History of Medicine

Transactions of the Medical and Physical Society of Calcutta: The first English language medical journal in India

SAVITRI DAS SINHA

This article traces the development of the first English language medical journal in India—*Transactions of the Medical and Physical Society of Calcutta* (*TMPSC*, abbrevated in MEDLINE as *Trans Med Phys Soc Calcutta*).

The *TMPSC* was published annually in 1825, 1826 and 1827; then once in two years till 1836. According to Leonard Rogers (Indian Medical Service), 'In 1837–38, six quarterly journals were distributed among the members, but in 1842 a large volume was published…and a ninth volume was issued in 1845, which is the last to be found in the Medical College Library.'[1] The cover page of volume 1 states that it was printed for Messrs Thacker and Co., St Andrew's Library, Calcutta (present Kolkata; Fig. 1). Each volume had 500 or more pages and some coloured plates of rare diseases. The *TMPSC* was published by the Medical and Physical Society of Calcutta (MPSC).

THE MEDICAL AND PHYSICAL SOCIETY OF CALCUTTA (MPSC)

The MPSC was established in 1823 with James Hare (Surgeon Calcutta Establishment, Native Militia) as President; James Mellis (Presidency and Marine Surgeon, Calcutta) as Vice President and John Adam (Assistant Surgeon General Hospital and in Medical Charge, Calcutta Native Militia), as Secretary.[2] Members of the MPSC included 'Residents' who were at the Bengal Presidency and its vicinity, such as Dum-Dum, Barrackpore and non-residents (those in other parts of the Indian subcontinent).[3] There were 2 types of subscriptions: ₹12, quarterly, for resident members; and half-yearly for non-resident members.[1] Initially, only members of the Medical Board of Bengal (including present day Bangladesh) were mentioned as patrons. Later, members of the Medical Boards of Madras (presently Chennai), and Bombay (Mumbai) were mentioned as patrons in the *TMPSC*, 1829. They were expected to be 'men of scientific attainments, and already distinguished in those departments of research connected with the objects of the Society'.[4] There were Corresponding Members from India, Britain, Ceylon (present Sri Lanka), Chile, France, Germany, Mauritius, etc.

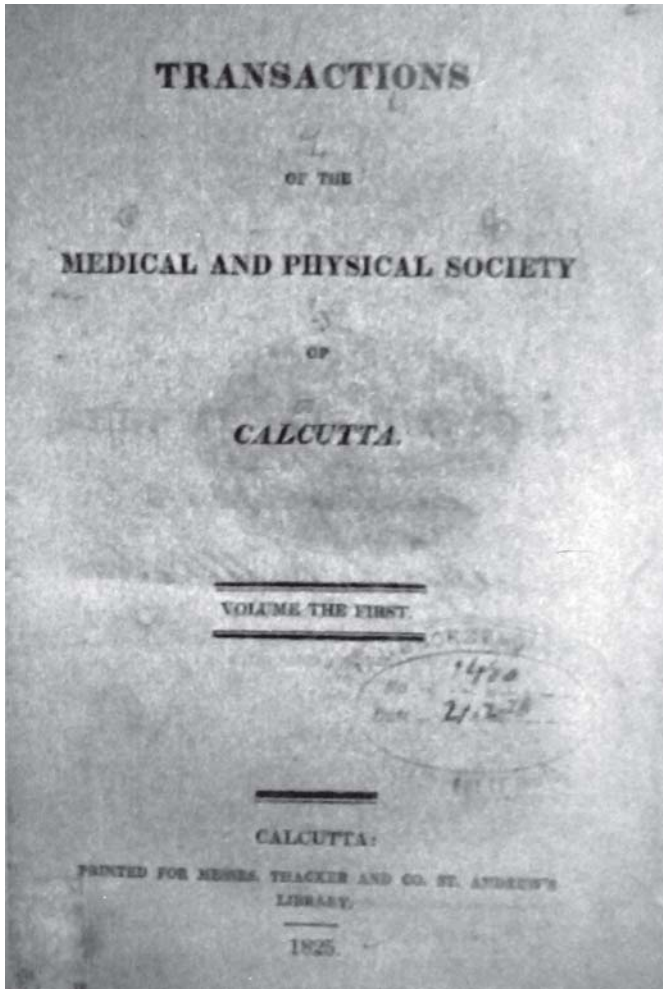
Indian members

Initially there were no Indian members. In 1827 (Vol. 3), Ramkamal Sen (also spelt Ramcomel Shen/Ramcumal Sen) appeared as Corresponding Member in the *TMPSC*. Later in 1833 (Vol. 6), he became the first Native Secretary of the *TMPSC*, and Baboo Muddoosoodun Goopt (Madhusudan Gupta), Professor of Medicine in the Sanskrit College, Calcutta; and Rajah Kalikissen, Calcutta (no designation provided) were included as Corresponding Members.

Meetings, subscriptions and publication policy

Meetings were held on the first Saturday of every month at 8 p.m. in the rooms of the Asiatic Society, Calcutta.

All communications were addressed to the Secretary and, customarily, he would present papers or dissertations and their contents at the first meeting after their receipt, to the Society. Of these, one or more papers were then circulated by the


TRANSACTIONS

OF THE

MEDICAL AND PHYSICAL SOCIETY

OF

CALCUTTA.

VOLUME THE FIRST.

CALCUTTA:

PRINTED FOR MESSRS. THACKER AND CO. ST. ANDREW'S LIBRARY.

1825.

FIG 1. Cover page of the first issue of the *TMPSC*. Available at *https://indianculture.gov.in/rarebooks/transactions-medical-and-physicalsociety-calcutta* (accessed on *7* August 2021)

Formerly staff of *The National Medical Journal of India*, All India Institute of Medical Sciences, Ansari Nagar, New Delhi 110029, India; *savitrisinha21@gmail.com*

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Secretary among the members who were acquainted with the subjects, who would come prepared to discuss these when they were presented at the meetings of the Society. If recommended for publication, the papers were printed, and copies distributed to the members.

The *TMPSC* did not name a specific editor. Different functions associated with the editorial office today were probably carried out by a group of people. There were lists of the Members of the Committees of Papers and Managers. Notices and announcements signed by J. Adam, Secretary, MPSC, dated March 1823; and Allan Webb, Secretary, MPSC dated 3 March 1845, indicate the prominent role of the Secretary.[5,6]

Resolutions for publishing TMPSC

John Adam, while circulating the Resolutions (dated 23 March 1823), stated that every medical man could contribute towards the objectives of the Society. This would entail 'the advancement of professional knowledge in general; and the promotion of such branches of Natural History as are connected with it; …in short, the whole range of medical pursuits would be considered…much original and highly important information may be collected, that will materially promote both the Science and the Practice of Physic.'[7] The resolution mentioned a wide range of topics that would be covered by the *TMPSC*.

A new world to discover and report: Preface to the TMPSC

The stated objectives of the journal were outlined in the Preface to Vol. 1. The primary impulse was to connect within the medical community. The Preface also stated: 'The great outlines of disease are much the same in all countries…It must therefore not be imagined that we are in an unexplored region, or are likely to discover new morbid conditions or indications of cure.'[8] Hence, disease modified by climate or habit, indigenous medicaments, and the history of Oriental practice, were to form the topics and would be important to pathology and to physiology, to determine the modifications which they induced'.[8]

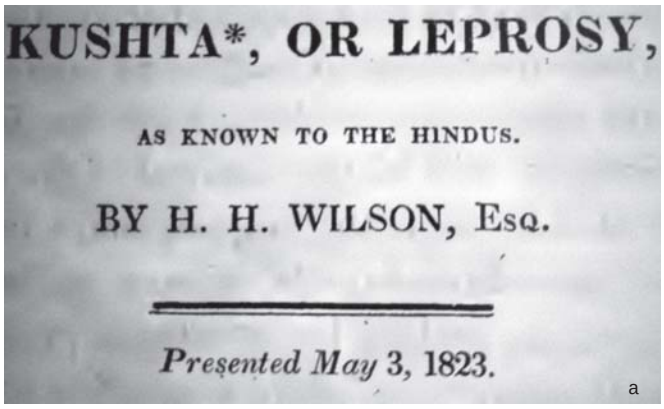
However, the desire to showcase their worth to the world at large was also evident: 'Whatever advantage may be realized from enquiries thus favourably instituted, will be shared by us with our brethren of the West; but some benefits may be expected from an improved circulation of useful information amongst ourselves, which may be regarded as exclusively our own.'[8] A country and civilization new to the readers was being reported.

TMPSC and global readership

A large number of articles were systematically reproduced, reviewed, reprinted and critically analysed in the contemporary journals of the West, such as *The Medico-Chirurgical Review (Med Chir Rev)*, the *Edinburgh Medical and Surgical Journal* (*Edinb Med Surg J*), *The Lancet*, *Provincial Medical Journal and Retrospect of the Medical Sciences (Prov Med J Retros Med Sci)*, *The Boston Medical Surgical Journal (Boston Med Surg J)* and others.

Contents: Some articles

'An essay on *"Kushta"*, or Leprosy, as known to the Hindus' was the first article in the first volume (Figs 2 a,b) of the *TMPSC*, reflecting the overwhelming importance of leprosy for India. To explore this disease, Horace Hayman Wilson (then Surgeon Bengal Establishment; Assay Master Calcutta Mint; Vice-President of the MPSC), took the help of 'native guides'.[9]

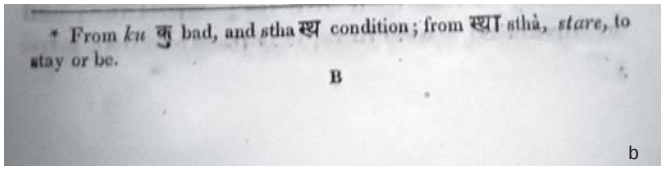

KUSHTA*, OR LEPROSY,

AS KNOWN TO THE HINDUS.

BY H. H. WILSON, Esq.

Presented May 3, 1823.

a


* From *ku* कु bad, and *stha* स्थ condition; from स्था sthà, *stare*, to stay or be.

B

b

FIG 2 a, b. First article in the *TMPSC: Kushta*, or Leprosy with word meanings *TMPSC* 1825;1: 34. Available at *Transactions / Medical and Physical Society of Calcutta. Volume 1, 1825: Transactions / Medical and Physical Society of Calcutta.* (accessed on 1 August 2021)

The article also evoked different responses in the journals of the West. The *Med Chir Rev* dismissed it: 'It will be read with much interest by our Oriental brethren, and to them we must consign it.'[10] However, The *Edinb Med Surg J* found it a learned paper on *kushta* or leprosy: '…It contains a very curious account of the cutaneous nosology of the Hindoos, and of their aetiological doctrines, as well as many interesting notices respecting their Materia Medica and Pharmacy.'[11] *The Lancet* had no qualms about taking a close look at the Indian medical principles concerning the disease that baffled those in Britain and India alike.[12] There was also a debate as to whether elephantiasis would be a form of leprosy. However, the reviewer of *The Lancet* felt that the two swellings were so perfectly distinct that the experienced observer would have no difficulty in distinguishing them.[12]

Other articles included in the volume were on trees that produce camphor wood and sassafras bark,[13] snakebite,[14] a study on cholera,[15] locusts, etc.[16]

Types of articles published

The articles covered a wide range of topics, including medical topography; medical pathology and therapeutics; materia medica; and those relating to surgical pathology and surgery. Hovering over all these classifications is the shadow of military medicine, which is often at the background of many articles. There was a plethora of articles on geography, metereology, including rainfall that directly impinged upon health—what was called medical topography and is classified today as geographical medicine.

Medical topography

Medical topography was of interest to people who were discovering new lands for themselves. A list (incomplete) of some of the articles on medical topography in the *TMPSC* indicates the extent of coverage in Chittagong district (presently

in Bangladesh),[17] Meerut (Uttar Pradesh),[18] Bencoolen (Singapore),[19] Canton (China)[20] and Van Dieman's Land (Tasmania).[21]

The British were constantly looking for places to station their troops. D.S. Young (Madras Establishment) described the climate of the Neelgherries (present Nilgiris) as the '… most extraordinary in the whole world. The temperature is remarkable for its equability, …'.[22] Young recommended Nilgiris as a cantonment site, where British troops could be stationed, a place to acclimatize after landing in India, and a fitting nursing centre for invalids and pensioners.

It is a sign of priorities that the *Edinb Med Surg J* was convinced that Young's paper was, 'in many respects, the most important, that has yet appeared in the Society's Transactions'.[23]

Another example of combining medical topography with military medicine is a set of two articles, one on diseases of the spleen[24] and another on diseases that affected the troops in Arracan.[25] Both the articles reviewed in the *Med Chir Rev* had a common title 'On diseases of the spleen' and the disease being discussed is obviously malaria.[26]

Public health

There was great emphasis on the public health planning of European settlements, especially the need to keep away from debilitating heat. There was a combining of technological and geographical approaches. James Ranken (Surgeon Bengal Service) considered an excess of heat, amounting on an average of 30 degrees above the temperature of Great Britain, as the primary cause of the endemic disorders afflicting Europeans in India.[27] To mitigate this heat, Ranken described what we may call an air cooler today, detailing the '…comforts and even delight afforded by the Thermantidote,…it is a species of ventilator, the invention of a Mr Hough…compared to a winnowing machine, the revolving of which sucks in air from without, and makes it pass through or along wet screens into the chamber to be cooled.'[28] The article concluded with ten detailed and specific points on the characteristics of a healthy (military) station in India.[28]

Dracunculosis

Dracunculosis or Guinea worm was a major scourge, which was covered by many articles in the *TMPSC* starting from the first volume.[29–31] A. Duncan (Surgeon Bombay Service) described the technique of extraction of the worms.[32]

Ulcers

Ulcerations, then poorly understood, and often fatal under the circumstances also find a mention. A set of two articles, 'An account of an epidemic malignant ulcer, or hospital gangrene' and 'On gangrenous ulcer' related to non-healing ulcers by John Adam (Assistant Surgeon Bengal Establishment, Secretary Medical Board) and Leslie J. (Assistant Surgeon 2nd Battalion Artillery, Bengal Establishment), respectively, both related to military medicine.[33,34] These articles were extensive, descriptive accounts of similar ulcers which relate to climate and spread rapidly among the troops. Thus, they were of great interest to British medicine, and were reviewed and reprinted in the *Med Chir Rev* in 1829.[35] However, the extensive reprinting was justified: 'Every contribution to the history of so formidable a malady as that under consideration must be read…, to encounter "the foul fiend" in all his horrors.'[35]

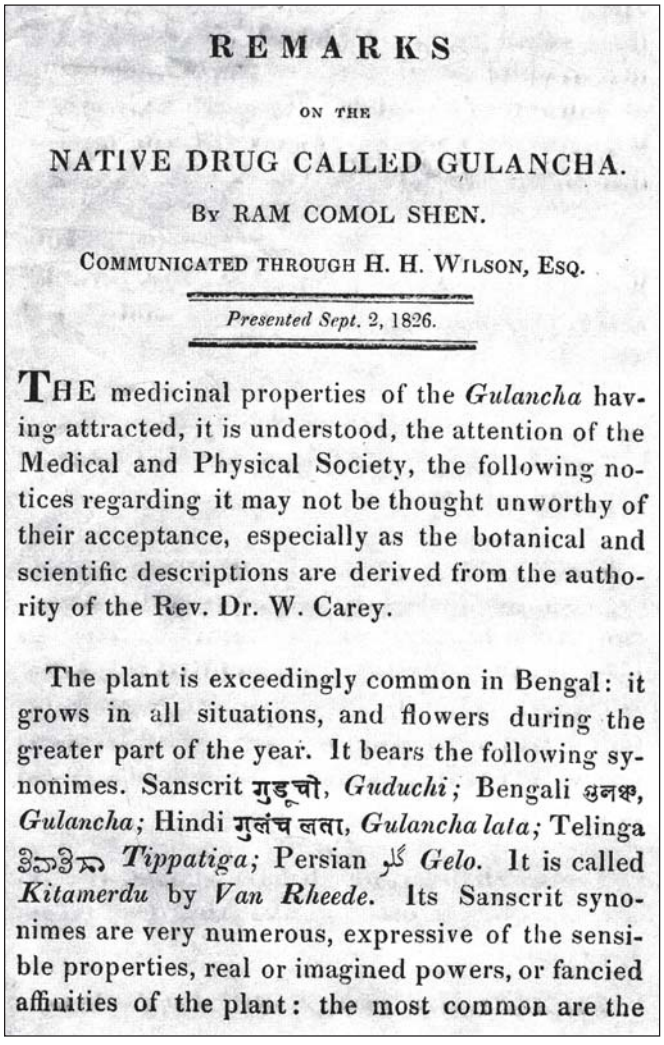
Contributions by Indians

The first two articles by an Indian in the *TMPSC* were by Baboo Ramcomel Sen/Ram Comel Shen (who was not a practitioner but a corresponding member of the MPSC).[36,37] The first was communicated through H.H. Wilson, then Vice President of the MPSC (Fig. 3). Wilson obtained information for the treatment of cholera as practised by Bengali practitioners from Baboo Ramcomel Shen. To establish authenticity, Wilson termed Shen as a 'a respectable and intelligent member of the native community'.[38]

Indigenous medicine, materia medica and eastern methods of surgery

The sweep of the articles on indigenous medicine covered the British territories in the Far East, the Malay Peninsula and China. Some were concerned with indigenous plant products, while others looked at the flora and fauna in a medical context.

As regards indigenous medicines, the approach was mainly one of curiosity and assimilation rather than exclusion, even though there was an undercurrent of superiority over eastern



REMARKS

ON THE

NATIVE DRUG CALLED GULANCHA.

By RAM COMOL SHEN.

Communicated through H. H. Wilson, Esq.

Presented Sept. 2, 1826.

THE medicinal properties of the *Gulancha* having attracted, it is understood, the attention of the Medical and Physical Society, the following notices regarding it may not be thought unworthy of their acceptance, especially as the botanical and scientific descriptions are derived from the authority of the Rev. Dr. W. Carey.

The plant is exceedingly common in Bengal: it grows in all situations, and flowers during the greater part of the year. It bears the following synonimes. Sanscrit गुडूची, *Guduchi;* Bengali গুলঞ্চ, *Gulancha;* Hindi गुलंच लता, *Gulancha lata;* Telinga తిప్పతిగ *Tippatiga;* Persian گلو *Gelo.* It is called *Kitamerdu* by *Van Rheede.* Its Sanscrit synonimes are very numerous, expressive of the sensible properties, real or imagined powers, or fancied affinities of the plant: the most common are the

Fig 3. First article by an Indian—Ram Comol Shen *TMPSC* 1827; **3:**295–9; Available at *Transactions / Medical and Physical Society of Calcutta. Volume 3, 1827. : Transactions / Medical and Physical Society of Calcutta* (accessed on 2 August 2021)

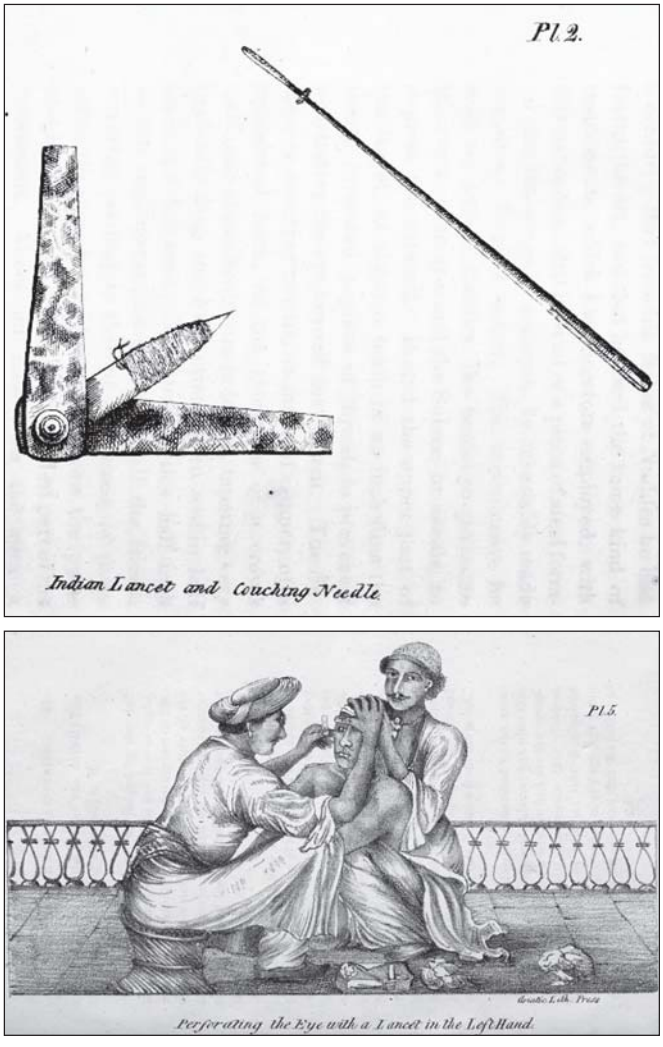
medicines and techniques. Of course, many of the western techniques were still medieval; purging and bloodletting were mainstream medical practice. Plant-derived products formed a large part of the European pharmacopoeias on a purely empirical basis. Surgery was also of another age. It must be remembered that it was still the pre-antisepsis, pre-anaesthesia era.

Eye surgery

Accounts of surgical techniques for eye surgeries published in the *TMPSC*, with illustrations by Peter Breton (Surgeon, Superintendent of School for Native Doctors, Calcutta), extensively discussed cataract removal by the eastern method or 'couching'.[39] There was also a paper on 'Modification of the oriental operation of couching'[40] along with suggestions to improve it by modifying of instruments and techniques (Figs 4a,b).

Medical pathology and therapeutics

Medical pathology and therapeutics formed a large proportion of the articles in the *TMPSC.*



FIGS 4 a,b. Instruments (Indian lancet and couching needle) and Native mode of couching cataract. *TMPSC* 1826;**2:**341–83. *Available at Transactions / Medical and Physical Society of Calcutta. Volume 2, 1826 : Transactions / Medical and Physical Society of Calcutta* (accessed on 2 August 2021*)*

Influenza

'An account of the epidemic catarrh' described an outbreak of influenza in Penang (Malaysia), with well-marked catarrhal symptoms. These were harbingers of an epidemic, which spread over most Europe in the spring and summer of 1832.[41] While the disease was not fatal by itself, it aggravated pulmonary disorders, and indirectly caused death in many 'aged and infirm natives'. While reviewing the article, *Med Chir Rev* traced the date and spread of the disease: 'The influenza commenced, in Java, in May 1831; reached Penang, in the straits of Malacca, by the middle of July1832. In January 1833, it visited India, and then westward, then probably…extinguished in the back woods of America!'[42] *Med Chir Rev* concluded that the disease travelled from East to West. Ward was prescient about the spread of the disease. 'Was this by contagion? And if not, why not? The contagionists must answer this puzzle.'[42] We still have debates on droplets and aerosols in SARS-CoV-2 infection.

Goitre

There is appreciation for the global sweep of 'thyroid swelling or bronchocele'. M.J. Bramley (Assistant Surgeon Bengal Service) wrote: 'No disease, perhaps, is so extensively distributed over the mountainous countries of Asia as Bronchocele.'[43] He pointed out the importance of local factors. When someone recently posted to an endemic area started showing signs of goitre, he would recover if he was promptly moved out. Application of iodine was supposed to be helpful. This article was a detailed epidemiological study that revealed the nature of prevalence of thyroid disorders in the northern hilly areas of the Indian subcontinent and also mentioned its mitigation by iodine. Recently this article has been been highlighted by Chatterjee *et al.*[44]

Burning feet

Burning feet, similar to what we know as peripheral neuritis today, were often reported in colonial medical journals. Perhaps one of the earliest descriptions of burning feet in India comes from a paper by J. Grierson, attached to the Arracan division of the Army, presented to the MPSC in 1825. As the disease had no nosological term, Grierson used the words as expressed by the patients: 'A burning in the soles of the feet'.[45] The graphic description of this was given by *Edinb Med Surg J:* 'It occurs very often after, or together with fever and bowel complaints. There is a burning sensation…in various degrees of severity, from an uneasy harassing sensation of heat and tingling, to the painful extreme of burning…There is no inflammation, tension, discoloration, or visible change in the limb; the excruciating burning pain being the only symptom present; and the spot principally referred to as its seat, is the extremity of the foot, the heel and instep being less affected.'[46] Many of these neuropathy-like conditions were attributed to deficiency disorders in the first half of the 20th century. There is a classic paper by C. Gopalan (Clinical Research Assistant, Nutrition Research Laboratories, Coonoor) describing a similar condition attributable to a deficiency of pantothenic acid.[47] These dots were connected by Hugh S. Stannus who mentions Grierson's and Gopalan's paper in context.[48,49]

Diarrhoea: A disease affecting Indians

In 1826, John Tytler (Surgeon Presidency, Bengal Establishment) read a paper on diarrhoea in which he argued that 'of the total

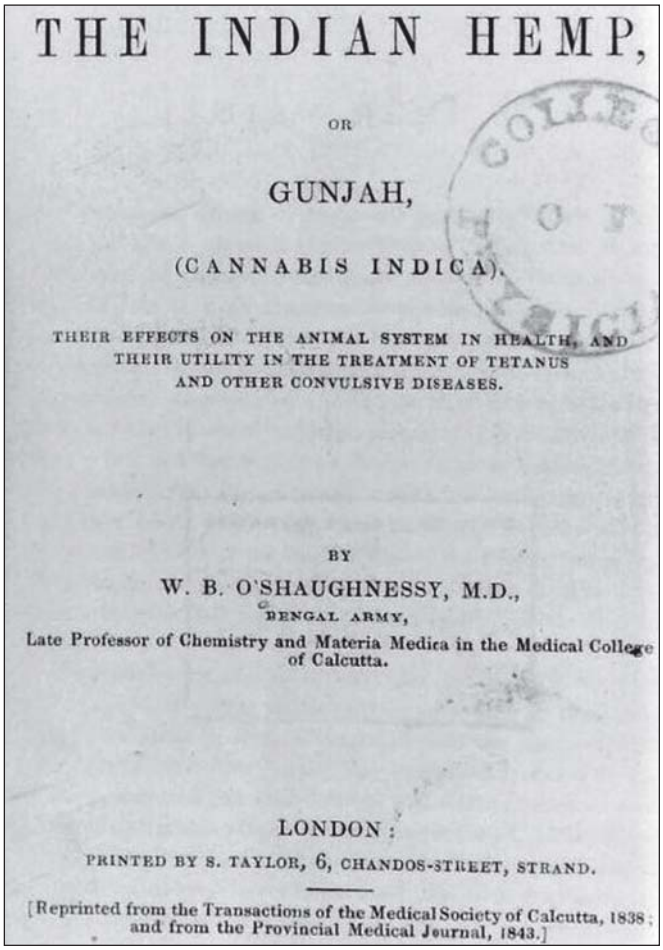
deaths among the lower orders of the natives of Hindostan, three fourths are the effect of this disease, either idiopathic or as a terminating symptom'.[50] Tytler designated this condition 'Diarrhoea hectica'.

Indian hemp or gunjah (Cannabis indica)

William Broke O'Shaughnessy, Professor of Chemistry and Materia Medica in the Medical College of Calcutta, had published extensively on cannabis and was the first to draw attention to its value in tetanus. His paper 'On the preparations of the Indian hemp, or gunjah (*Cannabis indica*): Their effects on the animal system in health, and their utility in the treatment of tetanus and other convulsive diseases', first published in the *TMPSC*, was later reprinted in the *Prov Med J Retrosp Med Sci* (Fig. 5)[51,52] A recent article by Mukherjee highlights O'Shaughnessy's investigations at a Calcutta hospital on medical marijuana as a first in modern medicine.[53]

Smallpox vaccination

Vaccination, and its efficacy was often a cause of concern, similar to today's debates on vaccine efficacy. In early colonial days, because of ineffective smallpox vaccines, there was an unacceptable frequency of severe and sometimes fatal breakthrough infections. The Medical Board was concerned about the increasing incidence of smallpox, even in vaccinated individuals. The Medical Board called upon their vaccinators to institute a series of investigations and experiments, 'to regenerate the virus, and, restoring it to its pristine activity, if it really has degenerated…The best means of effecting this, the Board felt, would be to obtain a fresh supply of virus from the original source (cow).'[54] G.G. Macpherson (Surgeon, Bengal Service and Superintendent of Vaccination at Moorshedabad, present Murshidabad), in his reply detailed out his observations on various cases of smallpox in Europeans and Indians; his successes and failures in inducing cowpox in cattle, and his extraction of infective fluid from these. An indication of the worth of Indian lives is that these vaccines were first tested in Indian children for the pustules and systemic inflammation they produced. This was followed by challenge experiments of a type unthinkable today. 'With the view, however, of satisfying myself that true cow-pox was introduced, I had two of the children who had been vaccinated by the fresh virus, inoculated with smallpox, and both were happily found to be secure.'[54] To revive old and ineffective stock, Macpherson sent to Calcutta, crusts and ivory points, charged with new lymph. The *Boston Med Surg J* found the paper important enough to reproduce a detailed abstract.[55]


THE INDIAN HEMP,

OR

GUNJAH,

(CANNABIS INDICA).

THEIR EFFECTS ON THE ANIMAL SYSTEM IN HEALTH, AND THEIR UTILITY IN THE TREATMENT OF TETANUS AND OTHER CONVULSIVE DISEASES.

BY

W. B. O'SHAUGHNESSY, M.D.,
BENGAL ARMY,
Late Professor of Chemistry and Materia Medica in the Medical College of Calcutta.

LONDON:
PRINTED BY S. TAYLOR, 6, CHANDOS-STREET, STRAND.

[Reprinted from the Transactions of the Medical Society of Calcutta, 1838; and from the Provincial Medical Journal, 1843.]

FIG 5. Indian hemp, cover page showing first published in the *TMPSC* and reprinted in the *Prov Med J*, Available at *https://wellcomecollection.org/works/x7ktwb6f* (accessed on 6 August 2021)

CONCLUSIONS: *TMPSC* IN PERSPECTIVE

The *TMPSC* commenced its publication (in 1825) around the same time as *The Lancet* (1823) and several other journals. The background of the contributors to these journals was very similar to that of the *TMPSC*. However, there was one major difference. While there was an intellectual and civilizational continuity inherent in the journals of the western world, the *TMPSC* was a colonial transplant in an alien soil. British rule in India under the East India Company was still uncertain and shaky, which was reflected in the journal.

However, this did not deter its contributors. The densely packed original articles show the observations of the enthusiastic group of 'medical men' who had come into a faraway colony, isolated from the medical mainstream and yet were enthusiastic to contribute and participate in the ever-increasing flow of medical discovery. Many of their papers reflect the excitement of new discoveries and the frustrations of being unable to find answers to their problems. The *TMPSC*, like other similar journals, contributed to the body of work that helped in developing a modern understanding of medical science. It provided valuable insights, not only into what are known as tropical diseases, but also into other conditions that have a more global presentation. The journal had a universal appeal, as it encompassed articles from the Indian subcontinent and adjoining areas: Chittagong (presently in Bangladesh), Burma (Myanmar), Canton in China, Malay Peninsula, Nipal (Nepal) and was also presented to the occident through reviews and reprints.

Another defining feature of this journal was the emphasis on Francis Bacon's 'knowledge is power' directly linking up orientalism and the 'civilizing mission' with the economics of colonialism. A very similar thought had earlier been expressed in the *Med Q Rev* while reviewing the *TMPSC* articles:[56] 'In tracing the progress of civilization through the pages of history, we are continually reminded of the maxim of Bacon, that knowledge is power: we see the countless hosts of Gaul or Thrace yielding to a few disciplined legions; and, in after ages,

the humble embassies of distant nations confessing that their only hope was in submission, for that force is rendered irresistible by science. Yet the course of modern events is more gratifying still: they shew us that intellect is not only the parent of power, but the sister of benevolence; and, if the victorious arms of Europe have commenced by destroying, they have ended by renovating.'[56] Destruction of the existing structures in India and 'renovation' in the colonial mould! At that time, the East India Company was attempting to expand across India, relying both on the force of arms as well as diplomacy. In its simplest form, Orientalism becomes a means of knowing the subject to benefit the colonizer. The well-meaning medical men, contributing to the *TMPSC* were also players in this civilizational conflict.

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