

THE CALCUTTA COLLECTION OF THE WELLCOME INSTITUTE FOR THE HISTORY OF MEDICINE

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ABSTRACT

The Wellcome Institute for the History of Medicine in London has a large and comprehensive collection of primary and secondary materials dealing with the medical history of Calcutta in its cultural context.

The collection well documents the life and concerns of the British in Calcutta. There is a large iconographic collection including works by Storer, the Daniells, D'Oyly and Wallich. The authors discovered fiftyeight previously unrecorded natural history paintings done for Lady Impy by the Patna artists Bhawani Das and Zayn-al-Din.

There is an important manuscript of the Unani pharmacopeia, the "Riyaz al-adviyah" copied in Calcutta in AH 1016, a date equivalent to 1607 or 83 years before the "founding" of Calcutta. Manuscripts or books written by many of the famous Ayurvedic physicians of Calcutta were not found, because Dr. Paira Mall (who collected most of the Indian manuscripts) spent little time in Bengal.

The library of Lt. Col. Dirom Grey Crawford, historian of the Indian Medical Service, was presented to the Wellcome Institute circa 1972-73. It includes many rare volumes of the history of Calcutta. The Collection includes strong holdings of materials dealing with unsanitary conditions in Bengal and infectious disorders especially malaria and cholera. Utilizing the Crawford collection, the authors describe the struggle of doctors in the Indian Medical Service to understand the etiology and spread of cholera as well as developing effective public health and treatment measures.

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The Wellcome Institute, located on the Euston Road in London, houses Europe's most comprehensive collection dealing with the history of Indian medicine.¹ There are more than 5700 Sanskrit manuscripts alone! Therefore, the authors expected to find a wide spectrum of materials relating to Calcutta in the collection.

The collection, dealing with medical history in its cultural context, includes manuscripts, antique and modern books, scholarly journals and an iconographic collection. The opportunity to have both primary and secondary materials under a single roof offers scholars access to material that can bring about startling new insights. (For example, the collection owns several works on the history of Hindu chemistry by Prafulla Chandra Ray (1861-1944). Dominik Wujastyk of the Wellcome staff used Wellcome manuscripts to show that Ray made an important mistake based on confusion arising from conflation of three different texts.²).

The Crawford Collection, presented to the Wellcome Institute by the Royal Society of Tropical Medicine circa 1972-73, gives a unique perspective on Bengal during the period of the Raj. Lt. Col. Dirom Grey Crawford of the Indian Medical Service, born in Chinsura in 1857, was the author of the *Roll of the Indian Medical Service 1615-1930*, *History of the Indian Medical Service 1600-1913* and

Notes on the History of the Bengal Medical Service.³ His collection includes many tomes written by IMS officers as well as official publications like the 1851 Bengal Medical Regulations complete with the 1882 "non-official" supplement. After qualifying in medicine at Edinburgh, Crawford served at Calcutta Medical College Hospital and as a Civil Surgeon in Bengal. His collection and writings reveal that he was a physician well versed in tropical medicine and infectious diseases, but also an intellectual whose social and historical perspectives rivalled those of Dr. William Osler. Even his marginal notes are of some interest. The oldest volume noted was dated 1772: A. Keir's *Thoughts on the Affairs of Bengal*. Material related to Calcutta include both the second and fourth editions of Brigade Surgeon Henry Elmsley Busted *Echoes of Old Calcutta, chiefly reminiscences of the days of Warren Hastings, Francis and Impey* as well as Grant Colesworthy's nineteenth century *Portrait Sketches of the Public Characters of Calcutta* (Fig. 1).

The Wellcome collection includes an Extraordinary Persian manuscript of the Unani pharmacopeia, the *Riyaz al-adviyah*, copied in Calcutta by Zayn al-Abidin b. Muhammed Baqir al-Husayni and dated A. H. 1016, equivalent to 1607! The *Riyaz al-adviyah* was composed in 1539 by Yusufi of Khurasan and dedicated to

the Mughal Emperor Humayun. Yusufi authored many medical works, some fully or partly in verse. This manuscript, in two professional hands, is in fine Shikastah-Nasta'liq script with subtitles in red and some folios written obliquely. The manuscript

deals with the properties of simple and compound medicines as well as an antidote, tiryاق-i-Faruq. Fateme Keshavarz⁴ has transcribed the following information about this manuscript (Fig. 2).

Incipit: الحمد لله الذي خلق لكل داء دواء وجعل حبيبه لعل الطوب شفاء . . . بعد بصياحه
صانیه محبت بنامد که این نسخه الیست بحلی بیارات جلیه مسمی بریانی
الادویه . . .

Explicit: . و امتان خردت دروات دهن بلسان خیابان کند که بر شی حکانند پی
نورم بند عین معشرتی جود و اگر نه بنور معشرتی جود والله اعلم بالصواب
الکتاب بعون الملك الوهاب . . .

A somewhat early date for manuscript production in Calcutta:

قد وقع الغواص من تحوی هذه الرسالة المسمی بریانی الادویه فی مقام الکلیة وقت الضهورت من
من شهر ذی قعدة الحرام یوم الجمعة سبعة عشر جمادى الثانیة من شهره المذممه البیزیه . . .
وما لکها . . . زین العابدین بن محمد باقر الحسینی . . . بجهد وآله الاطهار الاخیار الابرار .

The existence of a manuscript written in Calcutta long before the city was "founded" in 1690 is of some import! The authors are unaware of any Calcutta manuscript with an earlier colophone. The village of Calcutta has been recorded as existing as early as 1596 but the 'founding' date is usually given as the date Job Charnock established a trading post there.⁵

The Calcutta materials collected by the Wellcome Institute understand-

dably reflects an Anglophilic orientation, which well documents the life and concerns of the British in Calcutta. There is William Storer's engraving "after MG" of Fort William. There may be a copy of the "Embassy of Hyderbeck to Calcutta From the Vizier of Oude, by the way of Patna, to meet Lord Cornwallis, "Earlom's mezzotint engraving after Zoffany. We did not actually view this item or the many small and large format Calcutta engravings by or after the

Daniells said to be in the collection. We did see many picturesque scenes of musical interest by Solvyn. The collection includes considerable material by Sir Charles D'Oyly, the East India Company Officer, who founded the Asiatic Lithographic Press in Calcutta. There is a copy of *Views of Calcutta and its Environs*. One nineteenth century print of considerable interest shows four Indians individually identified in a hand somewhat difficult to decipher.

The British in India had a special interest in recording the flora and fauna of the subcontinent. For example, the Collection includes the first and third volumes of *Plantae Asiaticae Rariorae* by Wallich. Nathaniel Wallich, Superintendent of the Calcutta Botanical Garden, lithographed only 294 of the 1200 drawings he commissioned from Vishnupersaud, Gorachand and European artists.

The Wellcome collection includes fifty-eight previously unknown natural history paintings done for Lady Mary Impey (1749-1818), who was the wife of the first Chief Justice of Calcutta's Supreme Court. Between 1777 and 1783, she employed Shaikh Zayn-al-Din, Bhawani Das and Ram Das, three Patna artists who came to Calcutta seeking British patronage. Her artists combined acute observation of living specimens with the sensitive emotional perception of the great Mughal artists. Cary Welch described

the work of Shaikh Zayn-al-Din as follows: "Unlike later studies of flora and fauna made for the British, which are more "scientific" and less Indian, it is more sensitively felt than observed, markedly ornamental and bold in design, and richly painted, with pigments carefully built up in layers rather than laid in single washes." These Impey paintings have become recognized as valuable masterworks. A 1984 exhibit of 19 folios was undertaken by two prestigious London galleries, Michael Goedhuis-Colnaghi Oriental and Mallett and Son. Robbin Duthy's "Investor's File", a monthly feature in *Commoisseur* magazine, was recently devoted to paintings by Indian artists for the British. Duthy claimed that the price of single folios by Shaikh Zayn-al-Din had reached \$50,000 and the Calcutta natural history paintings "may have set the pace for John James Audubon and the other great illustrators of the nineteenth century."

Only about 120 of Impey natural history paintings were known to have survived. Over 100 of this number were ornithological studies and scholars surmised that the Lady Impey's artists painted few non-avian subjects. Actually, many specimens less appealing than pretty birds and impressive animals had been painted but were "buried" in the Wellcome collection. In 1988, the authors discovered these previously unrecorded examples. Almost all were painted by Bhawani

Das who was praised by Cary Welch in the following words: "Less suavely ornamental as a painter than his colleague Shaikh Zayn-al-Din, Bhawani Das compensated by deeper insights into the beings of his subjects." The authors alerted Toby Falk, who is preparing a definitive study of the Impey pictures. His notes list 39 fish paintings signed by Bhawani Das, those being dated 1783, and two fish paintings dated 1777 by Zayn-al-Din. Falk also noted eleven paintings of snakes by Bhawani Das dated 1782 or 1783; a painting of a horseshoe crab by Zayn-al-Din; and three undated depictions of insects by Bhawani Das as well as two lizards, one dated 1783 by Bhawani Das and the other without inscription. Whoever purchased these pages years ago must have seen the opportunity to buy insect, fish and reptile paintings in quantity while other people preferred to buy a single painting of a bird or animal at presumably much higher prices.⁶ Humorously, a number of these extremely large folios show a single tiny creature drawn life-size without background (Fig. 3A & 3B).

The authors expected to find other materials dealing with British life in Calcutta and were surprised not to find any paintings by Shaikh Muhammed of Karraya, a skilled naturalistic painter of subjects of interest to the British. The iconographic collection does include a number of Kalighat paintings. Wood-

block prints done by P. C. Biswas, the Chore Begam Art Studio and especially those of Kali, Ram, Ganesh and Sarasvati done by K. H. Dass are of more interest. There are chromolithographs on the theme of Nala and Damayanti from the Calcutta Art Studio which was founded circa 1878 by the artist Anand Prasad Bagchi (Fig. 4).

The collection of journals and scholarly books offer much material on folk medicine and psychiatry in Bengal. For example, information is available on the malevolent smallpox goddess Sitala and her Sitalatalas (temples) in the Bhowanipore section of Calcutta. Crawford in his *A Brief History of the Hughli District* (Calcutta: Bengal Secretariat Press, 1902) expounds on deities associated with disease and snake-bite. In the case of snake-bite, he mentions the role of Jagatgauri, Manasa, Bahula, and Khadai. Many difficult-to-find volumes are available including Paul Olaf Booding's 1925 opus, *Studies in Santal Medicine and Connected Folklore*.

The Wellcome owns two Unani medical manuscripts with Calcutta connections. The extraordinary Persian manuscript dated 1607 of the *Riyaz al-adviyah* has already been described. There is also an Urdu verse manuscript (with Persian prose introduction) of the *Farasnama* or *Salutrinama*, an encyclopedic work on horses and

their medical ailments completed in 1795 by Sa'adat Yar Khan Rangin. This manuscript dated 1835 was made on the request of Munshi 'Ajab Singh for Thomas Thompson of Calcutta.

A number of important printed Ayurvedic medical texts were found including an English translation of the *Charakasamhita* by Avinash Chandra Kaviraja printed in 1888 by D. C. Dass and a Delhi reprint of the 1892 Calcutta printing of the *Madhavakara* by Kaviraj R. L. Gupta. The collection includes Uday Chand Dutt's *The Materia Medica of the Hindus* in the 1900 edition published by Dwarkanath Mukerjee. This revised edition, with additions by Kaviraj Binod Lal Sen and Kaviraj Athutosh Sen, includes a glossary of Indian plants by George King. We did not look for the University of Calcutta edition of the hard-to-find *Bhelasamhita*.⁷

The collection possesses a number of Sanskrit medical manuscripts in Bengali but Wujastyk has noted none with a Calcutta colophon.⁸ In 1919, Dr. Paira Mall who brought and commissioned thousands of manuscripts for the Wellcome from Kathmandu to Tanjore, was in Bengal where he collected a large number of palm leaf manuscripts in Bengali. Many dealt with tantric themes and worship of Durga.

An attempt to locate manuscripts or books written by many of the

famous Ayurvedic physicians of Calcutta proved unsuccessful. The card catalogue did not mention Gangadhara Ray (1789-1885), Gangaprasad Sen (1824-1896) or several generations of their most prominent disciples.⁹ Ray came to Calcutta to find a perfect copy of the *Charakasamhita*. He composed 41 books and wrote 34 commentaries including *Jalpaka/pataru* about the *Charakasamhita*. Sen published the first Bengali language Ayurvedic periodical, *Ayurveda Sanjivani*. No Bengali medical manuscripts were uncovered but this was not completely surprising because the Ayurvedic physicians were called kavirajas, a term referring to their mastery of Sanskrit texts. We were unable to locate any version of the Bengali handbook *Vangasena*, a redaction of Agastya also known as *Chikitsasamgraha*.¹⁰ There was no copy of Bijoyratna Sen's Bengali translation of Vagbhata's *Ashtanga-hridaya*.

Some Ayurvedic physicians in Calcutta mixed allopathic medicine with traditional methods while others avoided it for religious, political or ethnic reasons. In 1824, The East India Company established Sanskrit College where both European and Indian medical systems were taught until 1835. The authors did not uncover any primary source material in the Wellcome Collection dealing with Syamadas Vachaspati who founded the Vaidya Sastra Pitha, the

Ayurvedic medical part of the Gaudiya Sarvavidyayatana. The latter was a university founded as part of the Noncooperation Movement against the Raj. The senior author wondered whether the lack of Bengali Ayurvedic material was in any way related to its association with the political movement against British rule.

Western medicine in Calcutta is well covered. Wood's early engraving of a hospital is in the collection as well as scholarly articles on treatment of fever and dysentery 1797-1850 at Presidency General Hospital;¹¹ and an 1839 bill for treatment at Howrah's Seaman's Hospital.¹² The Crawford Collection includes Leonard Rogers' 1906 paper "A Short Historical Note on Medical Societies and Medical Journals in Calcutta" published in the *Journal of the Proceedings of the Asiatic Society of Bengal*. Crawford's personal collection included many Indian medical journals including 1838 and 1845 issues of the *Quarterly Journal of the Calcutta Medical and Physical Society*. He also wrote *Some Surgical Cases Treated in the Nath Pandit Hospital, Calcutta* and his collection included K. MacLeod's *Operative Surgery in the Calcutta Medical College Hospital*. Such materials suggest that nineteenth century Calcutta was not a medical backwater but the site of many medical advances. For example, James Esdaille's pioneering use of hypnosis for surgical anaesthesia was performed in Calcutta (Fig. 5 & 6).

The British resolved to recognize and cope with the unhealthy conditions and climate of Calcutta. N. C. MacNamara felt that unsanitary conditions in Calcutta meant that cholera epidemics started in Bengal where the causative organism was endemic. Crawford's collection includes volumes like James Randal Martin's *Notes on the Medical Topography of Calcutta*, and F. P. Strong's *Extracts from Topography and Vital Statistics of Calcutta*. In 1865, the Englishman Press of Calcutta published Norman Chevers' *Remarks on the Influence of the Saltwater Lake on the Sanitary Condition of Calcutta*. Crawford himself wrote *A Report on the Sanitary (sic) of the Hooghly and Chinsurah Municipality*. The Crawford Collection also includes a representative sampling of the works of Joseph Fayrer, Professor of Surgery at Calcutta University and pioneer in the study of tropical medicine.

Many of the volumes in the Crawford Collection deal with infectious disorders especially cholera and malaria. The lack of preoccupation with smallpox might seem puzzling in view of the prominence of the smallpox goddess Sitala to Bengalis, but vaccination had been introduced into India in 1802. Several disorders native to Bengal were described such a "Burdwan fever" which was described in a book by Gopaul Chander Roy. British control over the subcontinent allowed for the first recognition

for the epidemic spread of cholera throughout India. They kept excellent statistics. For example, the Wellcome has the 1869, 1870, 1871 and 1873 editions of *Vital Statistics of the Bengal Presidency: Cholera Epidemics of Recent Years Viewed in Relation to Former Epidemics* as well as H.W. Bellow *The History of Cholera in India 1862-1881*.

Early medical volumes in the Crawford collection (such as William Twining's 1832 *Clinical Illustrations of Important Diseases of Bengal* and J. Annesley's *Sketches of the Most Prevalent Diseases of India*) offer an excellent perspective of early public and Indian Medical Service views on the causative agent of cholera. It was easy to follow the trials and tribulations of dealing with epidemics in an era before bacteria and antibiotics had been discovered. Early in the nineteenth century, Twining had spent more than eleven years treating Indians as well as Europeans. He insisted that cholera was non-contagious as did Annesley who felt that a "disequilibrium" of electricity in the body caused the illness.

Surprisingly, the finding that cholera could be transmitted in infected water was made, not in India, but England. The Crawford collection includes a book by T. R. Lewis whose experiments erroneously refuted the theory that pathological organisms were to be found in the stool of those

with cholera. There are several books by N. C. MacNamara including the classic *History of Asiatic Cholera from 1781-1892*. MacNamara, while serving in the IMS, became convinced that such organisms did exist. Most IMS officers disagreed. Even after Koch's discovery of cholera vibrio, many IMS physicians felt that the cause of cholera was not known. Others tried to criticize Haffkine's discovery of a prophylactic inoculation against cholera. Public views were also slow to change. Many still believed that cholera was an air-transmitted invisible poison. Some army units continue to practice "cholera dodging" by retreating to camps up-wind from the major cantonments. The Army-Navy catalogs still advertised "cholera belts in white and natural colours."

One cannot fault the IMS since the new theories and findings of bacteriology were revolutionary. It is very difficult to immediately recognize valid break-throughs in medical theory and therapy. Many untested or touted new "innovations" turn out to be wrong or of no value. What would happen in if all were immediately accepted in an uncritical manner? The IMS need feel no embarrassment as its officers were responsible for many advances in public health and clinical medicine. For example, treatment of cholera was greatly improved by an IMS officer I. Rogers who introduced intravenous hypertonic

saline therapy. (The Crawford collection includes two of Roger's volumes: *Fevers in the Tropics* and *A Common Sporadic Seven-Day Fever of Indian Ports Simulating Dengue*.) Surgeon-Major Ronald Ross, represented in the Crawford collection by *Mosquito Brigades and How to organize them*, won the 1902 Nobel Prize for Medicine for verifying the role of the Anopheles mosquito as a vector in the transmission of malaria. Ronald Ross, whose laboratory was at Calcutta's Presidency General Hospital,¹³ may have won the Nobel Prize, but his unsung servant Mohammed Bux died doing the research. This human guinea pig had gathered the mosquitos and allowed them to bite him so that Ross could test his theories for transmission of malaria.

Materials relating to the history of Calcutta and medical practice there are not limited to the items

given above. On future trips to London, the authors hope to uncover documentary materials on subjects as diverse as the nineteenth century opium trade and the history of the psychoanalytic movement in Calcutta. Whatever the scope or nature of such projects, the Wellcome Institute for the History of Medicine is likely to have collected a wide variety of documentation.

Acknowledgement :

The authors would like to acknowledge the help and assistance of the staff of the Wellcome Institute for the History of Medicine. William Schupbach showed us many important items from the iconographic collection and made slides for reproduction in this article. John Symons offered much valuable information about Crawford and the Crawford collection. Nigal Allen helped us locate materials in the library.

REFERENCES :

1. K. Robbins "The Indian and Nepalese Collections of the Wellcome Institute for the History of Medicine" *Bull. Indian Inst. Hist. Med.* 17:108, 1987.
2. D. Wujastyk "An Alchemical Ghost: The *Rasaratnakara* by Nagarjuna" *Ambix* 31:70, 1984. The collection includes a 1985 Asiatic Society of Calcutta reprint of Ray's 1910 opus on tantrik iatrochemistry.
3. Scottish physicians seem to have dominated the IMS and medical practice in India. Sir Ronald Martin, Joseph Fayrer, Sir Ronald Ross and James Esdaile were among those practicing in Calcutta.
4. F. Keshavarz *A Descriptive and Analytical Catalogue of the Persian Manuscripts in the Library of the Wellcome Institute for the History of Medicine* (London: WIHM, 1986) pp. 264-5.
5. H.H.A. "Calcutta" *The New Encyclopaedia Britannica* 3:586, 1982.
6. The Wellcome also has the color drawings for the plates used in *An Account of Indian Serpents* by Patrick Russell. Russell collected specimens on the Coromandel coast (not Calcutta) but they offer an interesting contrast to the Impey pages. British interest in fauna was not completely aesthetic and intellectual; the Crawford Collection includes books on poisonous snakes by Fayrer and Wall.
7. The Wellcome has two rare manuscripts which were copied for Paira Mall from the single known manuscript. See Robbins 118.
8. D. Wujastyk *A Handlist of the Sanskrit and Prakrit Manuscripts in the Library of the Wellcome Institute for the History of Medicine Volume 1* (London:WIHM, 1985) p. 301.
9. These lists and much other information about Ayurvedic medicine given below came from Brahmananda Gupta's "Indigenous Medicine in Nineteenth and Twentieth-Century Bengal" which is to be found in C.E. Leslie (Editor) *Asian Medical Systems: A Comparative Study* (Berkeley: University of California, 1976) pp. 368-378.
10. This is not the book by Cakrapāṇidatta.
11. *Ind. J. History Med.* 15 (1):1-13, 1970.
12. *Pratique* 2(2) Appendix II/D, 1976.
13. He also worked in Secunderabad.



Figure 1 - Lt. Colonel Dirom Grey Crawford 1857-1942

3A

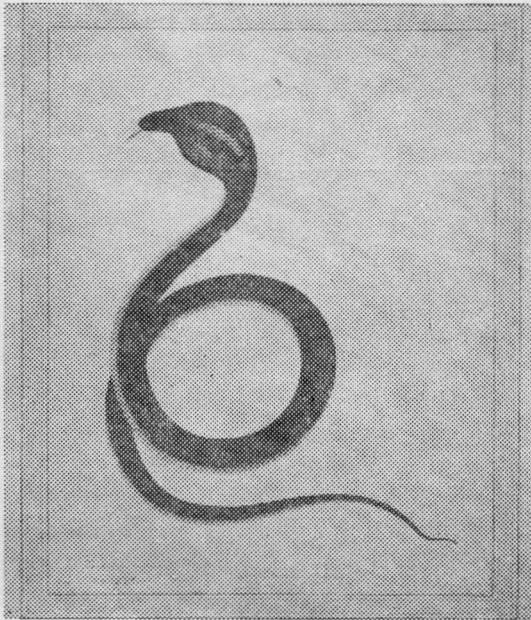
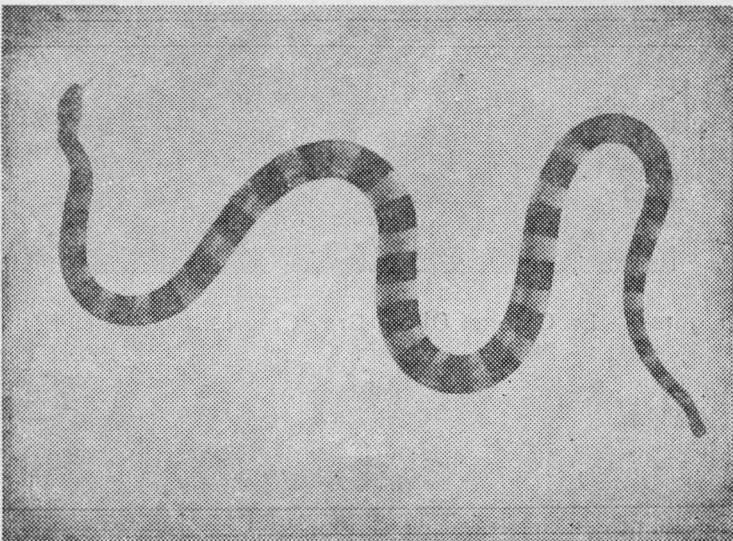


Figure. 3A & 3B - Two paintings of snakes by Barwani Das, a Patna artist employed by Lady Mary Impey. Collection, Wellcome Institute Library.



3B

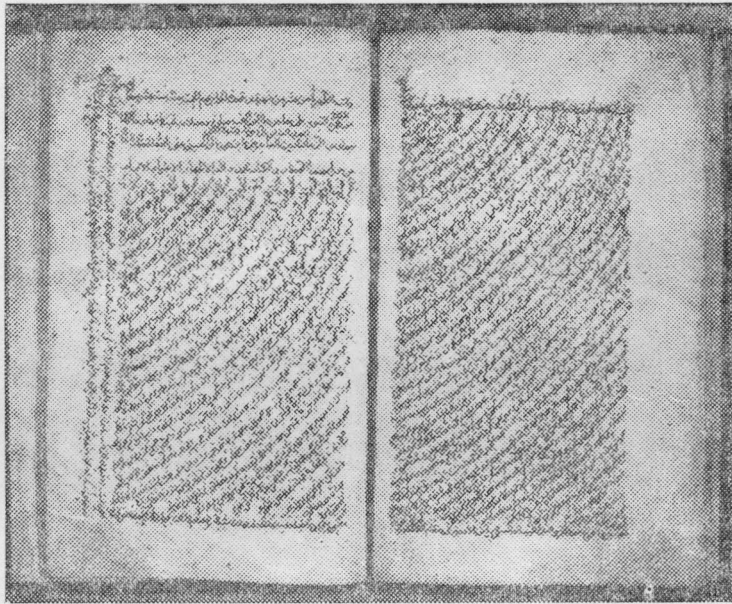


Figure 2. Riyaz-al-adviah, 100 verso - 100 recto. Unani manuscript in Persian inscribed Calcutta A.H. 1016 equivalent to 1607. Wellcome MS Persian 361A, collection of Wellcome Institute Library, London.

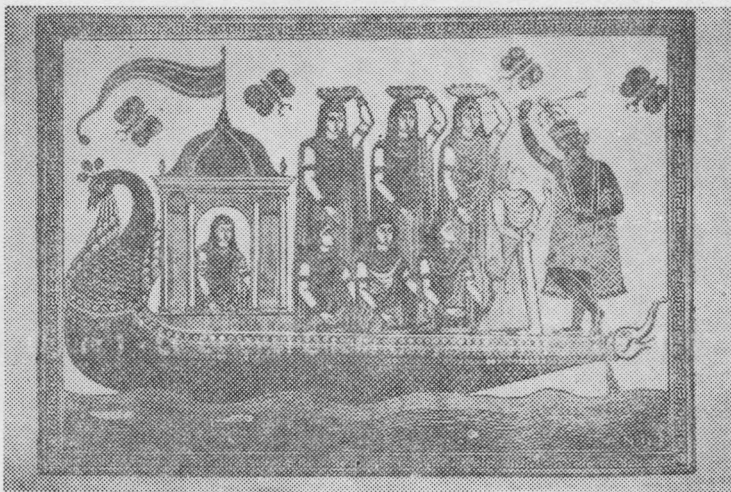


Figure. 4 - Krishna and the gopis on a boat. Woodcut, Calcutta. Indian prints list no. 111, collection of Wellcome Institute Library, London.

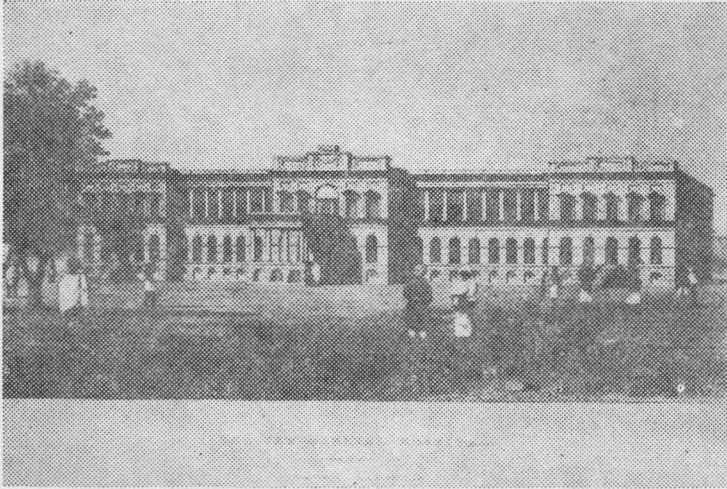


Figure 5 - The New General Hospital, Calcutta. Lithograph by W. Wood, 1829, Collection of the Wellcome Institute Library.

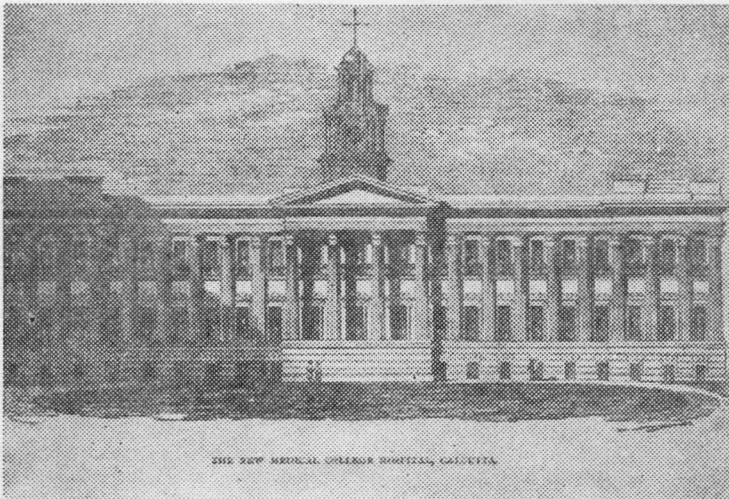


Figure 6. The New Medical College Hospital, Calcutta. Wood engraving, 1853. Collection of the Wellcome Institute Library, London.

