending portion of the duodenum. 8. Its transverse portion, crossed by the superior mesenteric vein and part of the trunk of the superior mesenteric artery. 9. Portal vein. 10. Hepatic artery. 11. Ductus communis choledochus. 12. Division of the duct and vessels at the transverse fissure of the liver. 13. Cystic duct leading to the gall-bladder.

The *Inferior mesenteric vein* receives its blood from the rectum by means of the hæmorrhoidal veins, and from the sigmoid flexure and descending colon, and ascends behind the transverse duodenum and pancreas, to terminate in the splenic vein. Its hæmorrhoidal branches inosculate with branches of the internal iliac vein, and thus establish a communication between the portal and general venous system.

The *Superior mesenteric vein* is formed by branches which collect the venous blood from the capillaries of the superior mesenteric artery; they constitute by their junction a large trunk, which ascends by the side of the corresponding artery, crosses the transverse portion of the duodenum, and unites behind the pancreas with the splenic in the formation of the portal vein.

The *Splenic vein* commences in the structure of the spleen, and quits that organ by several large branches; it is larger than the splenic artery, and perfectly straight in its course. It passes horizontally inwards behind the pancreas, and terminates near its greater end by uniting with the superior mesenteric and forming the portal vein. It receives in its course the gastric and pancreatic veins, and near its termination the inferior mesenteric vein.

The *Gastric veins* correspond with the gastric, gastro-epiploic, and vasa brevia arteries, and terminate in the splenic vein.

The VENA PORTÆ, formed by the union of the splenic and superior mesenteric vein behind the pancreas, ascends through the right border of the lesser omentum to the transverse fissure of the liver, where it divides into two branches, one for each lateral lobe. In the right border of the lesser omentum it is situated behind and between the hepatic artery and ductus communis choledochus, and is surrounded by the hepatic plexus of nerves and lymphatics. At the transverse fissure each primary branch divides into numerous secondary branches which ramify through the portal canals, and give off vaginal and interlobular veins, and the latter terminate in the lobular venous plexus of the lobules of the liver. The portal vein within the liver receives the venous blood from the capillaries of the hepatic artery.

PULMONARY VEINS.

The pulmonary veins (venæ pulmonales), four in number, return the arterial blood from the lungs to the left auricle of the heart; they differ from veins in general, in the area of their cylinders being but little larger than that of the corresponding arteries, and in accompanying singly each branch of the pulmonary artery. They commence in the capillaries upon the parietes of the intercellular passages and air-cells, and unite to form a single trunk for each lobe. The vein of the middle lobe of the right lung unites with the superior vein, so as to form the two trunks which open into the left auricle. Sometimes they remain separate, and then

சினேப்பையின் அயலிலும், கருப்பைச்சிறையிலும்,சினேப்பாதையிலும் பின்னிலாகப் படர்ந்து, கருப்பைச்சாலத்தோடு சம்பந்தமாகும். இவைகள் பீசநாளங்களைப்போலவே முடிவுபெறுகின்றன. சிலரில் இந் நாளங்களுக்குக் கபாடமிருக்கும். கருப்பை நாளங்களைப் போல இவைகளுங், கருத்தரித்திருகுங் காலத்தில் மிகவும் பெரிதாகும்.

பிருக்க நாளங்கள் பருத்தவைகளாய்ப் பிருக்க நாடியின் கிளைகளுக்குமுன்னே கிடக்கும். இடது பிருக்க நாளம் வலதில் நீண்டதாய்க் கண்டரையை, மேல்மதியாந்திரநாடி கிளைக்கும் இடத்துக்குப் பதிய முன்வளத்தாற் கடக்கும். இடது பீசநாளமும், இடது கீழ் விதான நாளமும், இதற்குள் விழும். இது கீழ்க்குகா நாளத்துள், வலது நாளம் விழுமிடத்துக்கு மிதக்க விழுகின்றது.

பிருக்கோபரி நாளங்களுள் வலதுநாளங் கீழ்க் குகாநாளத்துள் விழும்; இடது நாளம் இடது பிருக்க நாளத்துள்ளாவது இடது விதான நாளத்துள்ளாவது முடியும்.

விதான நாளங்கள் விதான நாடிகளோடு கூடச் செல்லுகின்றன. மேல் நாளங்களிரண்டும் சிறுத்தவைகளாய் அப்பக்கத்தின் நாடி நரம்போடு கூடச் சென்று வலது நாளம் அநாமநாளங்களின் சந்திப்பில் முடியும்; இடது நாளம் இடது மேற்பழுவிடை நாளத்திலாவது இடது மாருள் நாளத்திலாவது முடியும். கீழ்விதான நாளங்களிரண்டும் கீழ்விதான நாடியோடு கூடச் சென்று வலப்பக்கத்திற் கீழ்க்குகா நாளத்திலும் இடப்பக்கத்தில் இடது பிருக்கநாளத்திலும் முடியும்.

ஈரல் நாளங்கள் அனேக கிளைகளாக ஈரலிற் படர்ந்திருக்கிற வேசகநாள தந்துகிகளிற் துவங்க, அக்கிளைகள் இணைந்து, மூன்று பெருநாளங்களாகும். இவை ஈரலின் பிற்பகுதியில் ஒன்றையொன்று கிட்டி, அதின் பின்னோரத்திற் கீழ்க் குகாநாளத்தில் முடிகின்றன.

வேசக நாள மண்டலம்.

வேசக நாள மண்டலம், சீரண உறுப்புகளிலிருந்து இரத்தத்தைச் சேர்க்கும் நாலு பரும் நாளங்களை உடையது. அந் நாலும் பொருந்துவதாலாகிய வேசகநாளம் ஈரலினுட்புகுந்து கிளைக்க, அக்கிளைகள் ஈரல்நாளங்களாக ஈரலைவிட்டுப்புறப்பட்டுக் கீழ்க்குகாநாளத்தில்முடிகின்றன. இந்நாளத்தின் கிளைகளுக்கு அனுமுகமுமில்லைக், கபாடமுமில்லை.

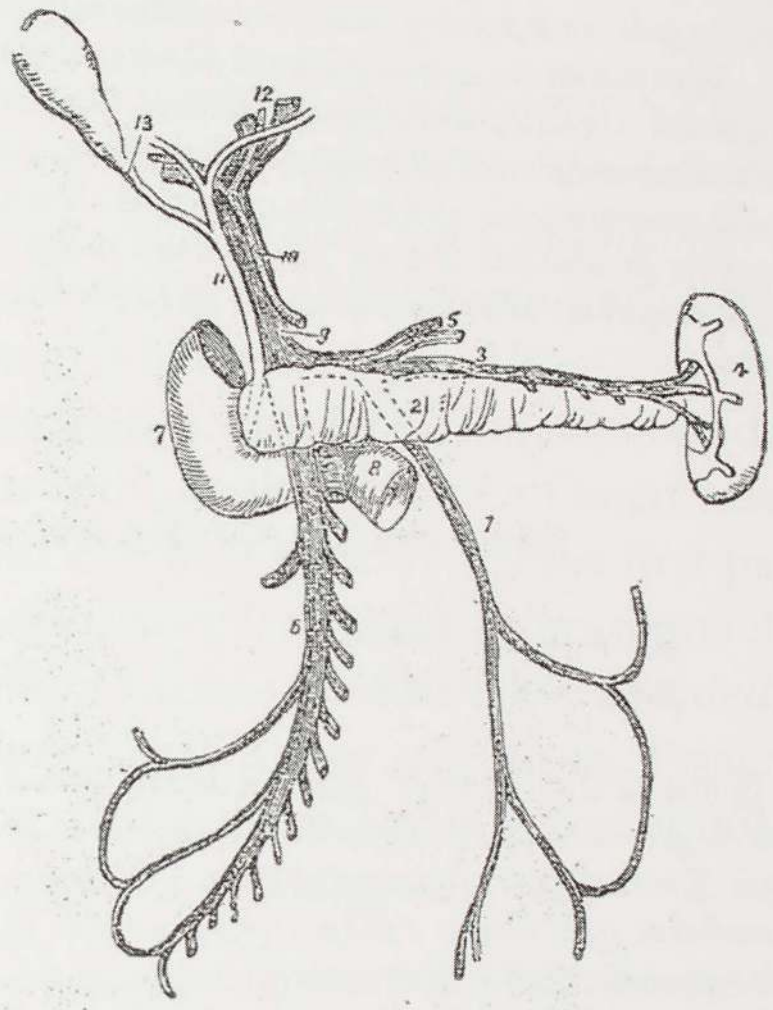
வேசக மண்டலத்திற் சேர்ந்த நாளங்கள்.

கீழ் மதியாந்திர நாளம்.	பிளிகைநாளம்.
மேல் மதியாந்திர நாளம்.	குக்கிநாளம்.

கீழ் மதியாந்திர நாளம் கீழ் மதியாந்திர நாடியின் கிளைகளோடு ஒத்திருந்து,பெருங்குடலின் இறங்கும்பங்கிலுங் கடைக்குடலிலுமுள்ள இரத்தத்தைச் சேர்க்கின்றது. இது இடுப்பிற் பரியாந்திரச் சவ்வுக்குப் பின்னாகவும், பசதக் குடலின் குறுக்குப்பங்குக்கும் கணையத்திற்கும் பின்னாகவும் ஏறிப், பிளிகை

நாளத்தில் முடிகின்றது. இதின் விரேகிக் கிளைகள் கூபகநாளத்தின் விரேகிக் கிளைகளோடு அனுமுகிப்பதால் வேசக நாள மண்டலத்திற்கும் தேகநாள மண்டலத்திற்கும் சம்பந்தம் உண்டாகும்.

மேல் மதியாந்திரநாளம் இப்பெயருடைய நாடியின் கிளைகளோடொத்திருந்து சிறு குடலிலும், அந்தகையிலும், பெருங்குடலினேறு குறுக்குப் பங்குகளிலுமிருந்து வருகிற பலகிளைகள் கூடுவதாலாகி மேல் மதியாந்திர நாடிக்கு முன்னாக ஏறிப், பசதக் குடலின் குறுக்குப் பங்குக்கு முன்னே சென்று, கணையத்தின் மேலோரத்திற்குப் பின்னே பிளிகைநாளத்தோடிணைந்து வேசகநாளத்திற் சேருகின்றது.



உஎ0 ம் படம்.

பிளிகை நாளம் ஐந்து ஆறு கிளைகளாற் பிளிகையினுள்ளே துவங்கிக், கணையத்தின் மேலோரத்துக்குப் பின்னே இடம் வலமாகச்சென்று, கணையத்தின் வல வந்தத்தில், மேல் மதியாந்திர நாளத்தோடு சரிகோணத்திலிணைந்து. வேசக நாளத்தில் முடிகின்றது. இந்நாளம் மிகப் பருத்தது. இரைப்பையின் இடது வளத்திலுள்ள குறுநாளங்களும், குக்கியவளிகை நாளமும், கணையநாளங்களும், கணையபசதநாளமும், கீழ்மதியாந்திரநாளமும் இதில் முடியும்.

குக்கி நாளம் சிறுத்தது. இது இரைப்பையின் சிறு வளைவு நெடுகக் குக்கி நாடியோடு கூட இடம் வலமாக வோடி, வேசக நாளத்தில் முடிகின்றது.

வேசக நாளம் மேல்மதியாந்திர நாளமும், பிளிகைநாளமும், குகாநாளத்துக்கு முற்பக்கத்திற் கணையத்தின் வலவந்தத்தின் மேலோரத்திற்குப் பின்னே இணைவதாலாகின்றது. இந்நாளம் சிற்றவளிகையின் வலவோரத்திற்கூடாக

உஎ0 ம் படம். வேசக நாளத்தின் கிளைகளும் அவைகளோடு அணைந்த உறுப்புகளும். 1. கீழ் மதியாந்திர நாளம். 2. கணையம். 3 பிளிகை நாளம். 4. பிளிகை. 5. பிளிகை நாளத்தில் முடிகிற குக்கி நாளங்கள் 6. மேல் மதியாந்திர நாளம். 7. பசதக் குடலின் இறங்கும் பங்கு. 8. அதின் குறுக்குப் பங்கு. 9. வேசக நாளம். 10. ஈரல் நாடி. 11. பித்தக்குழல் 12. ஈரலின் குறுக்குப்பிளப்பில் நாடி நாளமும் பித்தக் குழலும் பிரியுமிடம். 13. பித்துப்பையின் குழல்.

ஈரலின் கீழ்ப்பக்கத்தை நோக்கியேறி, ஈரலின் குறுக்குப் பிளவுட் புகுந்து, இரு கிளைகளாகப் பிரியும். இக்கிளைகள் ஈரல் நாடியின் கிளைகளோடும், பித்தக் குழலின் கிளைகளோடும், ஈரலிற் கிளைத்துப் படருகின்றன. இவ்விரு கிளைகளுள் வலதுகிளை அதிகம் பருத்ததுங் குறுத்ததும். வேசக நாளம் ஏறக்குறைய நாலு இஞ்சு நீளமுள்ளதாய்ச் சிற்றவளிகைக்குட் கிடக்கையில் பித்தக் குழலுக்கும், ஈரல் நாடிக்கும் பின்னுகவும், அவைகளுக்கிடையிலுங் கிடக்கும். பித்தக் குழல் நாளத்துக்கு வலப்பக்கத்திலும், நாடி இடப்பக்கத்திலுங் கிடக்கும். இவைகளும், அவைகளோடு செல்லுகின்ற ஈரற்சாலமும், சோஷணைக் குழல்கள் பலவும், கிலிசனுறையென்று சொல்லப்படுகின்ற நுகைவான ஆறு யசவ்வாற் சுற்றப்பட்டுக் சிற்றவளிகையின் படைகளுக்கிடையே கிடக்கும். குக்கி நாளங்களும், பித்துப்பைநாளமும், வேசக நாளத்தில் விழும். பித்துப்பைநாளஞ் சிலரில் வேசக நாளத்தின் வலது கிளைக்குள் விழும். ஈரலுள் ஈரல் நாடியின் கிளைகளால் வரும் இரத்தம் வேசக நாளத்திற் சேரும்.

இரிக நாளங்கள்.

இதயச் சுவரிற் படர்ந்திருக்கும் நாளங்களாவன:

இரிக பெரு நாளம்.	இரிக முன் நாளம்
இரிக பின் நாளம்.	திபெசி நாளங்கள்.

இரிக பெரு நாளம் இதய நுனியிற் துவங்கி முற்சடரவிடைத் தவாளிப்பின் வழியாய்ச் சடர வடிக்கேறி, அப்பால் இடது சிரவத்திற்குஞ் சடரத்திற்கும் இடையிலுள்ள தவாளிப்பின் வழியாய்ப் பிற்பகுதிக்கோடி வேட்டதாரணியில் முடிகின்ற சற்றே பருத்த நாளம். இதின் வாயிலில் இரண்டு கபாடங்களுண்டு. இரிக பின் நாளமும். இடது சடரம் சிரவங்களிலுள்ள இடது இரிக நாளங்களும் இதற்குள்விழும். இடது இரிக நாளங்களுள் இடச்சடரத்தின் இடவோரத்தாலேறுவது பரிது. இக்கிளைகளின் வாயில்களிற் கபாடங்களுண்டு.

இரிக பின் நாளம் இரிக பெரு நாளத்தின் கிளைகளோடனுமுகிக்கின்ற சிறுக் கிளைகளால் இதய நுனியிற் துவங்கிப் பிற்பக்கத்திற் சடரங்களுக்கிடையிலுள்ள சீதையால் இதயத்தின் அடிக்கேறி, வேட்டதாரணியில் முடிகின்றது. இதின் வாயிலிற் கபாடமொன்றுண்டு. சடரங்களின் பிற்பக்கத்திலுள்ள நாளங்கள் இதில் வந்து சேரும்.

இரிக முன் நாளங்கள் வலச்சடரத்தின் முற்பக்கத்திற் படர்ந்து வருகின்ற மூன்று நாலு சிறுக்கிளைகளே. இவைகளுட் பருத்ததாகியவொன்று இதயத்தின் வலவோரம் நெடுகவோடும். இவைகள் வெவ்வேறாக வலச்சிரவத்தில் முடியும்.

திபெசி நாளங்கள் இதயத்தின் பேசிச் சுவரிலுள்ள இரத்தத்தைச் சேர்த்து, நுண்ணிய துவாரங்களால் வலச்சிரவத்துள் சேர்க்கின்ற நுண்ணிய பல நாளங்களே.

வேட்டதாரணி யென்பது இடது சிரவசடர சீதையின் பிற்பகுதியிற் கிடக்கின்ற இரிக பெரு நாளத்தின் பங்கேயாகும். இது பொருமினதும்

Appendix II
Further Sample Translations by Dr Green

In this Appendix some more sample translations of medical texts by Dr Green and his ex-students are given:

(1) The first page is 169 which is page 275 of Chapter XXIII on Puerperal Mania from Henry Maunsell's *The Dublin Practice of Midwifery with Notes and Additions by Chandler R Gilman,* New York, 1842. Professor Gilman was Professor of Obstetrics at the College of Physicians and Surgeons, New York at the time that Dr Green was a student there and no doubt this is the textbook that Dr Green would have used as a student. The next page 170 is the first page of Chapter 24 titled *Piravasa Paithiyam* from Samuel F Green's *The Theory and Practice of Midwifery, adapted to India and translated into Tamil,* Ripley and Strong, Printers, Jaffna, 1857. It can be seen that the Tamil text is almost a direct translation of page 275 of Maunsell.

(2) The following page 171 is page 33 from the Introduction in John C Dalton's *A Treatise on Human Physiology,* Henry C Lea, Philadelphia, 4th edition, 1867. This is followed by page 172 which is the corresponding Tamil text page from Daniel W Chapman and Samuel F Green's *Human Physiology,* Strong and Asbury, Jaffna, 1883. It can be seen that the Tamil text is almost a direct translation. Daniel W Chapman was from the fifth batch of Dr Green's medical students and worked with him on the translation of four medical text books.

(3) This is followed by pages 173 to 175 which are pages xi to xiii from the Introduction in W A Guy's *Hooper's Physician's Vade Mecum,* London, 6th edition 1858. The Tamil text which follows on pages 176 and 177 are pages 9

and 10 from the Introduction in William Paul and Samuel F Green's *The Principles and Practice of Physic, being a modified Tamil version of Hooper's Physician's Vade Mecum,* London Mission Press, Nagercoil, 1872. Here it will be seen that the Tamil translation is a condensed version of the English original. William Paul was also from the fifth batch of Dr Green's medical students. He later joined the Government Medical Service and held prominent positions. His son, Dr S C Paul was the first Ceylonese to obtain the FRCS, and Dr S C Paul's son Dr Milroy Paul was Professor of Surgery in the Faculty of Medicine, University of Ceylon for 27 years.

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CHAPTER XXIII.

PUERPERAL MANIA.

THIS occurs in two forms, the maniacal and melancholic, and makes its appearance, generally, within the first few days after labour. A similar disease may also happen when the woman has been exhausted by a continuance of the process of nursing longer than is suitable to her strength. The disease is most likely to attack persons of a nervous susceptible temperament, and whose minds have been shaken by depressing passions, or other causes of mental emotion. "A large proportion of cases," Dr. Gooch states, "have occurred in patients in whose families disordered mind had already appeared."

With respect to the cause, nothing more explicit can be stated than the opinion of the same distinguished writer, that it exists in the peculiar nervous excitement which, more or less, accompanies all the actions of the generative system.

[In some cases a fright experienced during gestation, will seem to have given a shock to the mind, the effects of which will hang about the patient during the remainder of gestation, and after labour burst forth in the form of puerperal mania. All such cases of fright during gestation should be carefully watched.]

உ௪ம். அதிகாரம்.

பிரசவ பைத்தியம்.

இது பைத்தியம் விசாதம் என இருவிதமாகும். பிரசவித்த அன்னியநாட்களிலேதான் பெரும்பாலுந் தோன்றும். தன்பெலத்துக்குத் தகுந்த காலத்துக்கு அதனப்படமுலைகொடுத்துவருவதினாலே ஸ்திரியானவள் தஞ்சக்கெட்டுப்போம் வேளையிலும், இதைப்போன்ற ஓர்வியாதி உண்டுபடுவதும் உண்டு. சிரோத்தாப ஸ்திரிகளாய், சஞ்சலம் விசனம் முதலிய காரணங்களால் மனங்கலங்கியிருக்கும் ஸ்திரிகளிலேயே இவ்வியாதி அதிகமாய்த் தோன்றக்கூடியது. மாறுட்டமாகிய மனப்பிராந்திதோன்றி நடக்கும் குடும்பங்களிலுள்ள ஸ்திரிகளிலே மிகுதியாய் இவ்வியாதி உண்டுபடுகிறதென்று கூச்சுபண்டிதர் சொல்லுகிறார்.

இப்பிரபல ஆசிரியரது கருத்தின்படி பிரசவபைத்தியத்துக்குக்காரணம், சனனஉறுப்புத்தொழில்களுடன் காணும் சிரோத்தாபமேயாம். சில ஸ்திரிகள் சர்ப்பிணியாயிருக்குங்காலத்திலே திடுக்கிட்டேங்கினவுடனே அது மனதில் உறைத்துறுத்தியிருக்கும். இதின் தாக்கம் பிரசவகாலம்வரைக்கும் அவர்களிலே இலைமறைகாய்போலிருந்து, பிரசவித்தபின்பு பிரசவபைத்தியமாய் வெளிப்படும். ஆதலால் கர்ப்பிணியாயிருக்குங்காலத்திலே திடுக்கிட்டேங்கினாற் பத்திரமாய்ப் பார்த்துக்கொள்ளவும்.

இவ்வியாதி சடிதியிலே உண்டாவதுமுண்டு. ஆகிலும் பெரும்பாலும் வியாதிதோன்றச் சிலநாளுக்குமுன் ஸ்திரியிலே மனஅழுந்சியும் வெடுவெடுப்பும் விளங்கி, குரல் மாறிக் கீச்சுக்குரலாய், கண்ணிலே மிலாந்திகொண்டு, அச்சமுங் கலக்கமுமான கோலங்கண்டு, நித்திரையுங் குழப்பமாய்விடும். அல்லது குருவலும் கோட்டரவுங் கொண்டு, நாடித்துடிப்புச் சற்றுவிரைவாகி, சீரண உறுப்புக்களின் இசைவுபிசகை விளக்குவனவாய் நா ஆடைபூத்து, கண் மஞ்சணிறமாகி, மலமுங் கட்டிக்கொள்ளும்.

சீரணஉறுப்புகளின் இசைவு பிசகே பிரசவபைத்தியத்துக்கு அடியீட்டுக்காரணமென்பதற்குக் கூச்சாசிரியர் காட்டியிருக்குந் திருட்டாந்தம், முதலாம் பிரசவகாலத்தி

HUMAN PHYSIOLOGY.

INTRODUCTION.

I. PHYSIOLOGY is the study of the phenomena presented by organized bodies, animal and vegetable.

These phenomena are different from those presented by inorganic substances. They require, for their production, the existence of peculiarly formed animal and vegetable organisms, as well as the presence of various external conditions, such as warmth, light, air, moisture, &c.

They are accordingly more complicated than the phenomena of the inorganic world, and require for their study, not only a previous acquaintance with the laws of chemistry and physics, but, in addition, a careful examination of other characters which are peculiar to them.

These peculiar phenomena, by which we so readily distinguish living organisms from inanimate substances, are called *Vital phenomena*, or the *phenomena of Life*. Physiology consequently includes the study of all these phenomena, in whatever order or species of organized body they may originate.

We find, however, upon examination, that there are certain general characters by which the vital phenomena of vegetables resemble each other, and by which they are distinguished from the vital phenomena of animals. Thus, vegetables absorb carbonic acid, and exhale oxygen; animals absorb oxygen, and exhale carbonic acid. Vegetables nourish themselves by the absorption of unorganized liquids and gases, as water, ammonia, saline solution, &c.; animals require for their support animal or vegetable substances as food, such as meat, fruits, milk, &c. Physiology, the

மனுஷ சுகரணம்.

HUMAN PHYSIOLOGY.

போது விதி.

INTRODUCTION.

1. உலகத்திலேயுள்ள வஸ்துக்கள் எல்லாம், இந்திரவஸ்துக்கள் அநிந்திர வஸ்துக்கள் என்னும் இரண்டு வகுப்பாகப் பிரிபடும். இந்திர வஸ்துவுக்கு மரம், மிருகம், உதாரணமாகும். அநிந்திர வஸ்துவுக்குக் கல், காற்று, சலம், உதாரணமாகும். இந்திர வஸ்துக்கள் பிராணி, தாவரம் என்னும் இரண்டு வகுப்பாய்ப் பிரிபடும்.

Physiology. பிராணி தாவரம் என்னும் இந்திரவஸ்துக்களின் செயல், இலட்சணங்களைப்பற்றிக் கூறும் நூலே சுகரணம்.

இந்திரவஸ்துக்களின் செயல் இலட்சணங்கள் அநிந்திரவஸ்துக்களினுடையவைகளுக்கு வித்தியாசம். அவைகள் உண்டாகிறதற்குப் பிராணி தாவரங்கள் வழிவகையாகும். இவையோடு அனல், வெளிச்சம், பரமாணு, ஈரம் முதலியவற்றின் துணை வேண்டும்.

இந்திரவஸ்துக்களுக்குரிய தன்மைகள், அநிந்திர வஸ்துக்களின் தன்மைகளைப்பார்க்க அதிக மாறுபாடுள்ளன. அவைகளைக் கற்பதற்குக் கேமிஸ்தரி[1] சடவத[2] சாஸ்திரங்களின் விதிகளைப்பற்றிய அறிவுமாத்திரமல்ல, இந்திர வஸ்துக்களின் சுயமான வேறு லட்சணங்களைப் பற்றிய நுட்ப ஆராய்வும் வேண்டும்.

உயிருள்ளவைகளாகிய இந்திர வஸ்துக்களை அநிந்திரவஸ்துக்களிலிருந்து பகுக்கும் செயல், தோற்றங்கள், சீவ உற்பனங்கள் எனப்படும். இந்திரவஸ்துக்கள் எந்தவித வருக்கங்களாயிருந்தாலும் அவைகளின் சீவ உற்பனங்கள் எல்லாவற்றையும் பற்றிச் சுகரணங் கூறும்.

தாவரங்களின் சீவ உற்பனங்கள் ஒன்றையொன்று ஒத்திருக்கும் சில பொதுலட்சணங்களுடையவை என்பதும், இவ்விலட்சணங்கள் பிராணிகளின் சீவ உற்பனங்களுக்கு மாறுனவைகள் என்பதும், ஆராய்வால் அறிந்த காரியம். உதாரணமாக, தாவரங்கள் காபனிக்கமிலம்[3] என்ற வாயுவை உண்டு அக்சிதம்[4] என்ற வாயுவை வெளியே விடும். பிராணிகளோ அக்சிதத்தையுண்டு காபனிக்கமிலத்தை வெளியே விடும். தாவரங்கள் சலம், அமோனம்[5] உப்புள்ள நீர்கள் முதலான அநிந்திரபதார்த்தங்களையுண்டு வளருகின்றன. பிராணிகளின் போஷணைக்கோ, இறைச்சி, பழம், பால் முதலிய இந்திர பதார்த்தங்கள் வேண்டும். ஆனபடியால், சுகரணம் மூன் காட்

1 Chemistry. 2 Physics. 3 Carbonic acid. 4 Oxygen. 5 Ammonia.

INTRODUCTION.

THIS book is intended to be, in the widest and truest sense of the term, a practical work; that is to say, it aims at bringing together, in a small compass, and in a form easy of reference, those items of information which the practitioner would desire to possess when he stands at the bedside, or when he studies an individual case with a view to its treatment.

The first and most obvious requisite for a practitioner is the facility of recognising a disease when he sees it, of distinguishing it from others which resemble it, and of foretelling its probable course and termination. The treatment which he adopts will be judicious in proportion to the readiness with which he recognises, and the accuracy with which he discriminates diseases; and will be either rational or empirical, according as he does or does not understand their real nature and true cause.

But a facility of recognising and discriminating diseases, a knowledge of their nature and causes, of their ordinary course and termination, and of their appropriate treatment, though essential to sound and successful practice, are not the only qualifications for it. There is a vast amount of information of a truly practical character, which does not find a place in formal descriptions of individual diseases, though comprising all these particulars. Such descriptions must be regarded either as condensed histories of the more perfect forms of disease, or as abstracts of the leading features observed in the ordinary run of cases, with an occasional notice of the more remarkable exceptions to the rule; but age, sex, and original and acquired peculiarity of constitution, give rise to differences in health, or habitual departures from it, which, in a remarkable manner, affect the severity and even the character of diseases. Hence a knowledge of the mode and degree in which both health and disease are affected by difference of age and sex, and of constitution, whether original or acquired, is not less essential to safe and successful practice than is a special description of diseases themselves.

The list of the necessary acquirements of the practical physician, however, is not yet complete. It often happens that, at the bedside, great importance attaches to an individual symptom, and questions occur in relation to it, which are not, and cannot be, answered in the short space devoted to the description of the disease of which it forms

a part. The symptom may be common to several diseases, or it may be a question whether, though assumed to be a symptom of disease, it be not compatible with health. Moreover, there are many symptoms or signs of disease which are detected only by very close examination, and by the use of instruments or of chemical tests; and in using these instruments and applying these tests, many precautions are necessary that are not easily borne in mind, and with regard to which the practitioner may often require to refresh his memory.

One other consideration suggests itself in this place. No man, whatever his pursuit, deserves the name of a practical man whose knowledge and resources are limited by the experience of those who have gone before him. In all employments, and in none more than in the practice of medicine, new events and rare combinations are continually presenting themselves, which can only be understood and successfully encountered by the aid of general principles. Hence the necessity for the physician of a knowledge of pathology and therapeutics, which supply the general principles that are to guide him in treating cases of disease, or complications of which he has no previous experience.

A physician who is well versed in all these particulars may lay claim to the title of *learned* in its best sense: if he have made this knowledge his own by diligent observation at the bedside, and by the constant use of instruments and application of tests, by which alone the value of symptoms can be determined, he will have earned for himself the name of *experience*; and if to learning and experience he unite the faculty of prompt and ready use of the knowledge which he has acquired, he is truly a *practical physician*.

A very wide and comprehensive meaning is here given to the terms *learning* and *experience*, and to the phrase *practical physician*. Indeed, it is of the first importance that these words should not be used in a low and vulgar sense. It is too much the custom to call a man a practical physician because he gives no time or attention to anything but the routine duties of his profession; and to deny him that title if he devote his leisure to what are called scientific pursuits, even though these pursuits should be in immediate connection with, and have a direct bearing upon, practice. A strong conviction that no man is truly practical who is not also possessed of an extensive scientific knowledge of his profession, has presided over the preparation of this work, and has induced the Editor to extend it beyond the limits usually assigned to a so-called practical treatise.

In order fully to carry out the practical views here indicated, this work is divided into two distinct parts, of which the first embraces, in a connected form, those more general considerations that make up the sciences of General Pathology and Therapeutics, while the second contains, in a form easy of reference, a description of diseases, their diagnosis and prognosis, their rationale, and their treatment, or what is usually known as the Practice of Medicine.

The First Part is divided into five chapters, under the following titles:—1. *Health and Disease*, comprising such general observations upon either as seem to have the most practical bearing; pointing

out the way in which both are varied by age, sex, temperament, and mode of life, and concluding by an explanation of the terms in common use for distinguishing diseases from each other, and giving precision to our views and statements concerning them. 2. *Causes of Death.*—In this chapter some of the leading facts that have been ascertained in reference to the causes of death are brought together with a view of giving to the student and practitioner some idea of the relative frequency and importance of the diseases which prove fatal to human life. 3. *Outline of Physiology and General Pathology.*—In this chapter those facts and theories which have the most direct bearing upon the practice of medicine are brought together, and briefly stated, all unnecessary discussion being carefully avoided, and the more important and minute details being reserved for—4. *Examination of some of the more important Symptoms and Signs of Disease*, comprising the Urine, the Viscera of the Abdomen and of the Chest, the Pulse, and the Respiration; and 5. *An Outline of General Therapeutics*, which comprises such general principles as have been laid down for the preservation and improvement of health and the treatment of disease, together with a classification of the principal remedies, and an account of their mode of operation.

The Second Part, or the Practice of Medicine, properly so called, is also distributed into chapters as follows:—1. States of System, as distinguished from diseases properly so called. 2. Local Diseases, affecting all or several of the organs or textures of the body. 3. Febrile diseases, without essential local complication. 4. Febrile diseases, with essential local complication. 5. Febrile diseases, arising from local causes. 6. General disease (not febrile), with essential local complication.

The remainder of the diseases are distributed into eight chapters, as follows:—1. Diseases of the nervous system. 2. Diseases of the organs of circulation. 3. Diseases of the organs of respiration. 4. Diseases of the primæ viæ, organs of digestion, and chylopoietic viscera. 5. Diseases of the urinary organs. 6. Diseases of the organs of generation. 7. Diseases of the organs of sense. 8. Diseases of the skin and its appendages. 9. Parasitic animals; and 10. Poisons.

The Second Part is brought to a close by an extensive collection of Formulæ, preceded by a table of the doses of medicines; classified lists of the principal preparations of the Pharmacopœia, with their doses; and the antidotes to the principal poisons.

A glossary and an extensive index complete the volume.

சூசனம்.

INTRODUCTION

வைத்தியன் வியாதியைப் பரிகரிப்பதற்கு அறியவேண்டிய வைகளை சுருக்கமாகவும் விளக்கமாகவும் காட்டுவதே இந்நூலின் நோக்கம். வியாதியை மட்டிட்டு தெளிந்து, அதின் காரணம், பிரயோகம், நடை, முடிவு என்னவென்று அறிந்துகொள்வது, வைத்தியத் திறமைக்கும் அனுகூலத்துக்கும் அவசியம். மேலும் சுகமும் வியாதியும், பிராயம், ஆண், பெண், பிறப்பு வாசியாய் அல்லது இடைஇட்டு உண்டாம் தேகவித்தியாசம் என்பவைகளினால் அடையும் வேற்றுமைகளையும் வைத்தியன் ஆராய்ந்து அறியவேண்டியது. சில தருணங்களில் பல நோய்களுக்குப் பொதுவான விசேஷித்த ஓர் குணத்தைப்பற்றி இது எந்த வியாதிக்குரியதோ, சுகத்துக்குரியதோ என்ற கேள்வி வரும். அன்றியும் சில வியாதிக் குணங்குறிகளை நுட்ப ஆராய்வுகளாகிய பவுதிக சோதனையினாலாவது, சூட்சமான கருவிகளாலாவது நிதானிக்கவேண்டிவரும். இச்சோதனைகளையும் கருவிகளையும் வழங்குவதற்குத் தகுந்த எத்தனம், அவதானங்கள் தேவை. இவைகள் இலேசில் மறந்துபோகக்கூடியவைகள் ஆதலால் ஞாபகப்படுத்துவதற்கு வசதியாக இந்நூல் இவைகளையும் கூறும்.

எந்தத் தொழிலையாவது நடத்துபவன் அந்தத் தொழிலில் தன் முன்னோர் அறிந்ததற்கு மேற்பட அறியானாகில் அதில் சமர்த்தனாகமாட்டான். பிரதானமாய் வைத்தியத்தில் பொதுவிதிகளைக் கொண்டே சரியாய் அறியவும் சித்தியாய்ப் பார்க்கவும் கூடிய புதுச் சம்பவங்களும், அருஞ்சோர்மானங்களும் எப்போதும் தோன்றுகின்றன. ஆதலால் வைத்தியன் குகரணம், பதார்த்தசாரம் என்பவற்றையும் நன்குணர்ந்திருப்பது அவசியம். இப்படியான பலவித அறிவை அடையாதவன் வைத்தியம் செய்வதற்கு இயன்றவன் அல்ல என்ற எண்ணத்தோடு இந்நூல் செய்யப்பட்டது.

மேற்சொல்லியவைகளுக்கு இணங்க இந்நூல் இரண்டு பங்குகளாக எழுதப்பட்டிருக்கின்றது. முதலாம் பங்கில் பொதுக்குகரணகம் பதார்த்தசாரம் என்னும் சாஸ்திரங்களுக்குரிய பிரமாணங்கள் தொடர்பாய் வரும். இரண்டாம் பங்கில் நோய்களைப்பற்றியும், அவைகளின் குணம், நிதானம், நியாயம், பிரயோகம் என்பவற்றைப்பற்றியும் வசதியாய்ப் பார்த்துப் பிடிக்கத்தக்கவிதமாக எழுதப்படும்.

முதலாம் பங்கு பின்வரும் ஒழுங்குப்படி ஆறுகப் பகுக்கப்பட்டிருக்கிறது. க. சௌக்கியமும் வியாதியும். இதில் இவை இரண்டும், பிராயம், ஆண் பெண், தேகப்போங்கு, பழக்கம் என்பவைகளால் எப்படி வித்தியாசப்படுகின்றன என்பதை விளங்கும் ஒவ்வொன்றைப் பற்றியும் பரீட்சைக்குரிய சில பொதுக் கவனிப்புகள் பேசப்படும். உ. மாண காரணங்கள். இதில் சாவுக்கேதுவான வியா

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சுகம். வியாதி.

திகளுள் எது அதிகம் நெருக்கமானது, எது அதிகம் முக்கியமானது என்று மாணுக்கனுக்கும் வைத்தியனுக்கும் உணர்த்தும்படி மரண காரணங்களைக்குறித்து இதுவரையில் அறிந்த பிரதான சத்தியங்களில் சில சொல்லப்படும். ௩. சுகரணகம் போதுக்தீகரணகம் என்பவைகளின் சுருக்கம். இதில் வைத்திய பரீட்சைக்குரிய உண்மைகளும் கோட்பாடுகளும் தொகுத்துச் சுருக்கமாய் சொல்லப்படும். ௪. வியாதியின் பிரதான குணங்குறிச் சோதனை. இதில் சிறுநீர், நெஞ்சிலும் வயிற்றிலும் உள்ள உறுப்புகள், நாடித்துடிப்பு, சுவாசம் என்பவைகளைப் பற்றிய விபரம் அடங்கும். ௫. இதில் ஊரினதும், ஆளினதும் சுகத்தைப் பேணும் முறைகள் வரும். ௬. பொது வைத்தியச் சுருக்கம். இதில் சுகத்தைப் பேணித் தேற்றுவதற்கும் வியாதிகளைப் பரிகரிப்பதற்கும் சொல்லப்பட்ட பொதுப் பிரமாணங்களும், பிரதான மருந்துகளையும் அவைகளின் செயல்களையும் பற்றிய விபரமும் அடங்கும்.

இரண்டாம் பங்கும் ஆறாக வகுக்கப்பட்டிருக்கின்றது. க. நோய்த்த தேக நிலைகள். உ. தேகத்தின் சில பல உறுப்பு நெசவுகளைப் பற்றிய வியாதிகள். ௩. யாதொரு உறுப்பின் வியாதியைப்பற்றி இராத சுரரோகங்கள். ௪. ஏதும் உறுப்பின் வியாதியைப் பற்றிய சுரரோகங்கள். ௫. அனுதாப சுரங்கள். ௬. ஏதும் உறுப்பின் வியாதியைப் பற்றிய சுரமற்ற பொதுரோகங்கள்.

மற்றும் வியாதிகள் பின்வரும் ஒழுங்கின்படி பத்து வகுப்புகளில் பேசப்படுகின்றன. க. நரம்புமண்டல வியாதிகள். உ. இரத்த மண்டல வியாதிகள். ௩. சுவாச உறுப்புகளின் வியாதிகள். ௪. வயிற்றிலே உள்ள சீரண உறுப்புகள் முதலியவைகளின் வியாதிகள். ௫. சல உறுப்புகளின் வியாதிகள். ௬. சனன உறுப்புகளின் வியாதிகள். ௭. பொறிகளின் வியாதிகள். ௮. தோலினதும் அதின் தொடுவைகளினதும் வியாதிகள். ௯. அன்னியசெந்துக்கள் முதலியவைகள். ௧௦. நஞ்சுகளும் அவைகளுக்கு மாற்றுகளும்.

முடிவில், முதலே பிரிற்றிஷ் பதார்த்த சாரத்திலுள்ள கூட்டு மருந்து வகைகளும் அவைகளின் பிரமாணங்களும் பின் வேறு அனேகங்கூட்டு மருந்துகளும் ஆகக் கடைசியில் இரண்டு அட்டவணைகளும் வரும்.

Appendix III

Title Pages of Dr Green's Medical Text Translations

This Appendix contains copies of the title pages and Prefaces in English and Tamil of the medical textbooks translated directly or under the supervision of Dr Green. The sets of pages are in the following order:

(a) The Theory and Practice of Midwifery (Maunsell). Pages 180 to 183.

(b) The Science and Art of Surgery (Erichsen and Druitt). The Preface in Tamil is not included. Pages 184 to 186.

(c) Human Anatomy (Gray, Horner, Smith and Wilson). Pages 187 to 190.

(d) Physician's Vade Mecum (Hooper). Pages 191 to 194.

(e) Chemistry (Wells). Pages 195 to 198.

(f) Human Physiology (Dalton). The title page in Tamil is not included. Pages 199 to 201.

(g) Pharmacopoeia of India (Waring). Note that the English title page has been inscribed by Andrew H Green, brother of Samuel Fisk Green. He was Comptroller of New York City. Pages 202 to 205.

THE

THEORY AND PRACTICE

OF

MIDWIFERY.

ADAPTED TO INDIA

AND

TRANSLATED INTO TAMIL

BY

SAMUEL F. GREEN, M. D.

FOR THE

AMERICAN CEYLON MISSION.

JAFFNA:

RIPLEY & STRONG, PRINTERS.

1857.

மருத்துவவைத்தியம்.

இஃது

வைத்தியத் தேர்ச்சியிற்றலைமை பொலிந்த

மான்சேல்பண்டிதர்

இயற்றிய மருத்துவ வைத்தியநூற்கு

நூயார்க்குப் பட்டினத்தில்

வைத்திய மாட்சிமைபெற்று விளங்காநின்ற

கில்மன்பண்டிதர்

தாற்பரியங்களும் நூதனவிஷயங்களும் அமைத்துக்கூறிய

இங்கிலிஷ் பனுவலை

யாழ்ப்பாணத்து அமெரிக்கன் மிஷனர்களின் அனுமதிப்படி

வைத்தியனாகிய ச. பி. கிறீன்

ஆராய்ந்து திருத்தி தமிழ் நாட்டாசாரங்களுக்கிசைய

வில்லியம் நெவின்ஸ்

முதலிய சில ஆசிரியருடைய உதவியைக்கொண்டு

தமிழிற் செய்தது.

யாழ்ப்பாணம்:

இதிப்பினி, ஸ்ரேங்கு என்பவர்களுடைய இயந்திராசாலையிற் பதிப்பிக்கப்பட்டது.

சஅஇஎ.

PREFACE.

MIDWIFERY is an art with which every one pretending to act as a Physician, should be well acquainted; and the practice of which should be conducted solely by those who have thoroughly studied it.

This work, which is chiefly a translation of "the Dublin Practice of Midwifery" by Henry Maunsel, M. D. with notes and additions by Chandler R. Gilman, M. D. of New York, endeavors briefly and simply to show what rules and principles have been adopted by intelligent obstetricians as the result of long investigation and much practical experience. In a work of this kind, the use of many technical terms is unavoidable—but each term being fully explained in a Glossary, it is hoped all who will really study the book, may clearly understand it.

This volume is commended to Physicians, to Midwives, and to Heads of families, with the hope, that it may elucidate a subject in which are all interested, may lessen the sum of human suffering and may ensure to Accoucheurs confidence and increased success in the discharge of their duties.

Special thanks are due to Stephen Tracy, M. D. for his kindness in furnishing cuts illustrative of many points, which without them might not be fully comprehended.

May God graciously make this book, a blessing to the Tamil people.

S. F. G.

முகவுரை.

சற்றேனும் வைத்திய பரீட்சையில் முயற்சிகொண்ட சகலரும் மருத்துவ வைத்தியத்தையுந் தேர்ந்து பழகியிருக்க வேண்டியதவசியம். இற்றை வரைக்கும் நடந்தது போல் அறிவற்றவர்கள் மருத்துவ வைத்தியஞ் செய்வதை நிறுத்தி, அதன் விதிகளை நன்குணர்ந்தவர்களே மருத்துவ பரிட்சையிலேற்படக் காலமாயிற்று. ஆதலாற் பேர்பெற்ற மருத்துவ வைத்தியர் தாஞ் செய்த தீர்க்க சோதனைகளினாலும் நெடுங்காலப் பயிற்சியினாலும் கண்டமைத்த பிரமாணங்களும் முறைகளுமே இந்நூலிற் சுருக்கித் தெளிவாய்க் கூறப்படும்.

இவ்வகை நூல்கள் அரும்பதங்களின்றி முற்றுப்பெறல் கூடாது. ஆகிலும் அப்பதங்களை இந்நூலந்தத்தில் அகராதிமுறையாகச்சேர்த்து அவற்றின் பொருள் தெளிய விளக்கியிருக்கிறதினால், இந்நூலைக் கருத்தாய் வாசிப்பவர்கள் சகலரும் விளங்கிக் கொள்வார்களென்று காத்திருக்கிறோம்.

மருத்துவவைத்தியம் யாவருக்குந் தேவையானதாதலால் அத்தைக் கற்றறிந்தகாலத்திற் பிரசவ ஸ்திரீகளுக்கு லக்கினங்குறைந்து, மருத்துவர் மனத்தெளிவுடனே தமது தொழில்களை அனுகூலமாகவும் நிர்லக்கினமாகவும் நிறைவேற்றுவார்கள். ஆனதன்மையினால் வைத்தியர் மருத்துவர் குடும்பத்தலைவர் முதலிய இவர்களுக்கே இந்நூல் பிரதானமாய் வேண்டியது.

திரேசியென்னும் பண்டிதர் இப்புத்தகத்தினுள்ள படங்களின் அச்சுகளைத் தயவாய் நமக்குத் தந்துதவினார்.

இப்புத்தகம் தமிழ்ச் சனங்களுக்கு நன்மையாக முடியும்படியெகோவா அனுக்கிரகஞ் செய்வாராக.

ச. பி. கி,

THE

SCIENCE AND ART

OF

SURGERY,

COMPILED FROM

ERICHSEN AND DRUITT AND TRANSLATED

BY JOSHUA DANFORTH,

HEAD DISPENSER TO THE JAFFNA FRIEND-IN-NEED SOCIETY.

EDITED BY

SAMUEL F. GREEN, M. D.

MEDICAL MISSIONARY.

JAFFNA:

PRINTED FOR THE AMERICAN CEYLON MISSION,

AT THE MANIPPAY PRESS.

1867.

துருவிதர், எறிக்சர்,

என்னும் பண்டிதர்

இங்கிலிஷில் இயற்றிய சத்திரீக நூல்களிலிருந்து,

யாழ்ப்பாண ஆபத்துக்குதவிச்சங்கத்தின் வைத்தியசாலைச்

சிரேஷ்ட டிஸ்பென்சராகிய

ய. டன்வதராால்

மொழிபெயர்க்கப்பட்ட

இரணவைத்தியம்.

இது

ச. பி. கிறீன் வைத்தியராால்

பார்வையிடப்பட்டது.

யாழ்ப்பாணம்.

அமரிக்கன் இலங்கை மிஷனுக்காக

மானிப்பாய் அச்சுக்கூடத்தில் பதிப்பிக்கப்பட்டது.

கசகூஎ.

PREFACE.

In the order of arrangement of this book, the Translator has followed "Druitt's Surgeon's Vade Mecum." He has not however felt restricted to any one treatise in the selection of matter, but has drawn freely from both Druitt and Erichsen and occasionally also from his own experience. This last he has done, deeming it quite as important to adapt the book to the customs of the Tamils, as to prepare it in their language.

A general view of Human Anatomy and Physiology has been given in an Introductory Chapter. All terms will be found fully explained in the Glossary. While the work is designed more especially for Medical Students under the guidance of one acquainted with Western Surgery, it is believed that it will be readily understood also, by any intelligent reader of the vernacular.

In the technical terms employed, preference has been given to the Tamil. Where that failed, resort was had to the Sanscrit. In some cases the English word has merely been Tamilized.

The Editor gratefully acknowledges the valuable aid afforded by the Rev. Dr. Lowe of Travancore, as well as that of other friends. Special thanks are also due to Messrs. Blanchard and Lea of Philadelphia, for their liberality in furnishing the illustrative cuts.

May the Lord Jesus, Patron of both sufferer and surgeon, graciously bless this book to the Tamil people.

S. F. G.

Jaffna, Ceylon, 1867.

HUMAN ANATOMY

COMPILED FROM

GRAY, HORNER, SMITH AND WILSON.

TRANSLATED BY

DANIEL W. CHAPMAN, MEDICAL PRACTITIONER.

SUPERVISED BY

SAMUEL F. GREEN M. D.

JAFFNA:

PRINTED FOR THE AMERICAN CEYLON MISSION AT THE

PRESS OF STRONG & ASBURY.

1872.

மனுஷதேவங்கா திபாதம்

இது

கிறே, ஒர்னர், ஸ்மிது, விஸ்சன்

என்ற பண்டிதருடை நூல்களிலிருந்து

தனேல் வி. சப்மன்

வைத்தியனால்

மொழிபெயர்க்கப்பட்டு

அமெரிக லங்கை மிஷனைச் சேர்ந்த

சமுல் பி. கிறீன் வைத்தியனால்

நடத்தி திருத்தப்பட்டது.

யாழ்ப்பாணம்.

மானிப்பாய் அச்சுக்கூடத்தில் பதிப்பிக்கப்பட்டது.

கஅஎஉ

PREFACE

Many years since, the Mission published a small work on Anatomy with Physiology and Hygiene. That was well for popular reading and as a school book; but in training medical Practitioners, something fuller was deemed indispensable. This volume it is hoped, will meet the want. It is arranged on the basis of Gray's large work and modified by the omission of its Surgical portions; by additions from Wilson's Vade Mecum and by illustrations with explanations, from Smith and Horner's Atlas..

A throuogh knowledge of Anatomy is important to every medical man; but more especially to the Surgeon. The student should study both the volume and the cadaver. He should dissect, to learn not only what to cut, but how to cut. Never young man, allow yourself rudely to treat the remains. Behave as if the relatives of the deceased were present, and so foster those fine feelings and that kind demeanor, which should ever characterize him, who deals with suffering.

The Translator was engaged about three years by himself on this work; after which, a year was spent by the Mission Physician together with the Translator, in scrutinizing and completing the work for the press.

For some remarks on Nomenclature, the reader is referred to notes introductory to the Glossary appended.

The Mission recognize thankfully, the liberality of Henry C. Lea Esq of Philadelphia, who kindly permitted the copying of the illustrative cuts; furnishing them at an exceedingly favorable rate.

May the Lord Jesus graciously own this book, as prepared in obedience to his command to "Heal the sick and say the Kingdom of God is come nigh unto you." May He use it, to teach multitudes among the Tamils, how wondrous is the mechanism with which he has endowed them each; and to enlighten the superstitious, who would lodge in its various parts, those which are no gods. May he teach them, rather to regard it, as his own rightful Temple.

"God's seal and sanction, are all that any book requires to make it useful. The book that has not these, has nothing."

S. F. G.

முகவுரை.

சில வருஷங்களுக்கு முன் பள்ளிக்கூடங்களுக்காக அங்காதிபாதத்தைப் பற்றிய ஒரு சிறு நூல் அமெரிக லங்கை மிஷனால் பிரசித்தமானது. அது வைத்திய போதனைக்குப் போதாதென்று கண்டபடியால் இது இப்பொழுது பிரசுரமாகிறது. இது கிறே பண்டிதருடைய பெரும் நூலை அஸ்திபாரமாகக்கொண்டு, அதிலேயுள்ள இரணவைத்தியத்துக்குரிய பகுதிகளை விட்டும், ஓர்னர், ஸ்மிது, வில்சன், பண்டிதர்களுடைய நூல்களிலுள்ள சிலபகுதிகள், படங்களைக் கூட்டியும் மொழிபெயர்த்திருக்கிறது.

உடலின் உறுப்புகளையும் அவையின் சேர்மானத்தையும்பற்றிய அறிவு எவ்வைத்தியருக்கும், விசேஷமாய் சத்திரிகருக்கும் அதிகம் முக்கியம். ஆதலால் மாணுக்கன் நூல், பிரேதம் இரண்டையும் ஆராய்வது அவசியம். வாலிபனே! நீ பிரேதசோதனை செய்யும்பொழுதெல்லாம் இறந்தவரின் உறவுமுறையார் கூடநிற்கிறார்களென்று பாவித்து மரியாதையாய் நடத்து. இவ்வேளையிலும் எவ்வேளையிலும், வியாதி வேதனையாயிருப்பவர்களுக்கு ஒத்தாசைசெய்கிறவனுக்கடுத்த குணங்கோலத்தைத் தரித்துக்கொள்வாயாக.

இதின் மொழிபெயர்ப்புக்கு மூன்று வருஷஞ்சென்றது. பிற்பாடு மிஷன் வைத்தியனும், மொழிபெயர்த்தவனும், அச்சடிக்கிறதற்கெத்தனமாக்கத் திருத்துவதற்கு பின்னும் ஒரு வருஷஞ் சென்றது.

பரிபாஷைகளை இயற்றும் ஒழுங்கைப்பற்றிய சில குறிப்புகள் இப்புஸ்தகத்தைச் சேர்ந்த அகராதியின் தொடக்கத்தில் சொல்லியிருக்கும்.

இந்நூலை விளக்கும் படங்களை பிலதெல்விப் பட்டணத்தில் வசிக்கும் லீ துரை மெத்த நயமாகக் கொடுத்தார்.

யேசு ஆண்டவர் "தேவனுடைய ராச்சியஞ் சமீபமானதென்று கூறி வியாதிக்காரரைக் குணமாக்குங்கள்" என்று தாம் இட்ட வாக்குக்குக் கீழமைந்ததாய் இப் புஸ்தகஞ்செய்யப்பட்டதென்று அங்கீகரிப்பாராக. ஒவ்வொருவருக்கும் அவர் கொடுத்த உடலாகிய சூத்திரம் எவ்வளவு ஆச்சரியமுள்ளதென்றும், அதின் அவ்வப்பகுதியில் இல்லாத தேவதைகள் குடிகொண்டிருக்குமென்பதை நம்புவோர் தங்கள் உடலை அவருக்குரிய ஆலயமாகப் பாவிப்பது தகுமென்றும், இதைக்கொண்டு தமிழருக்கு உணர்த்துவாராக.

தேவனுக்குப் புகழ்ச்சியாக இப் புஸ்தகத்தினால் வெகு நன்மை உண்டாவதற்கு அவர் சம்மதத்தால் இது முத்திரிக்கப்படுதலே தேவை. இதைப் பெருதயாவும் விருதா.

ச. பி. கி.

THE

PRINCIPLES AND PRACTICE OF PHYSIC,

BEING A MODIFIED TAMIL VERSION

OF

HOOPER'S

PHYSICIAN'S VADE MECUM;

BY

WILLIAM PAUL, MEDICAL PRACTITIONER.

SUPERVISED AND AMENDED

BY

SAMUEL F. GREEN, M. D.,

OF THE

AMERICAN CEYLON MISSION.

Nagercoil:
LONDON MISSION PRESS.
1872.

ஊபர்

ஸ்வத்தியர் கைவாகடம்

என்ற

இங்கிலிஷ் நூலிலிருந்து

வைத்தியனாகிய வில்லியம் பவுலால்

மொழிபெயர்க்கப்பட்ட

வைத்தியாகரம்.

இது

அமரிக லங்கை மிஷனைச்

சேர்ந்த

சமுல் பி. கிறீன் வைத்தியனால்

நடத்தித் திருத்தப்பட்டது.

நாகர்கோவில்:
லண்டன் மிஷன் அச்சியந்திரசாலையில்
பதிப்பிக்கப்பட்டது.
௯அஅஎஉ.

PREFACE.

This Translation of "Hooper's Physician's Vade Mecum" has been greatly modified by omissions, additions, and transpositions. Theoretic as the first part of the book is, the use of numerous Technical Terms was unavoidable; though the rule has been, to avoid a technical when possible, without too much circumlocution. Many of the Terms are Tamilized English. There are some also Tamil and some from the Sanscrit. Each term has been settled separately, though the English has had the preference. In Tamilizing Foreign words, brevity and smoothness have been studied; but not suffered to impair the radical sounds of the word, nor its accent.

The work is believed to contain within its own course, all needed helps for its study, by any Tamil of ordinary intelligence and education.

Thanks are due to Rev. J. Lowe, L. R. C. S. E., and other friends in Scotland, for very generously providing the illustrative cuts, and to Rev. Messrs Baylis, Newport, Jones and other friends, for the care and pains bestowed, to secure correctness in the printing.

With earnest desire, that it may help greatly to prevent disease and to lessen suffering, the book is commended to the favor of the Lord Jesus, the best Friend of the Tamil people, though too many of them know it not.

JAFFNA, CEYLON. 1872.

முகவுரை.

இப்புஸ்தகம் ஊபர் வைத்தியர் கைவாகடம் என்ற இங்கிலிஷ் நூலிலிருந்து மொழிபெயர்க்கப்பட்டது. அதிலுள்ள சில பகுதிகள் விடப்பட்டும், இல்லாத சில பகுதிகள் கூட்டப்பட்டும் இருக்கும். புஸ்தகத்தின் முதற்பங்கு வைத்தியத்துக்கு அஸ்திபாரமான கோட்பாடுகளை கூறுமாதலால் அதில் பரிபாஷை சற்றதிகமாய் வரும். ஆயினும் அவசியமின்றி ஒருபோதும் வழங்கப்படவில்லை.

அரும் பதங்களுள் சில செந்தமிழ்ச் சொற்கள், சில சமஸ்கிருதச் சொற்கள், அநேகம் தமிழ் எழுத்தில் சமைத்த இங்கிலிஷ் சொற்களாயிருக்கும். பதம் ஒவ்வொன்றும் தனித்தனி ஆராய்ந்து சேர்க்கப்பட்டது. ஆயினும் தாய்நூலிலே உள்ள இங்கிலிஷ் பதங்களை அதிகமாய் சேர்ந்திருக்கும். இங்கிலிஷ் சொல்லை தமிழில் எழுதும்போதெல்லாம் அது குறளவும் அதற்குரிய ஓசை கெடாமல் ஏற்ற கோலங்கொள்ளவும் தக்கதாய் இயற்றியிருக்கும்.

தமிழ் மட்டாய் அறிந்த எவர்க்கும் இப்புஸ்தகம் தெளிவாய் விளங்கும்படி அகராதி உரை முதலியவைகள் இதில் அடங்கியிருக்கும்.

ஸ்காட்டிலன் தேசத்திலேயுள்ள லோ பண்டிதர் முதலான சிநேகிதர் இதிலேயுள்ள படங்களைத் தேடிக்கொடுத்த தயவையும், பிழைபடாமல் இதை அச்சடித்தலை கவனத்தோடு பிரசுரஞ்செய்த கனம் பொருந்திய பேலிசு, நூபோட், ஜோன்சு முதலிய தயாளரின் பிரயாசத்தையும் இதை மொழிபெயர்த்தோர் வாசிப்போர் எல்லாரும் அருமையாய் நினைக்கக்கடவர்.

இந்நூல் வியாதி வராமல் தடுப்பதற்கும் வருத்தம் வேதனை தணிப்பதற்கும் வெகுதூரமாக உதவவேணுமென்று அபேட்சித்தும் தமிழருள் அநேகர் உணராமலிருந்தும் அவர்களுக்கு உத்தமமான சிநேகிதராய் இருக்கிற யேசுநாதரின் ஆசீர்வாதம் இத்துடன் செல்லவேண்டுமென்று விரும்பியும் இது அவர்களுக்கு நண்புடன் கொடுக்கப்படுகிறது.

CHEMISTRY,

PRACTICAL AND THEORETICAL,

BY

DAVID A. WELLS, A. M.;

RENDERED INTO TAMIL

BY

SAMUEL F. GREEN, M. D.,

WITH THE ASSISTANCE OF MEDICAL PRACTITIONERS

D. W. CHAPMAN AND S. SWAMINATHEN.

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கெமிஸ்தம்.

இது

வெல்சு பண்டிதர்

இங்கிலிஷில் இயற்றிய நூலிலிருந்து

பாஷாந்தரமாக்கலில்,

த. வி. சப்மன் வைத்தியனுடைய உதவியையும்

பரிபாஷையாக்கலில்,

ச. சுவாமினாதன் வைத்தியனுடைய உதவியையும்

கொண்டு

சமுல். பி. கிறீன் வைத்தியனால்

மொழிபெயர்க்கப்பட்டது.

யாழ்ப்பாணம் :

அமரிக லங்கை மிஷனுக்காக

நாகர்கோவில் லண்டன் மிஷன் அச்சியந்திரசாலையில்

பதிப்பிக்கப்பட்டது.

1875.

PREFACE.

In the fog of false science, Auguration, Sorcery and kindred lies prowl among the Tamils, ceaseless and unrestrained.

Believing that the substitution of Chemistry for Alchemy; of Astronomy for Astrology; of History for Mythology; in short of true Science for the false, will clear the social and the moral air, this volume is sent forth.

May Jesus, the Sun of Righteousness own it, causing it to scatter the darkness, so that the rays of his Word may enter and give saving light to multitudes.

Readers as well as Translators are much indebted to the Author for most courteously and freely allowing his book to be used; and to the Publishers, for their liberality in furnishing the cuts on favorable conditions.

May such acceptance and success be vouchsafed, as shall gladden them, and all who have joined, in this gift to the Tamil people.

S. F. G.

☞ The Reader is referred to the commencement of the Glossary at the close of the volume, for remarks on Terminology.

முகவுரை.

இல்லாத சாஸ்திரமென்ற மப்பில் பதுங்கி தமிழருக்கு நாசமோசத்தை வருவிக்கும் சகுனம் சூனியம் முதலிய பொய்கள் தடையின்றி நித்தமும் உலாவுகின்றன.

ரசவாதத்துக்குப் பதிலாக பொருள்களின் கூறுகளைக் குறிக்கும் கெமிஸ்தமென்ற வித்தையையும்; சோதிடசாஸ்திரத்துக்குப் பதிலாக நட்சத்திரங்களின் தன்மைகளைச் சரியாய்ச் சொல்லும் வானசாஸ்திரத்தையும்; இல்லாத ராட்சதர் தேவதைகளைப் பற்றிய கதைகளுக்குப் பதிலாக உள்ள சரித்திரங்களையும்; சுருக்கிச் சொல்லுகில் பொய்யான கல்விக்குப் பதிலாக மெய்யான அறிவை தேசத்தில் நிறுத்துவது, ஊரிலும் ஆளிலும் உள்ள துரெண்ணம் பழக்கங்களை அகற்றுமென்று நம்பி விரும்புகிறபடியால் இப்புஸ்தகம் பிரசுரமாகிறது.

நீதியின் சூரியனாகிய யேசு இதை ஏற்றுக்கொண்டு அனேகர் மனசுள் தமது வாக்கின் கிரணங்கள் இரட்சண்ணியமாகச் செல்லத்தக்கதாய் இருளை அகற்றுவதற்கு இதை துணையாக்குவாராக.

இப்புஸ்தகத்தை உண்டாக்குகிறதற்கு இதின் ஆக்கியோன் தமது நூலை தாராளமாய்க் கொடுத்ததற்காகவும், இதிலுள்ள படங்களை பிரசித்தப்படுத்தினவர் மலிவாய்த் தந்ததற்காகவும், இதை வாசிக்கிறவர்கள் எல்லாரும் நன்றி சொல்வது கடன். அவர்களும் தமிழருக்கு இது வெகுமதியாகக் கிடைக்கிறதற்கு உதவின மற்றவர்களும் மகிழும்படிக்கான நன்மை இதாலுண்டாக தேவன் அருளுவாராக.

ச. பி. கி.

HUMAN PHYSIOLOGY

BY

PROFESSOR JOHN C. DALTON, M. D.

TRANSLATED BY

DANIEL W. CHAPMAN,

MEDICAL PRACTITIONER.

REVISED AND EDITED BY

SAMUEL F. GREEN, M. D.

JAFFNA:

PRINTED FOR THE AMERICAN CEYLON MISSION

PRESS OF STRONG & ASBURY.

1883.

PREFACE.

Physiology is the companion science of Anatomy. While Anatomy describes the form, structure and relations of Organs and Tissues, Physiology describes their development, functions and changes. This volume should have appeared consecutively with that on Anatomy; but various causes have delayed it hitherto.

The science of Physiology is a rapidly growing one, and would be more adequately represented by periodical issues than by a fixed volume. Let this however serve as a starting point of a career for the science among the Tamils of the future, which may ably rival its history among the peoples of the West.

May the Lord JESUS, the Sun of Righteousness, so shine through the minds of those who shall study these pages, and into their hearts, that they shall both see and acknowledge the wisdom and goodness by which he has endowed them with a nature so exalted, and with faculties so wonderful.

S. F. G.

முகவுரை.

சுகரணம் என்பது அங்காதிபாதத்துக்குத் தோழமையான கல்வி. அங்காதிபாதம் உடலின் உறுப்பு நெசவுகளின் வடிவம் கட்டுப்பாடு சேர்மானங்களைக் குறிப்பதுபோல, சுகரணம் அவைகளின் விருத்தி தொழில் மாறுதல்களைக் குறிக்கும். அங்காதிபாதப்புஸ்தகம் பிரசுரமானதற்கு அடுத்தாப்போல் இந்நூல் தோன்றவேண்டியிருந்தது; ஆனாலும் பல தடைகளால் இதுவரைக்குந் தடங்கிவிட்டது.

சுகரணகல்வி தீவிரவளர்ச்சியுடையதாதலால் அதை ஏற்றவிதமாய் விளக்குவதற்கு ஓர்புஸ்தகத்தைப் பிரசித்தப்படுத்துவதிலும் வேளைக்குவேளை அதில் புதுக்கப்புதுக்க விளையும் அறிவைப் பத்திரிகையில் பதித்துப் பரப்புவதே தகும்.

என்றாலும் இப்புஸ்தகம் வருங்காலத்துத் தமிழருள் இக்கல்வியின் ஓட்டத்துக்குத் தொடக்கமான நிலயமாய் இருக்கட்டும். இவ்வோட்டம் மேற்குத்தேசத்தாருள் முன் கண்ட ஓட்டத்துக்கு நிகராகக்கடவது.

இந்நூலைப் பயிலுவோர் தங்களுக்கு உச்சிதமான நிலைமையையும் அதிசயமான தத்துவங்களையும் அருளிய இயேசுநாதரின் அன்பையும் ஞானத்தையுங் கண்டுணரும்படி நீதியின் சூரியனாகிய அவர் அவர்கள் உள்ளத்தூடாகவும் இருதயத்துள்ளும் தமது கிரணங்களை வீசுவாராக.

ச. பி. கி.

PHARMACOPŒIA OF INDIA

BY

EDWARD JOHN WARING M. D.

TRANSLATED

BY

DANIEL W. CHAPMAN

MEDICAL PRACTITIONER,

REVISED BY THE LATE

SAMUEL F. GREEN, M. D.

JAFFNA:
Printed for the American Ceylon Mission.
Strong and Asbury Printers.
1888.

இந்துப் பதார்த்தசாரம்.

வாறிங்கு பண்டிதரால்

இயற்றப்பட்ட இந்தநூல்

தனெல் வி. சப்மன்வைத்தியனால்

மொழிபெயர்க்கப்பட்டு,

அமேரிக லங்கைமிஷனைச் சேர்ந்திருந்த

சமூல் பி. கிறீன் வைத்தியனால்

திருத்தப்பட்டது.

யாழ்ப்பாணம்:
ஸ்திரேங் அஸ்பரி என்பவர்களின் அச்சுக்கூடத்திற்
பதிப்பிக்கப்பட்டது.
கஅஅஅ.

PREFACE.

A copy of the manuscript of this Volume was a few years ago sent to America, where it was revised by the late Dr. Green, who devoted his life mainly to the object of popularizing medical science in Tamildom. His corrections and comments, sent from time to time as the work advanced, have been carefully considered, and the manuscript corrected accordingly. Thus the whole text has his approval.

This Volume completes the series of medical works which Dr. Green undertook to prepare. Although last in publication it is not the least in importance. The contents of this volume form one of the most important branches of medical science. Its appearance has been for some years anxiously looked for by the vernacular medical graduates and native practitioners, but various causes have delayed its publication until now.

May the Lord Jesus, who has prospered the undertaking thus far, make this volume a blessing to the Tamil people.

Jaffna Ceylon 1888.

முகவுரை.

இந்நூலின் கையெழுத்துப்பிரதியொன்று, சில வருஷங்களுக்கு முன் ாமே அமரிக தேசத்திற் போயிருந்த கிறீன் வைத்தியரிடம் அனுப்பப்பட் -து. அவர் அங்கே சீவனோடிருந்த காலத்தில் அதைத் தாமே வாசித்து திருத்தி அப் பிரதியைத் தம்மிடம் வைத்துக்கொண்டு தமது திருத்தங்க ள வேறே கடுதாசியில் எழுதி இங்கே வைத்திருந்த ஆதாரப்பிரதியின் பக் ங்கள் வரிகளையுங் குறித்துக் காட்டிக் கொஞ்சங் கொஞ்சமாக அனுப்பி வைத்தார். இவைகள் பன்னீராயிரம் மைல் தாண்டிச் சேமமாக இங்கே வந்து சேர்ந்தவுடன் ஆதாரப் பிரதியிற் சேர்க்கப்பட்டன.

கிறீன் வைத்தியராற் பிரசுரஞ்செய்யப்பட்ட வைத்திய நூல்களுக்கு இது ஈறுந்தமாய்த் தோற்றுகின்றது. கடைசியில் தோற்றலும் மிக முக்கியமான வாகடங்களுள் இதுவுமொன்று. இதின் தோற்றத்தை மிஷ ன்கீழ்த் தமிழிற் கற்ற வைத்தியரும் நாட்டு வைத்தியர் பலரும் ஆவலோ டு எதிர்பார்த்திருந்தார்கள்.

காலத்துக்குக் காலம் அனுப்பப்பட்ட திருத்தக் கடதாசிகள் இவ்வளவு தூரமான வழியிலே மோசம்போகாமல் காத்துத்தந்த கர்த்தராகிய இயேசு இப் புத்தகம் தமிழ்நாட்டாருக்கு நன்மையாய் முடியும்படி அதை ஆசீர்வதிப்பாராக.

த. வி. ச.

Appendix IV

List of Medical Students of the ACM Medical School, Jaffna

The first batch of medical students (1848—1851)

Joshua Danforth
John Dennison
Eliatamby Waitillingam

The second batch of medical students (1850—1853)

Nathan Parker
Samuel Miller
Joseph H Town
Charles Mead
A C Hall (joined the class in 1851)

The third batch of medical students (1853—1856)

T Hopkins
G M Reid
C McIntyre
A McFarland

The fourth batch of medical students (1855—1858)

J H Bailey
A Blanchard
J P Harward
F Latimer
J Wilson
J Ropes
J Flud
D P Mann

The fifth batch of medical students (1861—1864)

Karttekaser	alias	M Hitchcock
Ethernayakam	alias	C T Mills
Swaminather	alias	S W Nathaniel

Kanakadattinam alias L S Strong
Vaittilingam alias D W Chapman
S Navaratnam
A Appapilly
J B Shaw
Sivappirakasam
William Paul
L Spaulding

The sixth batch of medical students and the first to be taught in Tamil (1864—1867)

K Elyapillay
Kandapper
S Sittambalam
A Sivasidambaram
V Sittambalam
S Sinnappu
Samuel David
Samuel H Murugasu
Daniel Vettivalo
R S Welopilly
S Mandalam

The seventh batch of eleven medical students, the second Tamil medium batch (1867—1870)

A Appapillay
A Appuckutty
Arumugam
S Sarawanamuttu
V Senivasagam
S Saminather
S Kandavanam
Edward Lovell
V Vannitumby
Visuvanathan
S Vinasitamby

The eighth batch of eleven medical students, the third Tamil medium batch (1871—1873)

J Amerasinger
S Arunasalem
M Ramalingam
V Catheravaloo
V Sadasivam Bates
S Sarawanamuttu
S Sinnatamby
S Sinniah
K Tilliampalam
K Vaittilingam
K Wellopilly

The ninth batch of eighteen medical students, the fourth Tamil medium batch (1872—1875)

A Amerasingam
R Ambalam
T Kanagasaphy
C Kumaravaloo
Richard S Adams
Benjamin Lawrence
V Sellappah
N L Joshua
N Tambimuttu
M Nannitamby
Abraham V Nitsinger
Joshua K Pereatamby
V Ponnambalam
K Ponnambalam
S Ponnambalam
Mutiyah S Ropes
N Mutatamby
V Vetteawanam

The tenth batch of eighteen medical students, the fifth Tamil medium batch (1876—1879)

The eleventh batch of fifteen medical students, the sixth Tamil medium batch (1879 – 1882)

(From Ebenezer Cutler, *Life and Letters of Samuel Fisk Green, MD*, USA, 1891, pp. 454–456.)

Appendix V

Midwifery and childbirth customs in Jaffna in the 1850s

(Note: This Appendix is an overview of a publication on Hindu Midwifery which was written in 1856 by Dr Charles McIntyre who was in the third batch (1853 – 1856) of Dr Green's medical students.)

In 1805, Sinnathamby Asirvatham was born in Maviddapuram. He later moved to Vaddukoddai and got married there and cultivated a small farm. He also obtained employment under an American missionary attached to the Batticotta Seminary. In 1830 his second child Nallathambi was born. Nallathambi was educated at the Batticotta Seminary and on conversion to Christianity chose the baptismal name of Charles Nallathambi McIntyre. This is recorded in the book *Through Memory Lane* written by his grandson Tan Sri S Chelvasingam-MacIntyre.[1] The family name McIntyre (now spelt MacIntyre or Macintyre) still lives on in Sri Lanka, Singapore and Australia. After completing his education in the Batticotta Seminary, Charles McIntyre applied to Rev. Pargiter, the Principal of the Nallur Boys Seminary (now called St Johns College), for a teacher's post but was unsuccessful. On his return home, Charles met Dr Samuel Fisk Green, an event that was to change the course of the rest of his life.

Dr Green suggested to Charles McIntyre that he study medicine and Charles was enrolled as a student in Dr Green's medical school in the batch of 1853. The curriculum was based on the American University system at that time and consisted of a three year course followed by a year of Internship. McIntyre completed the course in 1856. He initially worked as a Lecturer in Dr Green's school and later in other Jaffna hospitals. In 1866 he joined the Government medical service. During his lifetime he was posted to several outstation hospitals and in 1891 he was serving in Kurunegala. On 17 January 1891 he attempted to separate two of his bulls which were fighting with each other and he was severely gored. He was taken to the General Hospital Colombo for

treatment by the eminent surgeon Dr Rockwood but suppuration was setting in. He became delirious due to septic absorption from the wound, diabetic coma set in and he passed away on 11 February 1891.[2] A life that could have been saved if only antibiotics had already been invented.

In 1856, Dr Charles McIntyre wrote a 50 page handwritten manuscript treatise in English titled *Yatpana Piravasa Vyththiyam*. This can be loosely translated as *The medical science of childbirth in Jaffna*. When the treatise was received in the ABCFM headquarters in Boston in 1863 they re-named the title as *Hindu Midwifery*. Communication between Jaffna and Boston was very slow and was by handwritten reports which took several months to reach the destination by sailing ships. The preface states that it is "A view of Midwifery as held and practised by the Hindus of Jaffna – compiled from various sources (including) a Midwife of note...by Dr Charles McIntyre alias Asirvatham Nallathambi, educated in medicine by the American Ceylon Mission".[3] The treatise is dated 1856 which was the year that Dr McIntyre completed his medical course and started his internship. At the time of writing the treatise his clinical experience would have been limited, or the treatise may even have been written as a course requirement. A review of the treatise follows.

The treatise is divided into two parts, the first part deals with the pregnant woman and the second part deals with the child. It is interesting to note that some of the customs and beliefs have persisted to the present day, particularly in rural areas.

THE MOTHER

The first part is further sub-divided into three sections:[4]

(a) "Events and practices previous to confinement
(b) Events connected with labour itself
(c) What happens after the completion of labour".

If the soot at the bottom of the rice pot catches fire it is a sure sign that someone in the house has menstruated. When a girl first menstruates, an auspicious day is selected and she is bathed and a feast given to all friends and relations with much pomp and ceremony. It is a custom that

is followed to the present day. It is a way of informing the village that the girl will in due course be available for marriage. Biological changes in the girl soon appear, usually between the ages of 12 and 15 years.

After marriage when the monthly discharge ceases, she "must not see either a child, or a stranger or any poverty stricken person, or any white people, but must first look upon the sun..... If a mud-wasp comes and builds its nest in the house, it is taken as a sure sign that someone in the house is starting with child".[5] The latter belief is still prevalent in rural areas to this day. In the fifth month "a white disc the size of the palm of the hand will form on the lower abdomen. This disc will be found on the right side, if the child is a male, and on the left side if the child is a female".[6] This is not looked for, or recognized these days. In certain cases if there is a flow of menses during pregnancy it is believed that the woman has incurred the displeasure of a *Devathy* (i.e. evil spirit). A votive offering must be made to placate this evil spirit.

Diet during pregnancy should consist of easily digestible food items like rice *kanji* (i.e. porridge), *odiyal* (i.e. dried palmyrah sprout bulb) soup, etc. She must not eat *kiranthi* (i.e. eruptive) foods because they will cause eruptions upon the child.[7] Delivery occurs ten lunar months (40 weeks) after stoppage of menses, and about a month before the due date items necessary for the mother and child must be purchased. The items include garlic, ginger, tumeric, rice flour, dry fish, sesame oil, margosa oil and jaggery. "If among the garlic bought and brought home, either one or several of the single stem garlic be found, it is a sure sign that the conceived is a male child".[8] In a typical village home where elders are present, these rituals are still followed.

The pregnant woman must not be allowed to fry cakes or knead dough because if any unnatural shapes occur the child may assume that shape. Nor should she braid mats or baskets since if crowding of the strips occurs, the opening of the womb may be similarly narrowed.[9] The actual delivery occurs in an out-house temporarily built for the purpose. As the Midwives at that time were women of the caste of Nalavar (i.e. mainly toddy tappers), one suspects that the out-house may have been used because of the reluctance to admit them into the main house. Margosa leaves must be hung from the thatch to keep out

devils, a practice current to this day and margosa has been found to be an effective antiseptic. "Also a lamp is lit and oil kept ready by it to keep it burning continuously till labour is completed. If the lamp burns brightly the child will be boy, if dimly it will be a girl. Should the lamp go out, it would be a very ill omen".[10]

When labour commences the woman is encouraged to walk about as this helps the child in its descent. When delivery actually commences "the midwife sits down upon the ground placing both her own legs upon a bag of sand. Then she makes the woman sit down, in front of her, face to face, the patient placing her thighs upon the midwives feet. Another woman sits behind the patient to brace up her back".[11] If the child's head is well descended but there is great difficulty in the birth it means that a *Devathy* has been offended and is holding on to the child's legs. A *Sastri* (i.e. priest) must be immediately consulted. The *Sastri* may direct the sacrifice of a sheep or fowl or other offerings to be made to the *Devathy* to appease her.[12]

If after this the woman's distress does not abate, a little water should be charmed by mantras and rubbed over her abdomen, or a coconut split in two and stroked over body. The head normally emerges first, but if an arm emerges first the midwife will push it in, and if the head still does not emerge, nothing can be done. If the leg emerges first, the midwife should pull the child down as far as the shoulders and then try to pull the child out completely. If it will not come out then nothing can be done.[13] The solemn 'nothing can be done' repeated twice above probably implies maternal and/or infant mortality. Tragically, four years after the treatise was written, Dr McIntyre lost his wife and child during her second confinement.

The after-birth must be removed as soon as the delivery has been completed. If there are any lesions in the placenta or cord it is bad for the child. If the cord is full of lumps then it is a sign that the next child will be a boy. It is the duty of the midwife to bury the after-birth and bathe the mother using water in which the leaves of margosa, cotton and castor-oil plants have been boiled. After this a paste of tumeric and margosa oil is smeared all over the body.[14] No doubt this acts as an antiseptic. This is repeated for the next five days, and twice daily the

woman must eat with *kanji* a ladle full of a paste of garlic, ginger, pepper, tumeric and cumin seed. For the next fifteen days she should not drink cold water as this would hinder the healing process.[15] On the thirty-second day a Brahmin is called in to purify the house by sprinkling holy water using a mango leaf. Until this is done, none of the inmates should go to a temple.[16]

THE CHILD

"When a child is born, if it appears with its face downwards, it will be possessed of plenty of worldly good. If it be born feet foremost, even though unlearned in physic, the touch of its foot, or stroking a part therewith, will heal all fractures, bruises, pains and sicknesses. Maladies that would not yield to any medicine are cured by this".[17] It is interesting to note that this belief persisted until relatively recent times. If the head of a child appears to be very large, then a coconut must be split into two and one half pressed on the child's head like a cap to make it small. The time of birth must also be carefully noted so that the horoscope can be cast.

Soon after birth the cord is cut and knotted, and after a while the child is given a dose of *codi calli* juice. This is from a slender cactus like plant which has a milky juice. After this the midwife spreads a paste of tumeric on the child and carefully washes the child.[18] "If the child exits with the cord round its neck, it is a bad sign for the father and his relatives, but a very good sign for the mother and her relatives".[19] The child is initially fed on jaggery or sugar dissolved in water and after the third day the child can be nursed. If the child has one crown in its hair it will obtain authority, if it has two it will be a beggar, but if it has three it will be wealthy. On the morning of the seventh or ninth day a very elaborate ceremony is carried out to ward off the influence of devils and also to thank *Cothy*, a *Devathy* specially honoured by midwives for a successful childbirth. The child must sleep with its head pointing to the east as only corpses are laid with the head pointing west.[20]

Each time the child is bathed, a mixture of lamp-black and oil is smeared around the eyes. This is to ensure that the child does not get cats-eyes i.e. like white people.[21] On the thirty-second day the child is taken to the temple and the hair is shaved off and also any vows made

during delivery must be honoured. The Brahmin priest is asked to name the child, usually one of the names of that temple's deity.[22]

Moles on children are supposed to be placed according to the influence of stars. A mole on the right side is lucky for the male and unlucky for the female. A mole on the left side has the opposite effect. If the mole cannot be seen by the child it is considered lucky. A squint eye is also considered lucky. If a near relative dies at about the time the woman conceives, it is believed that the same person is conceived by the mother. "If the child born be a male, the thought is that he was in a former birth a debtor to the parents and has come in this birth to earn something to give them. If a female, then it is thought that she was a creditor in a former birth and has come to take her dowry".[23]

"Generally when it is ascertained that the child born is a girl, there is sorrow. When a boy, there is great joy. This is because the girl must receive a portion from her parents, whereas the boy will bring a portion with his wife".[24] Not much has changed nowadays, particularly in India where many abortions are induced when it is realised that the expected child is a girl.

If the mother has been away from the house for a while, she must not give the child milk immediately on her return, as an evil spirit may come and seize the child. If this happens an image of the child must be made of mud and placed on a braided coconut leaf with flowers and the *Devathy* driven off.[25]

For a woman to die with a child in her womb is considered a great calamity. If this happens, it is better to separate them before burial.[26] "Twin children, if of different sexes will not live long. If both are males or both are females there is more prospect of surviving.....If of different sexes it is thought that they were in a former birth husband and wife".[27] The birth of twins is generally considered to be a bad sign for the household.

Children must be hidden from the sight of visitors with an evil eye or tongue. If such a calamity happens then the child must be stroked with chillie and margosa leaves and the leaves burnt at a cross-road. If the sighting cannot be avoided, then the child must be blackened with charcoal to ward off the evil eye.[28]

When the child is just under a year old, the first feeding of solid food takes place. On an auspicious day, a mixture of rice, jaggery, milk and banana is fed to the child. This feeding must not be in the view of others.[29] Nowadays solid foods are introduced a little earlier in life. When teething commences, in order that they may grow nicely, a small ceremony is performed. Some small rice cakes called *kolukattai* are steamed and the child placed in a big basket and fed.[30] Nowadays small pieces of coconut kernel the size of teeth are cut and embedded along the outer edge of the *kolukattai*.

If for some reason the mother's milk supply fails before the child is weaned "the practice is to beg breast milk round the village, letting the child suck a little from this and that woman. (This giving of milk is counted as among the thirty two acts of charity or merit). Cows milk is on no account to be given to the child, being considered indigestible".[31] Clearly lactose intolerance has been recognized. When the mother becomes pregnant again, or if she falls seriously ill, the child may be weaned. This is done by smearing margosa oil on the mother's nipples to make them bitter, or the child sent away for a few days.[32] Children start their schooling at the age of five years. The course of study must start on an auspicious day and begins with the offering of a coconut to the God Ganesha.

The contents of Dr McIntyre's treatise must be considered in the light of circumstances of the time, which was over 150 years ago. Western medical science was very new to Jaffna and indeed to the whole of Ceylon. The vast majority of the population went to Native Physicians when they fell sick. It is significant to note that in the entire treatise there is no mention of these Native Physicians in the confinement. It is left entirely to the Midwife, and the *Sastri* is called in if there is a problem. It is significant also that Dr McIntyre does not interject at any time with any comments arising from his knowledge of western medicine. He lets the Midwife's commentary flow smoothly along.

Dr Green studied medicine at the College of Physicians and Surgeons, New York. This College was the first College in America to award the degree of MD. It is now the Post-Graduate Medical

Department of the Ivy League Columbia University. Chandler R Gilman was Professor of Obstetrics at the College of Physicians and Surgeons and Dr Green would have studied Obstetrics under him. In 1834, Henry Maunsell MD, Professor of Obstetrics in Dublin wrote a book on Obstetrics titled "The Dublin Practice of Midwifery". In 1842, Professor Gilman included some notes and additions in Maunsell's book and published it as an American edition, and this would have been the book that Dr Green would have used as a student. Dr Green, when he came to Jaffna, translated the Maunsell/Gilman 1842 edition of the book into Tamil and gave it the title of "The Theory and Practice of Midwifery, adapted to India, and translated into Tamil". Dr Green's book in Tamil was actually an improvement on the Maunsell/Gilman edition as the latter did not have a single illustration – imagine studying a medical text book without illustrations. Dr Green added several illustrations in his book by obtaining wood-cuts from Stephen Tracy MD (Professor of Obstetrics, New England Female Medical College) who had used the wood-cuts to illustrate his book "The Mother and her Off-spring" which was published in 1853 in New York. Dr Green's Tamil text was printed in 1857 by Ripley and Strong, who had just purchased ACM's press in Manipay. It has 259 pages including a 30 page glossary of medical terms. Dr McIntyre would have used in his medical studies the Maunsell/Gillman book as well as Dr Green's book which would have been in the proof stage.

References

1. Tan Sri S Chelvasingam-MacIntyre, *Through Memory Lane* ,Singapore, 1973, p. 5-13.
2. Ibid, p. 8-11.
3. *Papers of the American Board of Commissioners for Foreign Missions, Ceylon Mission, ABC 16.1.5,* Vol. 7, Section 158, pp. 1-50, Houghton Library, Harvard University.
4. Ibid, p.1.
5. Ibid, p.4.
6. Ibid, p.6.
7. Ibid, p.7.
8. Ibid, p.9.

9. Ibid, p.10.
10. Ibid, p.13.
11. Ibid, p.15.
12. Ibid, p.17.
13. Ibid, p.19–20.
14. Ibid, p.22.
15. Ibid, p.23.
16. Ibid, p.25.
17. Ibid, p.27.
18. Ibid, p.30.
19. Ibid, p.31.
20. Ibid, p.33–34.
21. Ibid, p.37.
22. Ibid, p.38.
23. Ibid, p.40.
24. Ibid, p.41.
25. Ibid, p.42.
26. Ibid p.43.
27. Ibid, p.44.
28. Ibid, p.45.
29. Ibid, p.45.
30. Ibid, p.46.
31. Ibid, p.48.
32. Ibid, p.48.

Appendix VI

A brief note on the ACM Printing Press to the end of the nineteenth century

As most of Dr Samuel Green's 4500 pages of translations of medical texts into Tamil as well as his minor publications were printed by the American Ceylon Mission's printing press in Manipay, Jaffna it would appropriate to include a brief note on the activities of this press in the nineteenth century.

The American Board of Commissioners for Foreign Missions (ABCFM) always considered a Press an important adjunct to a mission station so that religious tracts, text books etc could be printed cheaply and conveniently. In 1820 the ABCFM sent James Garrett as a Printer to Ceylon with a hand press and english types.[1] It has already been described in Chapter 4 how Governor Barnes refused to give permission for Garrett to work in Ceylon and he went off to India. Since the press was lying idle without a Printer, the American Ceylon Mission decided to sell the press to the Church Missionary Society in Nallur, Jaffna, where it was commissioned in 1826. The press was so busy that within three years it had printed over a million pages of tracts. The ACM also got their printing requirements done in this Press.

In 1831, Horton replaced Barnes as the Governor of Ceylon and he showed a more liberal attitude towards the American missionaries and agreed that new American missionaries could come to the island. This was after a period of eleven years when American missionaries were not allowed to enter Ceylon. In 1834 ABCFM sent Mr Eastman S Minor to Jaffna to work as ACM's Printer. He bought back the press from the Church Missionary Society and set it up in Manipay with four workers. The workload of the press increased rapidly and by 1838 they had four printing machines and a staff of 81 workers. The items printed included text books, Bible sections and tracts, and other religious material. 1000 copies of an abridged Tamil Grammar were also printed. In 1841, publication of the 'Morning Star', a fortnightly paper in English and Tamil commenced. It had a circulation of about 800 copies.

The first editors were two Tamils, Henry Martyn and Seth Payson. Between 1834 and 1854 the press printed a total of 171 million pages of print, or an average of eight million pages a year. In 1850 Mr Minor left Ceylon permanently.

In 1855, the ABCFM sent out a Deputation to India and Ceylon, led by Rufus Anderson who was the Corresponding Secretary of the Board for many years. He proposed sweeping reforms including terminating all teaching in English, the closure of the Batticotta Seminary, instituting charges for medical aid by the Mission dispensary, and the selling off of the ACM's Press. Anderson's view was that there was too much diversion from what should be the core area of the mission's work, and that these subsidiary activities were not producing value for money.

As a result of the Deputation's recommendations, in 1855 the printing press was sold lock, stock and barrel for 400 Pounds Sterling to two Tamils, Ripley and Strong. In 1866 Ripley died and his share was sold to Asbury and the press became known as the 'Strong and Asbury Press.' During this period many important works were published including 'Elements of Logic' by William Nevins, 'Tamil Plutarch' by Simon Cassie Chetty and 'Pancha Ratnam' by J R Arnold.

The translated Tamil editions of Dr Green's medical texts were printed by the ACM Press. The books printed include 'The Theory and Practice of Midwifery' (257 pages) in 1857, 'The Science and Art of Surgery' in 1867, 'Human Anatomy' in 1872, 'Human Physiology' in 1872 and many others. Towards the end of his stay in Jaffna, Dr Green was disappointed by the slow rate of printing by the Manipay Press and switched the printing of the books to the London Mission Press in Nagercoil (Nagapattinam), South India.

Reference

1. *The Company of them that Publish,* A brief history of the American Ceylon Mission Press, Manipay, 1956, p. 1-12.

Appendix VII

List of Tamil publications and translations by Dr Green or translated by his ex-students under his supervision and edited by Dr Green

Text Books

1. *Cutter's Anatomy, Physiology and Hygiene,* Samuel F Green MD, 204 pages, Manipay Mission Press, 1857.
2. *The Theory and Practice of Midwifery*, (Maruththuva Vaithiyam), Samuel F Green MD, 258 pages, Ripley and Strong, Printers, Jaffna, 1857.
3. *The Science and Art of Surgery*, (Irahna Vaithiyam), compiled from Erichsen and Druitt and translated by Joshua Danforth, edited by Samuel F Green MD, Manipay Press, Jaffna, 504 pages, 1867.
4. *Human Anatomy*, (Manusha Angkaathipaatham), Compiled from Gray's Anatomy; Wilson's The Anatomist's Vade Mecum; and Smith and Horner's Anatomical Atlas, translated Dr Daniel W Chapman, Medical Practitioner, supervised by Samuel F Green MD, 838 pages, Press of Strong and Asbury, Jaffna, 1872.
5. *The Principles and Practice of Physic, being a modified Tamil version of Hooper's Physician's Vade Mecum*, (Vaithiyaakaram), William Paul, Medical Practitioner, supervised and amended by Samuel F Green MD, 918 pages, Nagercoil, London Mission Press, 1872.
6. *Dalton's Human Physiology*, (Manusha Sukaranam), translated by Daniel Chapman, revised and edited by Samuel F Green MD, 134 pages, Manipay Mission Press, 1872. This was only the first part of the book, the complete book was published in 1883.
7. *Chemistry, Practical and Theoretical,* (Chemistham), David A Wells, rendered into Tamil by Samuel F Green MD with the

assistance of Medical Practitioners D W Chapman and S Swaminathen, 516 pages, Nagercoil, London Mission Press, 1875.

8. *Vaithyam*, (Practice of Medicine), written by Samuel F Green MD, 920 pages, Manipay Mission Press, Jaffna, 1875.
9. *Human Physiology*, (Manusha Sukaranam), Prof John C Dalton, translated by Daniel W Chapman, Medical Practitioner, revised and edited by Samuel F Green MD, 590 pages, Press of Strong and Asbury, Jaffna, 1883.
10. *Pharmacopoeia of India*, Edward John Waring MD, translated by Daniel W Chapman, Medical Practitioner, revised by Samuel F Green MD, 574 pages, Strong and Ashbury Printers, Jaffna, 1888.

Vocabularies

1. Physiological Vocabulary, 134 pages, 1872
2. Vocabularies of Materia Medica, Pharmacy, Diseases of Women and Children, and Medical Jurisprudence, Nagerkoil London Mission Press, 161 pages, 1875.

Appropriate vocabularies for each subject were also given in the text books.

Popular Treatises

1. Secret Vice, 24 pages.
2. The Soul's Abode, 44 pages.
3. The Mother and Child, 44 pages.

Religious Tracts

1. Lot's Choice, 22 pages.
2. Lucy and her Chickens, 12 pages.
4. The Shepherd of Salisbury Plain, 56 pages.
5. The Believing Tradesman, 28 pages.

Original Monographs

1. The Eye, 11 pages.
2. The Ear, 11 pages.
3. The Hand, 11 pages.
4. The Foot, 12 pages.

5. The Skin, 16 pages.
6. The Mouth, 12 pages.
7. The Body, 15 pages.
8. Be Clean, 04 pages.
9. Hints for Cholera Times, 20 pages.
10. Government Tract on Cholera, 11 pages.
11. The Way of Health, 04 pages.

Sources: Compiled from Ebenezer Cutler, DD, *Life and Letters of Samuel Fisk Green MD of Green Hill,* USA, 1891, pp.412-414, and R Ambihaipahar, *Scientific Tamil Pioneer—Dr Samuel Fisk Green,* Colombo, 1998, pp.65–71.

Appendix VIII

Appeal for donations by Dr Green in 1859

(Note: Dr Green worked in Jaffna from 1847 and returned to America in 1857 because of failing health (suspected tuberculosis). By 1862 he had recovered sufficiently to return to Jaffna to work there till 1873. This Appeal was made in 1859 during his period of recuperation in America. It was printed and distributed widely among physicians and philanthropists in New York. It was also distributed in Jaffna. The Mannikin (an anatomical model used for medical teaching), which is included in the list of items required and which cost $US300 was subsequently provided by Dr Edward Delafield, President of the College of Physicians and Surgeons, New York.)

Medical Department of the American Ceylon Mission

From the outset of the Mission, in 1816, the care of the sick was made a part of the range of usefulness, by Messrs Richards and Warren, who, after their theological studies had acquired some knowledge of medicine. About 1821, Dr Scudder succeeded them, and vigourously plied the same agency, till replaced by Dr Ward, who was for about fourteen years engaged as well in education, general and medical, as in the promotion of various branches of his profession. A few months after his withdrawal, Dr Green arrived and continued in charge of the department from October 1847 to December 1857, at which time he left, on account of failing health.

According to the best of his recollection, he found three natives partially, and three others well educated in medicine. Two other individuals, similarly trained, had already passed away. Since 1847, four classes consisting severally of three, five, four and eight, have been taught medicine. These were mostly native youth, from the Batticotta Seminary. There are now nineteen young Tamil men engaged in the practice of European medicine. Of these, at least ten may be pronounced naturally well endowed, and of respectable attainments. From among the entire number, several valuable physicians have died.

Medical education has been conducted in the English language, and the best text books used. Some little apparatus was available, and a fair supply of recent subjects for dissection. A dispensary, registering about two thousand patients annually, has been of essential aid in the practical training of students, besides which, attending the sick at their houses has been extensively followed. The worst obstetrical cases are usually made over to the foreign system by the untutored midwives of the land.

The following medical works have been prepared in the vernacular:

> A small volume on Anatomy, Physiology and Hygiene. A volume on Obstetrics; being a modified translation of Maunsell's Dublin Midwifery. A pamphlet on Secret Vice, which is fearfully prevalent. A pamphlet on Anatomy and Physiology, which in English might be entitled, "House I live in." A pamphlet on Midwifery, exposing abuses, and indicating in a simple way, the treatment of "Mother and Child."

PROSPECTIVE PLAN

As the demand for English is now fully met by other parties, the Mission, confident of larger usefulness, have determined henceforth to operate mainly through the vernacular; and in this they must work, if they would really permeate the community and leaven the masses with abiding instruction. Any future classes in medicine, under the auspices of the Mission, will therefore be instructed in Tamil.

It is highly desirable to complete a series of vernacular text books. The next work that should be produced is one on surgery and surgical anatomy; then one on the practice of physic and so on. These to be used in teaching, and to form the libraries of graduates and of village physicians. To illustrate these works, electrotype copies of appropriate cuts should be procured. These can not only be obtained at a trifling expense, but they are exceedingly useful to elucidate ideas quite novel in a strange land. As for some time to come, these books will sell for only a fraction of their cost, funds towards their preparation are needed, say an average of $US250 each volume, to meet the expense of pandits, copyists, printing etc.

It is the definite aim of this enterprise to displace a false by sound

medical practice; to supersede cruel superstitions by kindly truth; to root among the ten millions speaking the Tamil language, a system of physic and surgery, correct in its literature and practice that, being self-sustained, may long endure.

(Author's Note: It has not been possible to transcribe the paragraph which appears here because many words in the para have faded in the original 150 year old text and are not legible. The para appears to be a comment on existing Tamil medical systems.)

This circular is issued to engage the interest of the philanthropic in behalf of their Tamil fellow men, and to solicit their aid in raising the sum of one thousand dollars for expenditure, as follows:

	$US
For apparatus to use in Oral Instruction:	
A Mannikin (*an anatomical model*)	300
Pelvis and child's head, with ligaments	10
Skull dissected, to show ear, sinuses etc	20
Hand and foot bones, loosely strung, both	5
Model of the ear, four fold size	50
Model of the eye, four fold size	20
Model of the larynx, four fold size	3
Microscope, for minute investigation	60
Microscope, solar, for lectures	40
For preparation of Books:	
Electrotype copies of wood-cuts	200
Towards costs of translations and printing	292

Donations of those disposed to help in this matter, may be left with A Meewin Esq., Agent of the A.B.C.F.M., No. 5, Bible House, who will give still further information if desired, or forward any communications to the subscriber addressed to his care.

Samuel F. Green M.D.
of the American Ceylon Mission

Bible House, New York, March 12, 1859

We heartily commend this effort of Dr Green to the sympathy and

assistance of philanthropists generally.

Signed,

Edward Delafield, MD, President, College of Physicians and Surgeons.
Joseph M Smith, MD, Professor, College of Physicians and Surgeons
John W Francis, MD, New York
Alfred C Post, MD, Professor, New York City University
John Watson, MD, Surgeon, New York Hospital
Gurdon Buck, MD, Surgeon, New York Hospital
Gardiner Spring, Pastor, Brick Presbyterian Church
Wm R Williams, Pastor, Amity Street Baptist Church
W Adams, Pastor, Madison Square Presbyterian Church
A Clark, MD, Professor, College of Physicians and Surgeons
Geo. W Wood, Secretary, American Board of Commissioners for Foreign Missions
George P Marsh

Appendix IX

List of American Ceylon Mission American Missionaries and Assistant Missionaries who worked in Jaffna in the nineteenth century

(With dates of entering and leaving service. The latter is left blank if still in service at the end of the nineteenth century.)

Rev. Edward Warren	1816—1818
Rev. James Richards	1816—1822
Mrs Sarah Richards	1816—1825
Rev. Benjamin C Meigs	1816—1857
Mrs Sarah M Meigs	1816—1840
Rev. Daniel Poor	1816—1855
Mrs Susan B Poor	1816—1821
Mrs Ann K Poor	1823—1855
Rev. Miron Winslow	1820—1836
Mrs Harriet M Winslow	1820—1833
Rev. Levi Spaulding	1820—1873
Mrs Mary E Spaulding	1820—1874
Rev. Henry Woodward	1820—1834
Miss Lydia M Woodward	1820—1825
Mrs Clarissa E Woodward	1827—1836
Rev. John Scudder MD	1820—1836
Mrs Harriet Scudder	1820—1836
Rev. George A Apthorpe	1833—1844
Mrs Mary R Apthorpe	1833—1849
Rev Henry R Hoisington	1833—1844
Mrs Nancy L Hoisington	1833—1844
Rev. William Todd	1833—1834
Mrs Lucy Todd	1833—1834
Rev. Samuel Hutchings	1833—1843

Mrs Elizabeth Hutchings	1833—1843
Nathan Ward MD	1833—1847
Mrs Hannah Ward	1833—1847
Rev. James R Eckard	1834—1843
Mrs Margaret B Eckard	1834—1843
Mr Eastman S Minor	1834—1850
Mrs Lucy B Minor	1834—1837
Mrs Judith T Minor	1839—1850
Rev. Alanson G Hall	1835—1835
Mrs Frances L Hall	1835—1835
Rev. John J Lawrence	1835—1835
Mrs Mary H Lawrence	1835—1835
Rev. John M S Perry	1835—1837
Mrs Harriet I L Perry	1835—1837
Miss Eliza Agnew	1840—1883
Miss Sarah F Brown	1840—1841
Rev. Edward Cope	1840—1848
Mrs Emily R Cope	1840—1848
Rev. John C Smith	1842—1872
Mrs Eunice M Smith	1842—1842
Mrs Mary L Smith	1844—1872
Rev. Robert Wyman	1842—1844
Mrs Martha E Wyman	1842—1844
Rev. Samuel G Whittlesey	1842—1847
Mrs Anna E Whittlesey	1842—1848
Rev. Adin H Fletcher	1846—1850
Mrs Elizabeth W Fletcher	1846—1850
Rev. William W Howland	1846—1892
Mrs Susan R Howland	1846—1887
Miss Mary A Capell	1846—1848
Rev. William W Scudder	1847—1852
Mrs Catharine H Scudder	1847—1849
Rev. Eurotas P Hastings	1847—1890
Mrs Anna C Hastings	1853—1891
Samuel F Green MD	1847—1874

Mrs Margaret W Green	1862—1874
Rev Joseph T Noyes	1849—1852
Mrs Elizabeth A Noyes	1849—1852
Rev. Cyrus T Mills	1849—1853
Mrs Susan T Mills	1849—1853
Mr Thomas S Burnell	1849—1855
Mrs Martha L Burnell	1849—1855
Rev. Marshall D Sanders	1852—1871
Mrs Georgiana K Sanders	1852—1868
Mrs Caroline Sanders	1871—1871
Rev Nathan L Lord	1853—1858
Mrs Laura W Lord	1853—1858
Rev. Milan H Hitchcock	1858—1861
Mrs Lucy A Hitchcock	1858—1861
Rev. James Quick	1858—1868
Mrs Maria E Quick	1858—1868
Rev James A Bates	1861—1863
Ms Sarah A L Bates	1861—1863
Miss Harriet E Townshend	1867—1882
Rev W E DeReimer	1869—1878
Mrs Emily DeReimer	1869—1878
Mrs Maggie Webster Wood	1869—1869
Miss Hester A Hillis	1870—1880
Rev. Thomas S Smith	1871—1898
Mrs Emily F Smith	1871—1898
Miss Susan Reed Howland	1873—
Rev. Samuel W Howland	1873—1898
Mrs Mary E K Howland	1873—1898
Rev. Richard C Hastings	1879—
Mrs Minnie T Hastings	1882—
Miss Mary Leitch	1880—1886
Miss Margaret W Leitch	1880—1886
Mr George W Leitch	1880—1882
Miss Kate E Hastings	1882—1891
Rev Ernest A Bell	1891—1892

Mrs Mary Bell	1891—1892
Rev. Thomas B Scott MD	1893—
Mrs Mary M E Scott MD	1893—
Miss Kate L E Myers	1893—1898
Miss Isabella H Curr LRCPS	1896—
Mrs Mary Irwin Rutnam	1896—1897
Rev Giles G Brown	1899—
Mrs Clara P Brown	1899—
Miss Annie E Young MD	1899—
Miss Helen I Root	1899—

(Source: Adapted from Helen I Root, *A Century in Ceylon, A brief History of the work of the American Board in Ceylon, 1816—1916*, ACM, 1916, pp. 85-87)

Appendix X
Medical Missions[1]

Note: This essay was written by Samuel Fisk Green MD, in 1874 after his final return from Jaffna to America.

Experience has demonstrated that the physician may most efficiently aid the Preacher in the spread of the Gospel. Compared however, with what Medical Missions have yet to accomplish, but little has hitherto been done. Nevertheless much that is encouraging has already been effected.

Medical Missions must be considered as a pioneer agency of the first rank; whether the object be to secure entrance for the Gospel with communities still unreached, or into the dwellings of exclusive classes. As a general rule, the usefulness of the medical missionary will be much increased by his association with other missionaries, in the same field. To aid and comfort them will be one of his most important duties. A Medical Missionary should be a man having:

1. Earnest sympathy with the Redeemer, in the work seeking and saving the lost.
2. Sound judgment and common sense.
3. Enterprise, versatility and tact.
4. Vigorous health and active habits.
5. Thorough education and training in his profession.

As to the precise objects the Medical Missionary should set before himself:

1. He should have one abiding desire and purpose, to use to the utmost, the influence of his skill for the good of souls.
2. He should steadily hold as his ultimate aim, the establishment of a rational practice of medicine in the community and the introduction of medical science into the language and literature of the people.

When practicable, he should open a Dispensary or Hospital, one or both, wherever needed and have daily and repeated reading and explanation of the Scriptures and distribution of tracts. He will, of course, daily teach the Bible to his students and see to it that they are as well furnished in Scripture love, as in that peculiar to his profession.

He should not only acquaint himself with the language and customs of the people, but he should particularly investigate the native practice and the local Materia Medica. Whatever he may ascertain, that is valuable or curious, he should report home as his contribution to missionary literature.

He should be ever ready to counsel with the native practitioners; never seeming to oppose their notions. They will then more easily adopt his methods and the sooner spread the benefits of his art among the people. If placed very remote from other missionaries, it will be all the more desirable that he be ordained.

The Medical Missionary may be said to have accomplished his work when he has trained and seen independently settled in practice, one Native Christian Physician for every ten thousand population; when these are provided with the requisite medical books in their vernacular and have in training others, who shall perpetuate and duly increase the proportion of physicians to the population.[1]

Reference:

1. S F Green MD, Quarterly *Paper of the Edinburgh Missionary Society,* May 1874, Edinburgh, Scotland.

Appendix XI

Appeal of Dr Scudder to pious Physicians in the United States[1]

Panditeripo,
Ceylon.

Nov. 10, 1832

Beloved Brethren,

To those of us, who are surrounded by immense multitudes of perishing heathens, the subject of young men coming to our help, is one upon which you will naturally suppose we often dwell with intense interest. I not long since addressed a letter to the pious young men in America; hoping that I might, with the divine blessing, be instrumental in inducing some of them to engage in the work of missions, both to the destitute settlements in our country, and to the heathen. In that letter I made the following observation: "Pious physicians, especially by entering the ministry, and acting in the united capacity of physician to body and soul, have a very extensive opportunity of doing good. Such are much needed in our destitute settlements, and among the heathens, where there is often much suffering for want of medical aid.

Since that letter was written, I have learned from one of my friends in America, that "medical men are backward to go upon foreign missions." This information, of course, must be particularly distressing to any one who has had as great an opportunity as myself to know the extensive means such have of doing good. That there are many young men of our profession, of ardent piety whose hearts burn with love to the heathen, and who might go up to their help, I will not for a moment doubt. The reason why they do not, may perhaps be, because this duty has not been sufficiently pressed upon their attention. Under these circumstances I thought it might be well to write to you.

The only legitimate ground of your leaving your present situation for one in a heathen land, will be the persuasion that your means of doing good will be increased. If you have the talents to labour in the ministry as well as in the duties in which now engross your attention, you will doubtless feel that there may be a possibility of your glorifying your Lord and Master more by going to a heathen land, than by remaining at home, and acting in the capacity of a physician alone. I am aware that you will tell me, that in your visits to your patients, you have various opportunities of communicating religious instruction, and that you are not sure that you could do more good by going to a heathen land. At first sight there may appear to be more truth in the remark than is really the case. When I thought of engaging in the work of foreign missions, as I was in a situation where I felt the full force of it, I had quite a struggle to determine what course to pursue. The process, however, by which I was led to adopt that which I took, I need not mention. Suffice it to say, that I have never had occasion to repent of the resolution to which I came. Had I remained at home, I should probably not have honoured my Savior one tenth so much.

That you may be better enabled to judge as to the course of duty to be pursued by you, I will mention three things, to which I will beg you give your consideration. In the first place, by going to a heathen land you will be instrumental in removing an immense deal of bodily suffering. This obtains specially in regard to operative surgery. That such may be the case at home also, I allow. But there is a vast difference. Generally at home, most persons are so near several physicians and surgeons, that they can obtain relief, even if he who ordinarily attends them is gone. Of operative surgery, the heathen, in this part of the world, are almost entirely ignorant. I doubt whether one of them, unless taught by a foreigner, ever performed so simple an operation as blood letting. Of course, in all those cases, where the lives of the people might be spared, if some one acquainted with the healing art was at hand, they must necessarily die. These observations apply with full force to obstetrics. Vast multitudes die, and if I may judge from what I have seen, die under circumstances, from ignorant attempts to afford relief, of a most heart rending nature. I can hardly persuade myself to mention them. Should

anyone whom I am addressing, be in a situation where other medical help cannot be obtained, and consequently where much suffering would be induced by his leaving it, of course I would not advise him, (unless his place could be supplied) to think of foreign missions.

In the second place, by going to a heathen land, you will have a much more abundant opportunity of communicating religious knowledge than at home. The probability is, that you may be the only physician among hundreds of thousands of people, destitute of the knowledge of which I have just spoken. The consequence is, that you will soon acquire an influence which will then induce them to flock to you in great numbers. That such an influence has been obtained, I can assure you from experience. When they have seen me amputate, or heard of my amputating limbs, performing the operation for cataract, tapping in dropsy etc., they have called me the god of this world, a worker of miracles etc. In point of miraculous powers, they have said, that I have borne away the palm from their great idol Corduswamy. As might naturally be expected among such a people, these vain expressions tend to inspire those who hear them with confidence in me. I may probably within bounds say, that if all those who have come to me were different individuals, they, with persons who have accompanied them, would amount to tens of thousands. Of these, great numbers hear the gospel who never would otherwise hear it. My present medical assistant who has not yet been with me four years, thinks that, independently of others, he has read the tract entitled "The Heavenly Way" to thousands. When you take into consideration the amount of religious information communicated in this way, as well as by tracts which are often given them to take to places where the stillness of spiritual death is never broken by the sound of the blessed name of Jesus from the lips of any of His servants, you will be constrained to say, that, in my case, the amount of good done here must exceed that which I should have done had I remained at home. Of course, you have no reason to believe that the case would at all be different in regard to yourselves. While I make these remarks, it becomes me, however, to say, that if you are situated in places where there are no ministers of the gospel, the arguments to which I have previously alluded, that "you

have various opportunities of communicating religious instruction, and that you are not sure you could do more good by going to a heathen land," is not without much force. But it surely cannot apply, if you are situated where the people have the stated ordinances of the gospel, and where of course, your counsel and advice are not so absolutely needed as in the case of heathen lands, where there are none to make known the name of the only Deliverer from the wrath to come.

In the third place, if you go to a heathen land, you may be instrumental in doing a great deal of good by teaching the medical and surgical arts to native young men. In this way, the amount of suffering, beyond your own sphere of action, which might be prevented, would be incalculable. If these young men would become pious (as you might hope in many instances be the case, provided you could have the training of them from their early years) the weight of influence they would have in their respective villages on the side of Christianity would be very great. An instance of such influence not long since occurred in a village near Madras. About 120 Roman Catholics, if I remember correctly, deserted their faith, through the instrumentality of a young man who was formerly with Mr Rhenius of the Church Mission of Palamcotta. So much am I impressed with a sense of the importance of this subject, that if I had two lads from each of the 32 parishes in this district collected into a boarding school, to whom I could teach the great things belonging to their everlasting peace, as well as the healing art, I should consider myself as justifiable in devoting a considerable portion of my time to them. The greatest loss, by far, which this mission ever sustained by death among its native members, was that of P M Whelpley, a pious young man, who had learned something of medicine and surgery from me. He began to have much influence among the people, and it is probable that he soon would have had more, as far as medicine is concerned, than myself, as he was acquainted, to some extent, with the native system, of which I am almost entirely ignorant.

I have now mentioned some of the reasons, why young physicians should engage in the work of foreign missions; and it appears to me, that when you view the subject in a proper light, you will join with me in thinking that, if to the profession of physic, they unite the office of

a minister of Jesus Christ, they can, in the first place, do more good in a heathen land, than by remaining at home; and in the second place, that they may, in this united capacity, be more useful than those who labour in the ministry of the word only; and consequently, that, instead of being backward, they of all men ought to be the most forward, to engage in foreign missions. So much do I feel its importance, that I think no mission, if possible, should be sent out without one who, like his adorable Master, will go about 'preaching the gospel of the kingdom, and healing all manner of sickness and all manner of disease among the people."The deplorable situation of the heathen has often been painted to you in glowing colours; but you may rest assured, that every shade in their dark picture is strictly correct.....In this awful condition, are hundreds of millions in this eastern world, groping the dark road to death, passing off the stage of life, not merely by hundreds of thousands, but by millions, every year. The Sun of righteousness, which has risen upon you with healing in his wings, has not yet shed the first ray of his light upon the hundredth part of that darkness which hangs over the moral horizon. That solace which you derive even under the severest trials of life, from the enjoyment of this light, and which enables you to look upon death with composure, is to them unknown. "If sickness, at any time, saddens their chambers, or pain harrows their flesh," instead of viewing the hand of a kind and affectionate parent in such afflictions, as is the case with you, the only consolation they have is that of the stoic. They are suffering for their sins in a former birth, and therefore must bear it. If death enters their dwellings, they suppose it to be in consequence of the anger of some imaginary goddess. If they look beyond the grave, all is darkness and confusion. Truly, I may say, that even in this world, their cup of misery is full; and if there was no hereafter, it would be worth all the exertions of the Christian church to remedy it. With how much more force will this remark apply, when we look beyond this world into that lake which burneth with fire and brimstone, and in which they certainly must (if they die in their present situation) soon be swallowed up forever?

It is a situation which calls for devout thankfulness to our Heavenly Father, that in these latter days, American Christians have begun to feel

that they have an important duty to discharge in sending the gospel to the ends of the earth, and in accordance with these views, have sent forth numbers to make it known. Through their instrumentality, in some places where, but a few years ago, all was darkness, the glorious light of the gospel has dawned, and the heavenly hosanna, "Salvation to our God, who sitteth upon the throne, and unto the Lamb," has become the morning and evening sacrifice. By what God has already done, He is encouraging them to go forward. They feel this encouragement, and they will use every exertion to go forward, and that too with rapid strides, until they in common with their fellow Christians in other countries, have taken possession of the land ceded by God the Father to God the Son, when He bowed his head and said, "It is finished." But they can do nothing, unless their pious young men enlist in their service. Upon these they are calling to come up to their help; and as you constitute one of the most important parts of the instruments to be employed, they are directing some of their loudest calls to you. Will you obey them? Methinks you should. The awful conditions of immense multitudes who are on the road to eternal woe, and who must inevitably be lost unless you hasten to their relief, calls upon you to obey them. The obligations you are under to your blessed Saviour for having sacrificed the joys of heaven, the comforts of the world, and even His own life, for you, as well as the great honour you may bring to Him, both here and hereafter, equally call upon you to obey them.

To your most serious and prayerful consideration, I now leave the subject of my letter. As the happiness or misery of millions, perhaps, depends upon the determination to which you may come, beware, O, beware, I entreat you, how you lightly dismiss it. Let every step you take in this matter, be taken in reference to that day when you must meet your Saviour, with all those heathens to whose help you are called to flee, at His dread tribunal.

Very affectionately
J Scudder

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1. *The Missionary Herald for the year 1833,* Vol. XXIX, Boston, 1833, p. 269-271.

Appendix XII

Claims of the missionary work on pious Physicians[1]

(Note: This essay was written in 1866 in the official organ of the American Board of Commissioners for Foreign Missions. The object appears to be to attract pious American physicians to consider working abroad as medical missionaries. The American Board was always short of suitable candidates for medical missionaries and more so for ordained medical missionaries.)

To an intelligent resident among any unevangelized people, nothing can be more apparent than the want of competent physicians; and generally, the entire absence of such knowledge of anatomy, physiology, pathology or materia medica, as could fit one skillfully, or even safely, to prescribe in serious cases of disease, or perform surgical operations. Modern medical science is an outgrowth of Christian civilization and enlightenment. It is obvious, therefore, that if Christian missionaries and their families are to reside in pagan lands, they should have with them, or within their reach, as far as may be, educated physicians, also from Christian lands. Their own comfort, the satisfaction of feeling that all is done that can be done in many times of trial, the preservation of life, and proper care for health, call for this.

This usefulness of the physician in connection with other mission families, is however but one item, and that comparatively small, in the statement of opportunities for his usefulness. If the young physician looks for a field in which he may make the most of his education and skill, in relieving human suffering and prolonging human life; if he seeks an open field, free from obstructing competition; where will he find such opportunities as in connection with missionary stations? It is well understood that, very extensively, the unenlightened look with great confidence and reverence to physicians from Christian lands; that wherever missionaries are stationed, especially, they soon learn to do this, and even, in the absence of the physician, will often insist that the missionary whoever he may be, must prescribe for the many maladies to

which among them, not less than in Christian lands, flesh is heir. The qualified, kind Christian physician, may be soon, at almost any such station, overwhelmed with business, with the satisfaction of knowing, in unnumbered cases, that he is giving relief which could not otherwise be found, that he saves sight or hearing, limb or life, which would otherwise be lost. Mr Chester, of the Madurai mission, India, who went out, and desires to labour as a preacher rather than physician, wrote a few months since: "The people will come for medicine, and I have to be very systematic as to the time and mode of administering it. In eleven days there were nearly five hundred patients, reaching sometimes to seventy in a day." Dr Green, of Ceylon, in a report just received says, "From April 1 to October 1, there were registered at the Station Dispensary, 513, and at the Friend-in-Need Society's Hospital and Dispensary, (of which he has the supervision,) 2997 out-patients and 172 on-patients." Dr Green has also long had a class of several medical students, whom he is training for usefulness in the profession, among their countrymen. Many will remember the great amount of medical and surgical business which came to Dr Parker, who went to Canton in 1834. In September 1835, he opened a dispensary, and in November following he had three hundred patients, and up to the commencement of 1845, sixteen thousand had been received. He had also, like Dr Green, medical students constantly. Indeed, the call upon the time and strength of physicians just arrived in the mission fields, is often so great as seriously to interfere with the time which should be devoted to acquiring the language of the people.

Thus far, reference has only been made to opportunities for labour and usefulness in medical practice. But the Christian physician, no less than the Christian minister, has given himself to Christ; is to live for him; is to inquire, when looking for a field in which to do his life work, where the Lord would have him go. Looking at the matter in this light, how pre-eminently urgent often, must be the claims of mission fields. To do what he can in his profession to relieve human suffering and save human life, in this to imitate his master, is a part of a physicians duty to Christ. But beyond and above all this, the obligation rests upon him to make his acquirements and his skill as a practitioner, the good he can do and the influence he can acquire by healing bodily diseases,

subserve the higher end of promoting man's moral good; leading the soul diseased to Christ, that it may effectually be healed; building up that cause to promote which the Master healed, and taught, and suffered. And who, in this regard, can have more inducement to look abroad? The ready access which his profession will secure for him, often to all classes, to the high and the low, the rich and the poor, to women sometimes as well as men, even where customs of society exclude the mere missionary from their presence, affords him great advantage for recommending Christianity, for exerting, personally, a religious influence, and for securing to his preaching brethren, to the schools, and to every effort of the mission, the favour of the people. And it may not be unworthy of notice, that often, the discreet, able physician has more ready access to and more influence with Government officials, than any other member of the mission circle.

The eminent usefulness of physicians in these respects has often been exhibited. Such cases of those of Drs Grant and Wright, among the Nestorians, will be remembered as most encouraging. In an article on "Medical Missionary Work," published in the 'Record' of the Presbyterian Church, a few months since, it is said: "Reason shows the expediency of employing such labourers. They gain access to classes which other missionaries cannot reach. They remove prejudices, gain the goodwill of people, relieve much suffering, enjoy precious opportunities of making known the way of salvation. Dr Hepburn, in Japan, receives a company of native doctors from the capital, bringing some of their 'hard cases' to test the skill of the foreign physician, and after operations are performed which fill them with surprise, they and their American friend enter into friendly conversation about the new religion which he has the privilege of being the first to make known to them. Dr Kerr, in China, goes forty or fifty miles from Canton, to open a dispensary at a large city, as the best if not the only means of effecting a speedy settlement there of a worthy German missionary. They, and other medical missionaries engage also in the work of teaching the people in various ways, as well as of healing their various diseases. Who can question the usefulness of such labours as these? Doubtless the influence of these medical gentlemen has been increased a hundred fold for good, by their going

out as missionaries to Siam, China and Japan." A missionary of the United Presbyterian Church (Scotland) wrote from India: "Since the closing of the school, we have had leisure to try what would be the effect of a medical mission in Ajmer, which the visit of Dr Valentine has fortunately given us an opportunity of doing. I am happy to say that the results, whether in the city itself and the country around, or in the neighbouring towns and cities, have exceeded our most sanguine expectations. Where no interest existed it has been excited, and where previously it did exist it has been increased. People have a tangible proof set before them that our religion proclaims love to men as well as love to God."

And while, with reference to Christian usefulness, reasons which urge the pious physicians to look abroad are so many, the call for his services in his own land is much less urgent than in the case of our ministers. Just at this time, the fields opening for ministerial effort in our country are so many and so needy, that the reasons which would detain young men, entering on this work, in their own land, are strong. But the demand for physicians at home, present or prospective, beyond the supply, can hardly be as great. The pious physician is providentially so situated, that he seems more at liberty to seek the wide and promising fields open among the unevangelized.

There are now, there are almost constantly, earnest calls from missions of the American Board, and from those of other Boards, for the right men as physicians, from stations where proper regard to the life and health of mission families demand their presence, and where opportunities for usefulness, in all the ways which have been hinted at, are most encouraging. Yet the number of men offering their services, or who can be found and induced to go, is painfully small. The whole number of physicians now connected with the twenty missions, the one hundred and one stations of the American Board, is only nine, five of whom are also ordained preachers.

But it may be asked, who should go? What are the qualifications required for this service, and who possesses them? Certainly not every professedly pious young physician. The same care should be used in selecting medical men for their work, as in selecting others; and by the candidates themselves, the same careful scrutiny of their own qualifications.

(a) First of all there is required the heart, the grace, truly to consecrate oneself to the service of Christ, to go abroad not for the sake of fame; not to see the world; not to find a field in which to gain professional reputation and pursue professional business without a rival; but to find and occupy the position of highest usefulness as a servant of the Lord.

(b) Those moral, Christian, and social qualities which will enable one to live harmoniously and co-operate happily with others are of great importance, that, so far as he is concerned, there may be no occasion for contentions or alienations, no want of mutual sympathy, respect and esteem in the mission circle.

(c) Good common sense, a quality not as nearly universal as the term would seem to indicate, is one of the essentials.

(d) There must be good mental ability and a considerable degree of mental culture. What is technically called a 'liberal education' always desirable, may doubtless be dispensed with; but not mental discipline, and to some extent, scholarly habits.

(e) The call for qualities just specified is specially seen in connection with what may be noticed as another requisite – a good degree of facility in acquiring language. The missionary, whether a physician or a preacher, should acquire (and the sooner he can do so the better) such facility in using the language of the people among whom he labours, as to be well able, not only readily to transact ordinary business, but to communicate truthfully and impressively, religious instruction.

(f) There is required such a constitution, and such a state of bodily health, as may hold out a reasonable prospect of life and vigour in the field to which one goes.

Possibly inquiries may arise in some minds as to the financial basis upon which missionary physicians should go abroad and be sustained. In all ordinary cases, it is believed, the interest of the great cause will be most promoted by their being sent and supported upon strictly missionary principles, as other missionaries are; receiving a competent salary from the society sending them, and devoting their professional, as well as other talents, to the service of Christ, in the work for which they are sent. In

most fields, to a large extent probably in all, their services to the sick will be gratuitous, and wherever it may be judicious to receive compensation, what is received will be passed on to the mission treasury. The article already referred to in the Presbyterian Record takes this view, and adds: "We would not follow the English custom, that of forming a 'Society' for almost everything; a medical missionary society, for example, a society to send out female missionaries, as another example; because this multiplying of home agencies is needless, usually expensive, and often embarrassing to the churches and the supporters of the benevolent objects, by presenting claims for their support which jostle, and even conflict, with each other. Let pious physicians, suitably qualified and recommended, be sent by our Missionary Boards precisely as ministers are sent out, having the same relations to the Board, and the same position on missionary ground in all save clerical duties. In this way, the temptation of engaging in practice for secular emolument would be removed. When a physician goes out as a missionary, at the expense of the church for his passage and his support for several years, while acquiring the native language, we should regret to see him leaving the disinterested ground occupied by other missionaries. The missionary, ordained or medical, who seeks secular advantage from his position, must suffer a loss of power, we should think, in his own religious experience as well as his main work."

These thoughts and suggestions are commended to the prayerful consideration of Christian young men now in, or looking forward to, the medical profession. The work of missions must progress, for the world must be so given to our Redeemer for his inheritance, that in it he may see of the travail of his soul and be satisfied. And the claims of this work upon those who would serve Christ in the practice of the healing art, are surely urgent. May they be considered by them in the full spirit of the inquiry, "Lord, what will thou have me do?"

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Index

In the first decade of the nineteenth century, a movement began in America which had the objective of evangelizing the non-christian world. This led to the formation in 1810 of the American Board of Commissioners for Foreign Missions. The first mission was sent out to India in 1812 and the second mission was sent to Jaffna, Ceylon in 1816. Apart from the from the usual missionary activities, medical missionaries were also sent out. The medical missionary who made the outstanding contribution in Jaffna was Dr Samuel Fisk Green. He opened a small hospital and started in Jaffna the first western medical school in Ceylon, where ultimately 113 medical practitioners were trained. When he found that his trainees were going away to other parts of the country and joining government and mercantile service, he decided to switch the medium of instruction to Tamil.To teach in Tamil, he studied Tamil, coined Tamil medical terms because none existed and translated eight major medical textbooks of the day into Tamil, a total of over 4500 pages. His work was not given the recognition it deserved in his lifetime and it is hoped that this book will help to redress the balance.

The author, Thiru Arumugam, was born in Sri Lanka and is a Chartered Engineer and holds a Masters Degree in Business Adminstration. After a lifetime of work in electricity generation and water treatment in various countries, in retirement he has found the time to write about a subject that has interested him for some time. In some respects he is following in the footsteps of his father, S. Arumugam, who was also a Chartered Engineer and wrote books on engineering, ancient Hindu temples of Sri Lanka and a Dictionary of Biography of the Tamils of Ceylon.

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