The first dissection controversy: introduction to anatomical education in Bengal and British India

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The history of Calcutta Medical College (CMC), established on 28 January 1835, is inextricably intertwined with the rise of rational scientific medicine in India. This new kind of medicine was premised on dissection-based anatomical knowledge and was secular in nature. The first dissection in CMC by a high-caste Hindu ushered in ramifications of this medicine into every aspect of Indian society. The singular act of dissection entailed indelible changes in the perception of body, disease and self of the Indian population. Medicine brought forth a new paradigm of knowing the body. Arguably, being the first Indian dissector, Madhusudan Gupta is historically tied up with this transformation of medicine.

The history of Calcutta Medical College (CMC), established on 28 January 1835, is inextricably intertwined with the rise of rational scientific medicine, otherwise widely accepted as ‘hospital medicine’, in India. It is a new and unique phase in the evolution of medicine and has surpassed anything prevailing before it. Harrison traces medical developments within the armed forces of the East India Company. These developments ‘prefigured those normally associated with the “birth” of clinical—anatomical medicine at the Paris hospitals in the 1790s’ 2. He also notes, ‘In Britain, the supply of bodies for dissection was still severely restricted, but there were no such constraints in the colonies, where cadavers were plentiful.’ 3

At least until the 1830s, European medicine was primarily guided by symptomatology of the patient and six non-naturals of humoral theory. James Wallace wrote in his article ‘Observations on tropical fever’, ‘What then is to be done in case of miasmatic fever where blood-letting is prescribed … we must proceed until the secretions are healthy, until … to the evacuation of healthy bile’4 (pp. 270–293). Balfour 5 argued, ‘The full change of the moon are no less remarkable for occasioning relapses than for the first attack of bilious fevers.’ Despite these medical theories, anatomical knowledge and surgical excellence arising out of it ‘characterized the much-boasted rationality and objectivity of Western medicine’5. Annesley, Morehead and other writers of the period derived their claims to scientific objectivity and authority largely ‘from their studies of morbid anatomy and their attempts to relate the state of diseased internal organs examined after death to the symptoms manifested externally during life’6. F. J. Mouat clearly stated,

When the case terminates fatally the body will be examined by the Clinical Clerk before the Professor, the morbid changes noted, and the subject will be taken into lecture room, and shown to the assembled pupils, who will have the whole history of the case and have admirable means for the study of pathology and morbid anatomy. The subject will never be lost sight of.7

Eventually, European surgical dexterity produced awe for European medicine. ‘Hormasjee Bhicajee, a respectable native merchant and ship-builder, was induced to lay aside prejudice, and submit to the operation of lithotomy performed by Dr Fogerty … The result of this and other operations has led us to the conclusion, that the natives of the country are daily becoming more and more alive to the benefit derived from the employment of European skill in the treatment of diseases.’8 The establishment of CMC and involvement of an influential section of natives clearly showed that the newly emerging educated group in Calcutta ‘was prepared to overcome a deep-seated prejudice to master Western science’9. The first hospital was opened in Calcutta early in 1708, concerning which Alexander Hamilton, wrote, ‘The Company has a pretty good hospital at Calcutta, where many go in to undergo the Penance of Physic, but few come out to give an account of its operation’10. By the end of the century, however, the Calcutta Native Hospital and three others were in existence in Calcutta. In such medical schools, Hindu, Muslim and Anglo-Indian youths were taught ‘Anatomy, Surgery, Practice of Physic & C., and when properly qualified, they receive appointments as Native Doctors in different regiments, and at the principal stations’11. But practical cadaveric dissection was yet to be taught.

Against this perspective, the first dissection at CMC ushered in the rise of rational scientific medicine in India and its subsequent journey to every conceivable aspect of Indian public life.

Prelude to CMC: international and national scenario

The mid-18th century seems to have been a key period in the official recognition of the need for the study of human anatomy in Britain12. But the term ‘practical anatomy’ was not noted as a feature of anatomy courses in the London hospitals until 1802 (ref. 13). By that time Paris had acquired much international prestige as one of the most important European centres for anatomy and surgery. The study of anatomy in France, Germany, the Netherlands, Austria and Italy clearly scored over England14. Interestingly, in Great Britain, where the forces of liberal constitutionalism and social conservatism were least disturbed by the currents of nationalism and revolutionary change flowing in Europe, old practices and arrangements in medicine lingered much longer, especially in the English universities15. The obstacles impeding the study of anatomy in England were great and ‘the facilities presented to the study in foreign countries are so great’ that ‘principal resort is to Paris, where 200 English students of Anatomy are now pursuing their course of instruction’16. From 1833, 176 dissecting tables were available in Paris (80 at the Ecole pratique and 96 at Clamart) enabling between 700 and 800 students to dissect
at one time. Unlike their British counterparts, French clinicians created fresh models of medical science by exploring their free access to patients’ bodies (living and dead), and new physical and conceptual tools for pathological investigation. Regarding dissection by students in Edinburgh, it was observed, ‘the Students must be allowed to get Dissection where they best can; and their proficiency might be ascertained, as in some of the German Universities...’ (emphasis added). Moreover, ‘Instruction in pathological (or even normal) anatomy with dissection was not to be actually required before the mid-1830s, on the eve of the era of microscopic histopathology’. During this period, Southwood Smith, a close associate of Jeremy Bentham, emphasized, ‘The basis of all medical and surgical knowledge is anatomy... there can be no rational medicine, and no safe surgery, without a thorough knowledge of anatomy’.

To remember, CMC was founded after the establishment University College of London (UCL) in 1828. UCL was more secular than orthodox institutions like Oxford and Cambridge universities, and basic sciences like chemistry, physics, botany, geology, etc. were included in its syllabus. CMC was the first college in Asia to be recognized by UCL.

A utilitarian approach and the military need to provide trained apothecaries, compounders and dressers in different detachments prompted the earliest official involvement with medical education in India. It would cost 100 pounds to train a soldier. On 9 May 1822, the government laid down a plan for the instruction of up to 20 young Indians to fill the position of native doctors in the civil and military establishments of the Presidency of Bengal. The outcome was the establishment of the Native Medical Institution (NMI) in Calcutta (21 June 1822). In 1826, Breton wrote to Gilbert Smith, ‘Native doctors became indispensable to the numerous detachments from corps in the extensive dominion of India...’. It was also noted, ‘Though many medical men obtain very considerable eminence in their character as physician in Calcutta and other presidencies, and no small number turn the experience which they have acquired in India, to good account at home...’ (emphasis added). Military need for native doctors and, consequently, the importance of NMI was hotly debated too.

Towards the end of 1833, a Committee was appointed by the government of William Bentinck in Bengal to report on the state of medical education and also to suggest whether teaching of indigenous system should be discontinued. The Committee submitted a report on 20 October 1834 and recommended that the state found a medical college for the education of the natives. The various branches of medical science cultivated in Europe were to be taught there. The Committee observed that the entire omission of practical human anatomy in the course of medicine had resulted in a poor quality of medical students, who would never be able to work at par with the English doctors required in the battle fields and for the governance of health of the subjugated people to be disciplined. There was warning note, ‘Nothing short of the want of a sufficient annual supply of well-educated surgeons, which would be quickly followed by the most disastrous consequences in India...’. Government reports categorically noted, ‘The instruction differs from that of Tytler (NMI), in as much as the subjects are taught particularly, by the aid of the Dissecting Room, Laboratory, and Hospital’. The NMI was abolished and the medical classes at the Sanskrit College and Madras were discontinued by the Government Order of 28 January 1835 (ref. 31).

Pundit Madhusudan Gupta, who had taught medical courses at the Sanskrit College, joined the new college. To note, this was also the period of transition of mercantile capitalism to industrial capitalism in India, guided by utilitarian and positivist philosophy.

Specifically speaking, in the Indian context, indigenous and Western systems of medicine had been congruous until the early 19th century. But the introduction of anatomical dissection, pathological anatomy and other technological developments like stethoscope, thermometer, etc., had created a gulf that was never to be bridged. In 1807, Buchanan observed, ‘Medicine is taught by several of Pandits, some of whom also, although they are grammarians, practise the art... has always been exclusively literary in character...and from oral tradition’. Anatomical pathology or the perception of three-dimensional mapping of the body was completely absent. Interestingly, Ram Mohan Roy perhaps pioneered the introduction of anatomical education and dissection in India. In 1822, Roy sent a set of twelve ‘Hindu crania’ to George Patterson of Edinburgh for phrenological study. ‘Dr Patterson presented to the Society twelve Hindu crania... They all appear to have belonged to adults, and were selected by Ram Mohan Roy, a native of distinguished talent’.

The first dissection and controversies

Madhusudan Gupta (?1800–1856) is almost without exception given the credit of the first dissector (? dissection on 10 January 1836). It was also Asia’s first human dissection. According to some accounts, he was assisted by four courageous pupils, Umacharan Set, Rajkrishna De, Dwarakanath Gupta and Nabin Chandra Mitra. ‘This day will ever be marked in the annals of Western medicine in India when Indians rose superior to the prejudices of their earlier education and thus boldly flung open the gates of modern medical science to their countrymen (ref. 37, p. 12).’

Madhusudan died of diabetic septicaemia on 15 November 1856 (ref. 38). T. W. Wilson, the then Principal of the Medical College, wrote in the obituary:

To him a debt of gratitude is due by his countrymen. He was the pioneer who cleared a space in the jungle of prejudice, into which others have successfully pressed, and it is hoped that his countrymen appreciating his example will erect some monument to perpetuate the memory of the victory gained by Muddoosoodan Gooptu over public prejudice, and from which so many of his countrymen now reap the advantage. The place of Muddooosoodun Gooptu has been filled up by Sub-Assistant Surgeon Tameez Khan, a Native of intelligence and promise.

Another report from the Bengali journal *Sambad Bhaskar* (22 November 1856) mentions:

We feel profoundly sad for Gupta Babu’s demise. Madhusudan Babu was the pioneer of the dissector artisans of this country. To the Indian people, especially Hindus, touching the dead body is an abominable question, better
not to say anything of dissection ... yet, on entering Medical College, he was the first amongst the Hindus to be engaged in the act of dissection. His precedence has encouraged other Hindus to become adept in sundry acts of dissection that Babu has taught them (my translation).

Arnold comments, ‘the momentous event (the first dissection) was duly celebrated, with ‘...’.

Earlier, John Fryer compared Europeans with ‘Exotick Plants’ modern medicine had to be internalized by the Indians. ‘There is no more effective mode of winning the heart of a people than by relieving their bodily ailments’.

A good amount of preparatory work was going on for quite a long time in Alexander Duff’s school in Calcutta. Before the commencement of the dissection, the Apothecary General (John Grant) approached Duff’s students on this dreaded subject. The Commissioner asked, ‘would you actually be prepared to touch a dead body for the study of anatomy?’ ‘Most certainly,’ said the head youth of the class, who was a Brahman. He also unequivocally asserted, ‘I, for one, would have no scruples in the matter. It is all prejudice, old stupid prejudices and superstition, was attacked at the root of native orthodoxy and well-defined church-state relations of Victorian England. Only with the opening of the UCL did the character of English medical education begin to change slowly, but to this day it bears many traces of the old order.

Dissection of a cadaver by any high-caste Indian was the first phenomenal step in the direction of modern medical education. It is perhaps one of the reasons why so much importance is attached to the first dissection and the individual dissector. In 1847, in a letter to the editor of Lancet, H. H. Goodeve wrote:

The most important blow which has yet been struck at the root of native prejudices and superstition, was accomplished by the establishment of the Medical College of Calcutta, and the introduction of practical anatomy as a part of the professional education of Brahmans and Rajpoorts, who may now be seen dissecting with an avidity and industry which was little anticipated by those who know their strong religious prejudices upon this point twenty years since.

Earlier, John Fryer compared Europeans with ‘Exotick Plants’ brought home to us, not agreeable to the Soil. From the position of ‘Exotick Plants’ modern medicine had to be internalized by the Indians. ‘There is no more effective mode of winning the heart of a people than by relieving their bodily ailments’.

Another report (‘Bengal Medical College’) mentions:

From the annual report of this valuable institution, for the session 1850–51, it appears that the number of bodies received for dissection and operation in the winter session, amounted to 722: of this, the number of bodies actually dissected was 501; the number used for operation 92; used in the examination, 23; for lectures, 38; and those of which no use was made, in consequence of rapid putrefaction, 68.

The same report informs that the number of students attending the anatomical classes was 73, which was highest compared to the students attending other classes like medicine, surgery, botany, midwifery, etc.

How did Duff’s Brahman students and those of the Hindoo College stand the test when the hour came for the first dissection? ‘That hour came after the first six months’ study. The time was then recalled when the medical class in the Hindoo College met for the first cutting up of a kid, and the college gates were closed to prevent popular interruption of the awful act!’ (ref. 48, pp. 217–218).

Obviously enough, the act of dissection was not greeted by the orthodox Hindu community. They were vociferous against the establishment of a Medical College intended to further anatomical education through dissection. ‘The protest was disregarded; the Medical College of Calcutta was opened on the 1st June, 1835. The first demonstration by dissection caused great anxiety. The College gates were closed to prevent forcible interruption of that awful act’.

Sivathan Shastri also refers to the tumultuous state of society following the dissection. Considering all these facts, it appears quite improbable that the first dissection was greeted with gun-salute.

In the first year of dissection, there were only 20 bodies available. ‘This was due in the first instance to a virtually unlimited supply of cadavers. From the humanitarian viewpoint this was a regrettable situation, but the fact is that the Indian medical student was at an advantage over his counterparts in Europe and America’.

It was reported in the London Medical Gazette, ‘It is deserving of mention, that from the month of November, 1846, to that of March, 1847, being a period of only five months, nearly 500 bodies had been dissected by the native students, – an astonishing number, when the prejudice to be overcome is considered’. Eatwell reported, ‘472 bodies have been distributed to the English class for dissections; 549 to the Secondary Classes for the same purpose; 110 bodies have been devoted to illustrating Lectures on Anatomy, 56 for Lectures on Operative Surgery’. The total number of bodies dissected stood at an amazing figure of 1187!

Contrarily, in Richardson’s estimate, bodies taken under the Anatomy Act (the first ten years’ sources from 1832–33 to 1841–42 in London hospitals...
... in the centre of the native town, where it was usual for Hindus to bring their dead for cremation, but where a large proportion of the corpses, instead of being burnt, were either at once thrown into the river, or consigned for dissection to the Medical College hospital, to be afterwards disposed of in the same way’ (emphasis added).

In commemoration of Madhusudan’s feat, Drinkwater Bethune, in 1850, presented to the college a portrait of Madhusudan painted by Mrs Belnos. On that occasion, Bethune gave an emotional account full of rhetoric:

At the appointed hour, scalpel in hand, he followed Dr Goodeve into the Godown where the body lay ready. The other students deeply interested in what was going forward but strangely agitated with mingled feelings of curiosity and alarm, crowded after them, but durst not enter the buildings where this fearful deed was to be perpetrated… they peeped through the jilmils, resolved at least to have ocular proof of its accomplishments. And then Madhusudan’s knife, held with a strong and steady hand, made a long deep incision in the breast, the lookers-on drew a long gasping breath, and deep incision in the breast, the strong and steady hand, made a long

Further, he notes, ‘A large portion of the class had already witnessed with interest the examination of bodies which had died in the hospitals they visited (ref. 57, p. 54)’. Dissection is seldom approached by the uninstructed even in Europe without the feeling of aversion. As a result, Bramley was initially in a fix whether such sensitive feelings ‘should operate to alarm or discourage them from the pursuit which constituted the vital part of the desired innovation’ (ref. 57, p. 54). He adds, ‘It was moreover necessary to conduct the dissection with due regard to secrecy, as the students were naturally enough exceedingly averse to being exposed to the gaze of intruders …’ (ref. 57, p. 54; emphasis added). A rigid observance of all these precautions, however, was all that was necessary to ensure success. Since that time dissections had been regularly practised in all the senior classes with one solitary exception. Bramley sincerely wanted to reward those brave boys ‘for the industry and moral courage of the students who have thus more especially distinguished themselves’. Finally, failing to reward these students, his despair became evident, ‘were their names brought to the notice of Government in the present report; but the same reason which induces them to conceal their anatomical labours, and the probable publicity of this document, for bids my making the disclosure’ (ref. 57, p. 55).

More than six decades later, R. Have-lock Charles, Professor of Surgical and Descriptive Anatomy, Medical College, Calcutta, and Surgeon of the Hospital, gave a detailed account of this feat in 1899. He remembered, ‘The most interesting feature is that in 1835 the Hindu prejudice against touching dead bodies first gave way, and much credit must be given to the original class of eleven students who had the courage to break through the iron bonds of caste, and engage in the dissection of the human body’58. He thought it but morally right to mention the names of the students of that first class that studied human anatomy in India. Here, we find a striking note of similarity between Bramley and Charles. In his observations, the reasons were:

First, to honour those who, throwing aside the trammels of prejudice, withstood firmly the strong moral pressure brought to bear on them by the outraged feelings of a kindred whose customs are the type of a crystallised conservatism; and, secondly, that although 1835 is not so very long ago, - these men have practically been forgotten, and the honour of having been “the first Hindu who dissected the human body” has been given to Pandit Madusudden Gupta, who for good work as a demonstrator of anatomy had his portrait in oils presented to the Anatomical Department, where it hangs at present in the lecture-room’ (ref. 58, pp. 840–841).

He summarily stated, ‘The Pandit passed his examination in 1840, and – as I write, I have a copy of his diploma before me. The students whose names I have mentioned were examined and passed in 1838, yet the Pandit alone is remembered; his predecessors are forgotten. Vixere fortes ante Agamemnona!’ (ref. 58, pp. 841–844).

By comparing these accounts we are confronted with a few questions. First, being the first principal, Bramley’s account is probably more objective and faithful to the details of the momentous act. Second, there is mention of Madhusudan Gupta only once in his report. Regarding teaching of his students, Bramley reports, ‘He is closely questioned on the general meaning of the whole; observations are introduced by the instructor, as occasion offers, and the opinions of the Pandit and Native teacher (both of whom are practitioners of high repute amongst their countrymen) are canvassed as to the prevalence’ (ref. 57, p. 58). Third, the date of the first dissection, uncritically accepted as 10 January 1836, is not supported by the GCPI report. It appears to be 28 October 1836. Fourth, regarding the feat, Charles, as cited above, provides a different, yet convincing, argument before us.

While writing Madhusudan’s biography, Bagal confesses, “Excepting that of
Madhusudan, I deem all the words of Bramley more authentic than Bethune in all regards. Moreover, he states, ‘This act of dissection was of so much importance that guns were fired from the Fort William of Calcutta. Although it was not mentioned in contemporary journals and newspapers, people boastfully talk of this incident since then due to its wide prevalence and acceptance’ (ref. 59, p. 58; emphasis added).

We shall now look into the evidence given by Madhusudan himself before the General Committee of the Fever Hospital and Municipal Improvements (GCFHMI) on four occasions – 27 February to 29 May 1837 at the Town Hall, Calcutta, barely one year after the momentous act of dissection. The Committee’s note for the first day’s evidence reads thus – ‘First Day, Madoosoodun Gooptu, Koberuttun, before Municipal Enquiry, 2nd Sub-Committee, 27 February 1837’.

In his evidence, Madhusudan candidly tells about himself:

I have practiced Medicine in Calcutta for twelve years among the Native Population. I was educated in the Sanskrit and English College for six years, where I afterwards became professor of Sanscrit medicine. Before I entered the college, I had been taught the native system of medicine under Kableeram Kobeeraze, a learned native doctor, under whose instructions I also visited patients in villages. During my studies at the Sanscrit College I attended for five years the lectures of Dr Tytler and Dr. Grant upon anatomy and the theory and practice of medicine and surgery ... It is now two years since I left the college, and at present I am pundit of the Medical College, where I assist the professors, Drs Goodeve and O’Shaughnessy, in explaining to the students the branches which have formed the subject of their prelections. After lecture is over, I explain the names of the diseases in Bengalee, and the qualities of native medicines according to my experience. As a practitioner of medicine, my experience has been obtained among the respectable, the middle, and the poorer classes of natives...

Next, he gives a comprehensive description of his family and residence and what type of practice he does amongst the local population, etc. Finally, he switches over to the exposition of indigenous practices of midwifery, the scope of improvement of public health and sanitary conditions of Calcutta municipality, etc. It is very unlikely to conceive of the fact that a personal achievement of such historical importance would not find any place in his testimony. In his evidence, he specifically talks about his job as the translator of English lectures, without mentioning for once the event of dissection.

It may be mentioned that Robertson, while writing on ‘Hindu Midwifery’, addsuce Madhusudan’s full report only to compare Hindu midwifery with the European one, and nothing more.

Without more thorough study into this sub-layer of history of medicine, it would be too hasty to affirmatively accept or deny the role of Madhusudan as the first dissector in India. It can be extrapolated that with his background training Madhusudan was ready to bear the onus of dissection to the extent of ostracism, even if not the first dissector. Moreover, though coming from an upper caste Hindu family, he had the courage to swim against the stream of social prejudice and provide relevant proofs of dissection from Sanskrit Āyurvedic texts.

Conclusion

However, contradictory evidences do not belittle the position of Madhusudan in the history of modern anatomical knowledge in India. The singular act of introduction of dissection-based anatomical knowledge in medical education brought forth some indelible changes in the perception of body, disease and self of the Indian population. This scientific breakthrough had also enormous sociological consequences. It opened the door of Western medicine to the natives of India as practitioners and beneficiaries. It reconstituted ‘psychologized’ epistemology of the Indian knowledge system in the mould of objective, value-neutral, clinical detachment of modern medicine. As dissection became the primary means to know the human body, the living body was regarded as a kind of ‘animated corpse’. The dissector/doctor claimed the status of an epistemologically privileged cultural arbiter on the question of death and dying.

In colonial India, unlike England, this education produced ‘capable practitioners’ instead of ‘capable enquirers and practitioners’. But the act of dissection brought Calcutta on the same footing with London. ‘At present hundreds of dead bodies are daily dissected in London and Calcutta, and new discoveries are constantly being made’.

The study of modern anatomy reconstituted: (a) hitherto existing notion of disease and non-disease; (b) science and reason vis-à-vis tradition and superstition; (c) physicians and non-physicians, and (d) social hierarchy between modern medical practitioners and all other indigenous practitioners. The lived experience of the body became a measurable and repairable phenomenon. The body became a three-dimensional space (unlike two-dimensional Āyurvedic bodily frame through which dosā-s, dhātu-s and mala-s flow). The role of ‘divine’ was banished forever. Medicine in India was all set for this new paradigm of knowledge and knowing the body.

Āyurveda conceptualizes biogeography to be absorbed into therapeutics; man (microcosm) is seen to be in harmony with nature (macrocosm). Completely departing from the Āyurvedic notion of health, the notion of modern public health began to be premised on the division between (inside) ‘anatomical space’ and (outside) ‘environmental space’ or nature. Consequently, in this conceptualization, ‘environmental space’ or nature becomes an area to be aggressed, controlled and utilized only for man. Man becomes the master of everything. Herein remains the importance of the introduction of anatomical knowledge in colonial India. Madhusudan Gupta is historically tied up with this process of transformation of medicine.


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HISTORICAL NOTES

8. Excerpta, Asiatic J. Mont. Regiseter British Foreign India, China, Australasia New Ser., 1838, XXVI, 162.
27. Asiatic J. Month. Register, 1826, 22 (July–December), pp. 111–121.
37. Centenary Volume, Medical College Centenary Committee, Calcutta, 1935, pp. 11–12.
47. Lancet, 1851, 2, 216.
53. GCPI, 1859–1860, p. 147.
54. Richardson, Death, Dissection and the Destitute, p. 293.
57. GCPI, 1836, pp. 31–67.
64. Indian Med. Gazette, 1 April 1868, p. 87.

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